A report by

HYSTRA hybrid strategies consulting

IQVIA INSTITUTE FOR HUMAN DATA SCIENCE

SCALING UP INCLUSIVE HEALTHCARE IN LOW- AND MIDDLE- INCOME COUNTRIES

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Hystra is a global impact consulting firm that works with business and social sector pioneers to design and implement inclusive business approaches that are profitable, scalable and eradicate social and environmental problems. We support corporates, social enterprises, donors, and impact investors all along their inclusive business journey. Since its creation in 2009, Hystra has published open-source studies on access to clean energy, safe water, decent sanitation, affordable housing, nutritious foods, resilient agriculture, affordable healthcare, and last-mile distribution. These insights have been seminal to multistakeholder partnerships, impact investment vehicles, inclusive businesses, impact accelerators, or country programs, which we have co-designed and co-implemented. For more information and insights, visit www.hystra.com.

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The IQVIA Institute for Human Data Science contributes to the advancement of human health globally through timely research, insightful analysis and scientific expertise applied to granular non-identified patient-level data. Fulfilling an essential need within healthcare, the Institute delivers objective, relevant insights and research that accelerate understanding and innovation critical to sound decision making and improved human outcomes. With access to IQVIA's institutional knowledge, advanced analytics, technology, and unparalleled data the Institute works in tandem with a broad set of healthcare stakeholders to drive a research agenda focused on Human Data Science including government agencies, academic institutions, the life sciences industry, and payers.

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Authors: Alexandre de Carvalho, Alice Magand, Chitraksh Sharma, Murray Aitken, Olivier Kayser, Rishen Vithilingum, Simon Brossard

Contributors: Capucine Driancourt, Eleonora Brero, François Lepicard, Julia Kern, Lucie Klarsfeld, Marie Fleischmann, Salome Kotia, Siham Belarbi, Tembi Williams

Graphic Design: Re-emerging World

Please direct queries about this report to: amagand@hystra.com, alexandre.decarvalho@iqvia.com

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1. SwipeRx
2. Praava Health
3. Living Goods

About the sponsors of this study

Bill & Melinda Gates Foundation

"For more than 20 years, the Bill & Melinda Gates Foundation has worked to realize our mission of global health equity by partnering with the private sector, governments, and global health organizations in the development and delivery of new drugs, vaccines, and diagnostics for lower income countries. Timely and equitable access to new health technologies in lower income countries relies on a broad and wide-ranging ecosystem of players, from the largest multinational and multilateral organizations to the dedicated healthcare workers and delivery partners on the ground who work tirelessly to build the capacity and infrastructure needed to get these products into the hands of patients.

We are proud to partner with Hystra, IQVIA and the other sponsors of the Scaling up Inclusive Healthcare Initiative because we recognize the importance of enlisting and empowering local entrepreneurs in this effort. The foundation believes in making markets work for the poor, and the business models identified through this work are not only highly scalable across geographies but also have significant potential to improve access and delivery of lifesaving health products by enabling more innovative, sustainable, demand-driven approaches where they are needed most.

We are grateful to the Scaling up Inclusive Healthcare project team and collaborators, as well as to the many organizations that contributed to this project's success by sharing their thoughts, insights, ideas, and business models."

Jessica Martinez, Senior Program Officer, Industry Engagement and Ecosystem Shaping

CFAO Healthcare

"Through its large network of pharmaceutical distribution subsidiaries in Africa, CFAO Healthcare has always been dedicated to guarantee a better access of high quality drugs & medicines to the African patients. Though, affordability of treatments remains a critical issue in terms of access to health in Africa. This is the reason why – alongside the other reputable sponsors – CFAO Healthcare is willing to contribute to Scaling Up Inclusive Healthcare Initiatives project. Based on the preliminary insights, CFAO Healthcare has already started to explore opportunities to develop primary care services within pharmacies in its network. In parallel, CFAO Healthcare has started to invest into SMEs innovating to improve access to healthcare via a dedicated investment vehicle Health54.

Looking forward to sharing the outcome of this very inspirational team work."

Jean-Marc Leccia, CEO

Eli Lilly and Company

"*Eli Lilly and Company unites caring with discovery to create medicines that make life better for people around the world. Through its Lilly 30x30 initiative, Lilly strives to improve access to quality health care for 30 million people living in limited-resource settings annually by 2030. To achieve our goal, we are leveraging the company's resources and collaborating with leading health organizations to increase access to Lilly medicines and address complex global health challenges.*

By supporting this study, Lilly seeks to expand understanding of successful business models aimed at improving access to quality health care in low- and middle-income countries; key enablers and constraints to the scalability of such models, including policy environment; and opportunities for impact investing and new collaborations for scaling up inclusive healthcare solutions that can reach patients in underserved communities. Additionally, Lilly hopes this work will support dialogue on how inclusive business models can contribute to achieving universal health coverage and identify opportunities for public-private partnerships to achieve country-level policy ambitions."

Adilet-Sultan Meimanaliev, Senior Director, Social Impact – Shared Value

Leem

"Le Leem is the professional organization representing more than 250 pharmaceutical companies operating in France. We promote innovation and progress serving the patient and work to reinforce research and production. As such, supporting the development of an affordable, innovative, and quality healthcare is fully in line with that objective. With this study, we have access to a sort of "toolbox" presenting sustainable business models and fruitful cooperations between actors on the ground when it comes to access to medicines. These successful examples could serve as models to be replicated elsewhere. It could inspire both our members and public authorities we engage with. We hope that these projects, sometimes these public-private cooperations, and the example they set will contribute to restoring a climate of mutual trust, based on a better knowledge and mutual recognition of the players involved."

Caroline Allheily, Head of International Affairs

Proparco

"Proparco supports the development of an affordable, innovative and quality healthcare offer by financing viable private projects contributing to improving accessibility to products and services in the sector. Aware of the fact that access to healthcare is an essential element in ensuring decent living conditions, Proparco wishes to multiply and diversify its actions to encourage its private clients to set up initiatives in this direction. Through this study, Proparco is seeking to strengthen its knowledge of the initiatives undertaken to improve this access to healthcare in order to enrich its concessional (technical assistance, subsidies) and non-concessional (loans, quasi-equity and equity) offer for private players in the health sector. By participating in the promotion of innovative and virtuous actions across the entire pharmaceutical value chain and within healthcare infrastructures, Proparco encourages the adoption of practices allowing better coverage of all socio-economic groups, including the most vulnerable. We hope that this report will allow many entrepreneurs of all kinds, being large hospital networks, international pharma producers or local pharma distributors to identify and deploy innovative solutions for the benefits of patients all over the world."

Yann Masurel, Technical Assistance & Blended Finance Officer

Sanofi

"Sanofi Global Health Unit aims at improving access to healthcare for underserved patients, in 40 of the lowest income countries across Sub Saharan Africa and Asia, with a particular focus on Non-Communicable Diseases. Beyond ensuring affordable access to a range of essential medicines and partnering with Public Sector and NGOs to strengthen health systems, Sanofi Global Health created an Impact Fund to support start-up companies and other innovators that can deliver scalable solutions for sustainable healthcare. At Sanofi we believe that the best way for patients to have better access to healthcare is through collaborations across sectors, through coalitions of actors coming together to support promising sustainable solutions. Sanofi Global Health is happy and proud to support this study as we see it as a way to identify such opportunities. We are willing to join forces with others to support existing promising initiatives towards scale up or support the co-creation of new solutions which could move the needle for NCDs[1] patients. We also hope the knowledge gathered in this report can support constructive debates and inspire other entrepreneurs, private and public actors to act towards more inclusiveness and equity in access to quality healthcare."

Thibaud Lefort, Head of Operations, Global Health Unit

1 The term NCDs refers to a group of conditions that are not mainly caused by an acute infection, result in long-term health consequences and often create a need for long-term treatment and care. These conditions include cancers, cardiovascular diseases, diabetes and chronic lung illnesses

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INTRODUCTION

Over the past decade, a new generation of inclusive healthcare initiatives has emerged, that aims to improve access to care for vulnerable populations in low- and middle-income countries (LMICs), with sustainable models. Such innovations are much needed in a context where NCDs (non-communicable diseases) are on the rise, against which national health systems are insufficiently equipped and funded. Yet, they are not scaling as quickly as they should to address the global disease burden. This study looks at how pioneering companies have succeeded in building inclusive models, relevant against NCDs, sustainable, and at scale. We asked them to share what they had learned and what may have held them back. This collaborative approach allowed us to craft recommendations on how to unlock their growth potential. The study is intended for entrepreneurs, corporates, investors, donors, and governments who are open to learn from inspiring practitioners, to expand their operations without reinventing the wheel and build ambitious initiatives that could take innovations in healthcare to the next level.

Access to quality healthcare remains insufficient and largely inadequate for the 6.5 billion people in LMICs, despite over US$41 billion spent there on healthcare in 2019 and 30% of health spending going toward NCDs in middle-income countries and 13% in low-income countries.

Though LMICs are experiencing a rising prevalence of NCDs like diabetes, cancer, and heart and lung diseases and now account for 57% of NCDs deaths globally, NCDs account for only 1% of development assistance for health to LMICs in 2018.

Many initiatives have not been successful because they addressed only one part of the problem, in countries where health systems are often weak and lack resources, with an estimated one-fifth of total health spending wasted.

Inclusive businesses provide goods, services, and livelihoods through commercially viable and scalable enterprises and bring poor and underserved individuals into their value chain as suppliers, employees, distributors, retailers, or customers.

Promising models are emerging, led by startups, social enterprises, corporate ventures, and non-profits, to address the rising chronic disease burden and improve the diagnosis, treatment, and care for underserved populations[2].

They are coming up with new technologies and business practices to address the well-known health systems challenges, including: supply chain inefficiencies, low traceability of medicine, unaffordability of care, insufficient training of medical staff, inaccessibility at the last mile, lack of preventative behaviors, and others.

In a prequel of this study, published in 2022[3], Hystra and the IQVIA Institute for Human Data Science had identified and profiled 244 inclusive business initiatives, 41% of which are based in Sub-Saharan Africa, 29% in South Asia, with the rest in Latin America and Southeast Asia.

While this study focuses on market-based approaches, both health funders and governments would have a key role to play: health funders as catalysts, providing seed, support and coaches to businesses; or governments in shaping PPPs or investing in health outcomes.

Inclusive business initiatives can be categorized into four business models, based on their approach, which differ in the level of care they provide and their setting: inclusive clinics and hospitals, pharmacy-based, community-based, and health coverage and disease prevention models.

2 Underserved population referencing to low-income population and the emerging middle class who are confronted with the rise of NCDs

3 IQVIA Institute, Hystra. (2022). Scaling-Up Inclusive Healthcare Initiatives in Low- and Middle-Income Countries: Assessing the landscape of innovative approaches. Retrieved from *https://www.iqvia.com/insights/the-iqvia-institute/reports/scaling-up-inclusive-healthcare-initiatives-in-low-and-middle-income-countries*

This study documents the work of the following 14 case studies

Inclusive clinics and hospitals: Clínicas del Azúcar, Praava Health

Pharmacy-based models: DrugStoc, Generika Drugstore, Maisha Meds, mPharma, SwipeRx

Community-based models: Healthy Entrepreneurs, Living Goods, reach52

Health coverage and disease prevention: BIMA MILVIK, CarePay, MicroEnsure, Naya Jeevan

Note: Some of these organizations are operating in several countries. Only the country of operations visited by the team is indicated here.

EXECUTIVE SUMMARY

This report focuses on market-based approaches that improve access to healthcare for underserved populations in LMICs, and are relevant in the context of the rising prevalence of NCDs. The objective is not to provide an exhaustive view across all technologies and geographies, but to share insights from a selection of successful pioneer organizations, which have reached interesting health outcomes with business approaches. These pioneers have worked around four complementary approaches: inclusive clinics and hospitals, pharmacy-based, community-based, and health coverage and prevention models. The research underpinning this report includes collecting insights through conversations with their management teams, review of their financials, and visits of their operations. The report aims at sharing best practices, discussing outstanding obstacles to achieving scale, and outlining potential opportunities for corporates, donors, investors, professional associations and governments to unlock future impact and growth potential. Detailed case studies can be found in the appendix.

INCLUSIVE CLINICS AND HOSPITALS

Market outlook and opportunities

- **Several chains of inclusive clinics and hospitals have emerged in LMICs in the past two decades, with facilities predominantly located in urban and peri-urban areas.** They have been providing medical care services ranging from primary to tertiary care, and affordable (sometimes free) services for low-income patients. Some of these innovators have now aimed at increasing their reach into rural areas and last-mile communities, via hub-and-spoke models or by leveraging telemedicine.
- **Several of the well-reputed, historical leaders, such as Aravind Eye Hospitals or Narayana Health (both Indian organizations which have since expanded internationally), have reached interesting scale** with dozens (up to hundreds) of facilities, and attracted large funding rounds with participation from Development Financial Institutions and mainstream investors.
- For this study, two pioneer companies were visited and documented in detail (Clínicas del Azúcar in Mexico, and Praava Health in Bangladesh) and three others were referenced based on interviews and public information (Narayana Health, Aravind Eye Hospital, and Apex Soweto).

Business models and challenges

- **Three types of facilities should be distinguished:** generalist facilities focused on primary care, which typically combine in-house physicians and visiting specialists for basic secondary procedures; specialized facilities providing long-term care such as chronic disease clinics or dentistry chains; and specialized facilities focused on "one-off" interventions, such as eye-care clinics, multi-specialty day care hospitals or multi-specialty tertiary hospitals conducting interventions like heart surgery or organ transplants.
- **Across the board, all innovators have aimed at developing comprehensive and seamless patient journeys,** through a set of best practices: "one-stop shop" facilities offering all services and skills under one roof (e.g., lab and diagnostics, specialist consultations, nutritionist advice, psychologic support, and pharmacy service); continuity of care by identifying and proactively addressing barriers at each step of the patient journey (e.g., free diagnosis, prescriptions adapted to patient income, membership plans etc.); and patient-centric processes and designs (e.g., longer doctor consultations, monitoring of patient satisfaction, redesign of consultation rooms).
- **They have drastically reduced costs of treatment in several ways:** by increasing their user base with tactics depending on whether interventions are continued or one-off (e.g., focus on patient retention versus broadening of catchment areas via hub-and-spoke models); by boosting the productivity or reducing the need for scarce resources such as specialized doctors (e.g., via deskilling of tasks); and by reducing the budget for consumables (e.g., internalizing manufacturing, striking innovative deals with suppliers, or finding appropriate and hygienic ways to reuse single-use products).

- **Finally, they have contained the share of costs paid by low-income patients**, via cross-subsidies, tiered pricing, and by offering services to third parties (e.g., corporates who co-pay for employees' health package or health funders monetizing positive health outcomes).
- **However, several challenges remain: the dissemination of best practices and digital technologies is still slow** and many operators are still reinventing the wheel; **the international expansion of leading models remains limited, coverage of last mile areas remains unsatisfactory in many geographies, and few facilities have managed to effectively address NCDs** while containing the costs and retail prices to patients.

Recommendations

- **A "quick win" opportunity would be to accelerate knowledge sharing between innovators.** Several best practices have been implemented by innovators that effectively address the challenges of care quality, cost optimization, or cost sharing with third parties, while increasing reach towards the underserved population. The dissemination could be supported by health funders, via the creation of community of practices, centres of excellence, or further documentation.
- **Second, there would be an opportunity in building mechanisms to foster the expansion and international replication of the most successful models,** e.g., by enabling joint ventures with local entrepreneurs, supporting technology and procedures transfer (with adequate compensation for IP), or creating a dedicated replication vehicle. Promising endeavours in the field of eye care show this is possible. In parallel, initiatives to promote medical training institutes and centralizing purchase of affordable and quality consumables could help trigger broader systemic impact.

PHARMACY-BASED MODELS

Market outlook and opportunities

- **In LMICs, pharmacies and drug shops are oftentimes the focal point for low-income patients, not only to buy treatment but also to seek medical advice.** There are hundreds of thousands of outlets of various sizes and shapes, subject to different policy environments. However, a lack of capabilities and system-wide inefficiencies prevent these outlets from ensuring access to quality and affordable drugs or delivering adequate professional advice.
- **A vibrant community of entrepreneurs, which has raised growing interest from VCs in the past decade, has leveraged digital solutions to revamp pharmacies and drug shops in LMICs, thereby improving supply chains, business efficiencies and service delivery at the point of care.** These models are very promising as they build on an existing retail infrastructure and the ongoing habits of low-income patients.
- For this study, four pioneer companies were visited and documented in detail (DrugStoc in Nigeria, Maisha Meds in Kenya, mPharma in Ghana and SwipeRx in Indonesia) and two others were referenced based on interviews and public information (Farmacias Similares and Generika).

Business models and challenges

- **Patients face three critical challenges,** with various degrees of intensity depending on the type of outlets and local context:
    - **Stockouts and inconsistent quality** due to poor management practices, lack of tools at the outlet level, and supply challenges.
    - **Unaffordable and volatile prices** due to supply chain inefficiencies, foreign exchange rate fluctuations, and in some cases, the low penetration of generics.
    - **Poor advice and service** due to the lack of training for professionals and the lack of incentives for outlets to expand services beyond drug sales.

- **Innovators have been innovating especially around the four following levels:** improvement of supply chain efficiency thanks to digital tools (e.g., management software provided to the pharmacy) and demand aggregation; healthcare services delivery at the outlet level from community outreach (e.g., weekly meeting to screen and enroll patients) to fostering adherence via discount mechanisms; price points reduction thanks to supply chain efficiencies - and in some cases - by promoting generics; and nudge of healthier behaviors with outcomes-based funding at the point of sale (e.g., promoting malaria test to ensure adequate usage of drugs).
- **All innovators have in common the fact that they expanded their activities beyond their initial offerings, to develop more comprehensive solutions for patients and pharmacies.**
- **While we have seen some reduction in prices due to supply chain efficiency gains, these often remain insufficient to really move the needle for low-income patients on affordability.**

Recommendations

- **First, innovators have shown that delivering affordable (or even free) healthcare services to patients in pharmacies can drive health impact while also being profitable, as it drives incremental patient traffic, loyalty, and spend.** Pharmacy chains (where they are allowed) and wholesalers would be well placed to deploy relevant services making most sense to patients and business in a given country. Health funders could play a catalytic role in de-risking the transformation of pharmacies into primary health centers. In parallel, specific models could also be explored with drug shops that have smaller businesses and are more constrained in what they might sell, yet are typically more present in last-mile areas with low-income patients.
- Second, as illustrated by at least one successful case documented in this report, **there is an opportunity for the health sector to cost-efficiently improve the level of training of pharmacy professionals with digital platforms and public-private partnerships.** Such platforms could be replicated across LMICs, and further leveraged to build additional services and enable referrals with other facilities and practitioners; and to collect data informing national interventions.
- **Finally, targeted funding of health outcomes, with incentives at the patient or staff-level are proving to be more effective than upstream supply chain interventions in improving affordability of care or driving specific behaviors** (e.g., diagnosis, monitoring). The replication of such initiatives, also documented in the report, will require further digitization of pharmacies and drug shops, and voluntary efforts from health funders.

COMMUNITY-BASED MODELS

Market outlook and opportunities

- **Networks of community health workers (CHWs) were set up by governments in the early 20th century to service last-mile communities in LMICs. Today, an estimated 8 million CHWs are active in LMICs.** They can be found across geographies under different names and models (training, compensation, or activities performed), yet a common persona emerges globally: 70% of CHWs are female, and the vast majority are married and have children. CHWs are recruited from respected community members, and usually have prior work or volunteer experience.
- **Despite their potential and magnitude, CHW networks have been widely under-resourced and underutilized.** Most CHWs lack training and incentives. They have been focusing on few therapeutic areas, leaving behind a large part of the population, especially those suffering from NCDs. Paradoxically, because they are frequently the only point of care for remote and underserved communities, they end up providing services beyond their area of responsibility.
- **A few innovators have realized that these networks of CHWs are incredible assets in areas where primary healthcare access is essentially lacking.** For this study, three pioneer companies were visited and documented in detail (Healthy Entrepreneurs and Living Goods in Kenya and reach52 in Cambodia).

Business models and challenges

- All three innovators have recognized the potential in these networks, if provided with adequate resources. While making such networks more viable seems a significant challenge, the rise of digital health has opened new opportunities. **All three innovators have equipped CHWs with digital tools to (i) increase the quality and consistency of care to patients and, (ii) in some cases, to expand the scope of the intervention (either delivered by CHWs directly or in connection with other health providers). These frontline tools are coupled with effective back-end systems.**
- **All three actors have also been leveraging existing CHW networks and partnering with governments or local NGOs in different ways. They are operating different revenue models**, enabling them to pay more attractive compensations to CHWs and generate margins to cover overheads:
    - **The government-embedded model** supports strengthening of national community health system through the improvement of the CHWs' performance, with the expectation that the government will be empowered to do so on its own in the long run.
    - **The B2B funding model** leverages CHWs to conduct health campaigns and gather data, which interests B2B clients such as pharmaceutical, consumer healthcare, and FMCG companies.
    - **The entrepreneurial model** empowers CHWs to become entrepreneurs and generate most of the revenue by selling health-related products and services to patients.
- **While all models are promising, they still facing outstanding challenges in achieving economic sustainability without ongoing subsidies.**

Recommendations

- **First, there is an opportunity for donors to accelerate the digitalization of CHWs to expand their scope and quality of care.** In parallel, regulators could potentially enhance the role of the CHWs by clarifying the products and services they can distribute.
- **Secondly, health funders can play a decisive role in disseminating good practices and empowering local governments to manage CHWs effectively by themselves over the long run.** They can also support local governments and innovators in shaping appropriate policies, by funding and supporting cycles of experimentation and research.
- **Last, while innovators have been trying to create more viable models, further exploration is required to explore sustainable revenue models.** Health funders and governments could play a significant role in this too.

HEALTH COVERAGE AND DISEASE PREVENTION MODELS

Market outlook and opportunities

- **Every year, an estimated 1.4 billion people forgo care or face financial hardship due to the lack of healthcare coverage.** The gap in coverage is particularly acute for NCDs, from prevention to treatment and follow-up care.
- **In the absence of public coverage, some people have turned to private insurers. However, private insurance covers structurally less than 10% of the population in the Global South,** as it is mainly employer-sponsored and focused on the affluent market segments.
- **The development of inclusive private health insurance has been limited across LMICs, as it faces a "trilemma" of challenges between patients, payers, and healthcare providers.**
- A first generation of microinsurance products, launched 20 years ago, addressed several issues of this "trilemma" but had been designed to limit financial hardship and not to cover the costs of care.
- **Recent evolutions in the healthcare and digital industries have enabled the emergence of new innovations.** For this study, four pioneer companies were visited and documented in detail (BIMA MILVIK in Bangladesh, CarePay in Kenya, MicroEnsure in Ghana, and Naya Jeevan in Pakistan).

Business models and challenges

- There is no "one-size-fits-all" solution to healthcare coverage and disease prevention, yet two lessons emerge across the board:
  - **Even though most low-income people are unwilling to pay for insurance alone, they are willing to pay for health benefits** packages that deliver tangible and frequent benefits from day one. As a result, all innovators are shifting away from pure insurance play towards comprehensive packages that include for example telemedicine, health monitoring services, referrals to trusted providers, discounts on medicine or hospital fees, etc.
  - **Further integration between payers and providers enables to improve cost efficiency and to cover outpatient care.** Several models are possible: vertical integration or close partnerships operated via digital platforms.
- Beyond these two lessons, **four promising approaches have been observed, each of which caters to the needs of specific population segments:**
  - **Digitally enabled insurance packages (inpatient and outpatient) for the emerging middle class:** insurance packages covering both inpatient and outpatient can be made significantly more affordable (less than US$100 per year) with digital platforms and selected provider networks.
  - **Co-payment** of coverage by corporates for workers and contractors in selected value chains (e.g., delivery of insurance to sales agents to reduce salesforce attrition).
  - **Primary care service and microinsurance bundles** (e.g., packages combining microinsurance with health monitoring services, telemedicine, discounts on medicine, savings wallets, etc.) showing traction for voluntary purchase by lower-middle income groups.
  - **Specialized care packages for patients with a pre-existing condition:** Some innovators have developed full-fledged packages (non-insurance), allowing patients with an identified condition to smooth their expenses and access all the specialized care they need.

Recommendations

- **First, there is an opportunity to foster innovations that leverage digital platforms to increase efficiency of transactions between payers, providers, and patients. This gain in efficiency can contribute to offer more affordable outpatient coverage.** This enables health insurers to offer much better deals to patients. Yet, commercialization oftentimes remains a challenge and requires leveraging existing trust structures. There is an essential role to play for donors in de-risking innovating marketing approaches.
- **Second, multi-stakeholder efforts to build health coverage in selected, structured value chains could be explored.** Such efforts could be undertaken by corporates on a voluntary basis, as has been observed in several promising cases, and that could serve as a testing ground to inform future national policies on employer-sponsored social protection.
- **Third, cross-sector efforts that facilitate subscriptions would have the potential to take models combining microinsurance with services to the next level,** as their key challenge lies in the ability to drive retention and monthly payments among customer segments unaccustomed to subscriptions. Players that have the right assets to make a difference do not necessarily come from the health sector (e.g., energy or water utilities, or mobile payment operators).

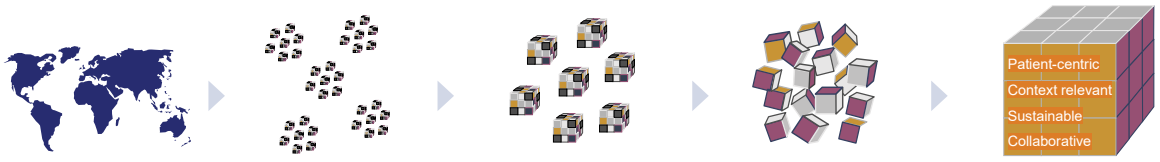
SCOPE AND METHODOLOGY

This report follows a methodology that was developed and refined by Hystra in previous studies and publications. The fundamental idea is that there is more to learn from analyzing successes than analyzing problems. Today, several pioneering organizations around the world have found innovative, market-based solutions to improve access to care for underserved patients. The findings of this report are based on an in-depth review of the performance and work of 14 of these pioneering organizations. While these findings may not be applicable in all situations, they will hopefully provide inspiration and motivate other organizations.

Our methodological approach can be broken down into five broad steps:

1. **Global scan of inclusive healthcare initiatives:** In a prequel of this study, Hystra and the IQVIA Institute built a database of 400 global inclusive initiatives, out of which 244 relevant inclusive health initiatives were identified. Relevance was determined by whether the initiatives were present in LMICs and reached underserved populations, employed a market-based approach, could be applicable for NCDs and were beyond the proof of concept or pilot stage. Initiatives were rigorously profiled based on extensive desk research (e.g., literature review, websites of investors, coalitions, programs, incubators, etc.), and various parameters recorded, including but not limited to their regions of operation, NCDs focus, level of care provided and care setting.
2. **Segmentation into relevant business models:** To better compare like-businesses and synthesize learnings about innovative approaches from them, initiatives were categorized based on their approach to improving health into one of four business models:
    - Inclusive clinics and hospitals
    - Pharmacy-based
    - Community-based
    - Health coverage and disease prevention models.
3. **Deep dive into a selection of initiatives:** 14 initiatives have been selected after a shortlisting of the more innovative, successful and sustainable ones within each business model. For this set, the in-depth analysis consisted of in-person conversations with management teams, review of financials, and visits of operations.
4. **Synthesis across initiatives:** Research findings were compared across business models to generate transversal insights on best practices, understand obstacles to further sustainability and scale, and outline opportunities to address these in the future.
5. **Collaborative design of relevant opportunities:** Beyond the publication of the study, some work has been started with industry partners and innovators to see how their assets could be leveraged and combined to strengthen existing initiatives or build new opportunities. That work is yet to be continued, and more partners will be needed.

Figure 1 - Process to identify and scale up effective inclusive business approaches through a global scan of healthcare initiatives



Global scan of 400+ inclusive business initiatives

Clustering 244 initiatives into relevant business models

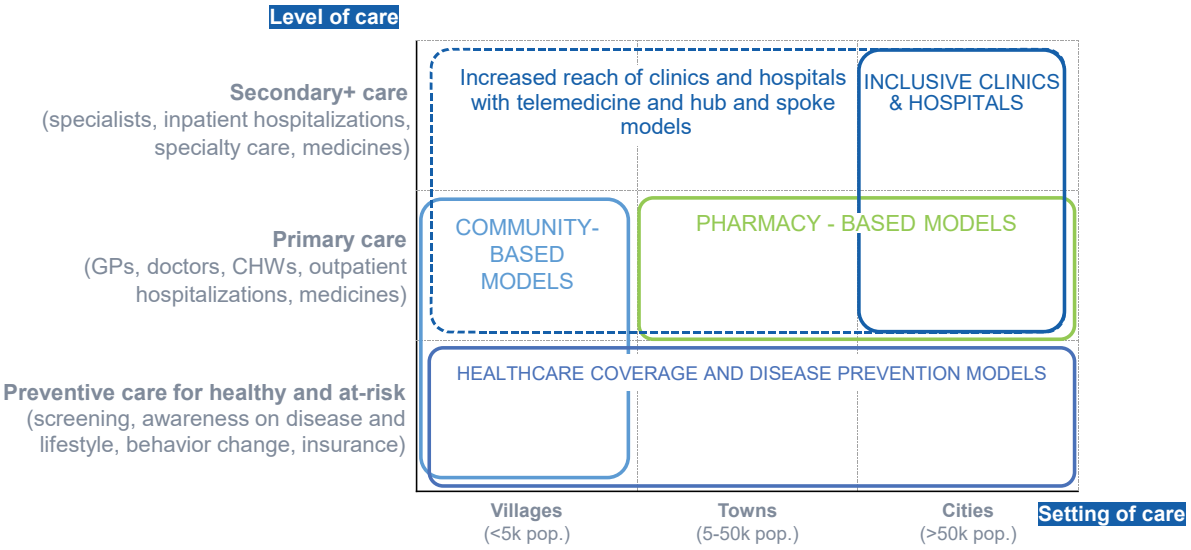
Deep dive into 14 initiatives across 4 business models

Synthesis through field based due diligence

Collaborative building and strengthening of existing initiatives

Each of the four business models differ in the level of care they provide, the strategies they take to improve health, and the setting in which they provide care to communities. For level of care, some initiatives deliver only preventative care while others deliver primary care or secondary care or beyond. The setting of care (e.g., rural versus urban) greatly influences the type of care able to be delivered, the types of facilities and infrastructure available in those settings, affordability for patients, as well as access. For instance, around half of people in LMICs (more than three billion individuals) live in rural areas, representing a setting with significant distribution challenges, which justified the need for community-based models. Some inclusive clinics and hospitals are now able to reach these areas with hub-and-spoke models and by leveraging emerging technologies.

Figure 2 - Healthcare delivery solutions depending on the level of care they provide and the settings in which they provide care to communities[4]



Disclaimers:

- *Conclusions are drawn from a limited set of 14 companies. In an effort to illustrate the common features among best practices, some nuances had to be overlooked. It is possible that not all lessons summarized here are relevant to all products and geographies.*
- *While this report does not claim that the 14 organizations featured in this report are the best worldwide, they are representative of successful approaches scaled up in many different countries, across various solutions. Comparing their performance, approach, and learning from both their successes and failures has brought many insights on what works and why.*
- *The selection of case studies did not aim at obtaining a geographically representative sample, but rather at gathering set of innovative and successful business models allowing for comparisons within and across categories, and at identifying global best practices. While all regions of the world are represented, most of the cases are in Sub-Saharan Africa and South Asia.*

4 Hystra and IQVIA interviews and analysis

A Clínicas del Azúcar facility in Mexico

Credits: Clínicas del Azúcar

INCLUSIVE CLINICS AND HOSPITALS

This section focuses on inclusive facilities[5] that have chosen one of three focus areas including generalist facilities focused on primary care, specialized facilities providing long-term care, and specialized facilities focused on "one-off" interventions. Innovators have developed comprehensive "one-stop shop" facilities with patient-centric processes and designs, that ensure seamless continuity of care by identifying and proactively addressing barriers at each step of the patient journey. They have reduced the cost of treatment and limited the share of costs paid by low-income patients. Moving ahead, the overall ecosystem can help accelerate the sharing of best practices implemented by innovators to address challenges of care quality, cost optimization, or cost sharing with third parties. Furthermore, there is an opportunity to build mechanisms that foster the expansion and international replication of the most successful models, by enabling joint ventures with local entrepreneurs, supporting technology and procedures transfer, or creating a dedicated replication vehicle.

MARKET OUTLOOK

In LMICs the choice for most patients is often limited between overcrowded public facilities offering inconsistent quality of care, and unaffordable private facilities. In India, for example, average expenditure for patients in public facilities is one seventh the level of private ones. However, more than 67% of patients in rural areas and 74% of patients[6] in urban areas choose private facilities due to unavailability of doctors or specific services, quality issues and long waiting times in facilities. This problem becomes increasingly severe for secondary and tertiary care and leads to chronic disease patients delaying care, hence increasing treatment cost and worsening health outcomes.

Four key questions emerge that require addressing in order to help solve this conundrum:

1. How to create the right conditions for affordable and consistent high-quality care? Public hospitals tend to focus on the number of patients seen or operations performed rather than the number of patients effectively cured or supported. Furthermore, they are often ill-equipped to deliver the necessary quality of care, with doctors seeing outpatients for only a few minutes, insufficient or ill-maintained equipment, dependency on state utilities which themselves provide erratic service (e.g., power cuts), etc. At the other end of the spectrum, some private hospitals have been criticized for providing "too much care" i.e., request unnecessary diagnosis or tests which inflate the price tag for patients or their insurance.
2. How to limit the cost of care so hospitals can profitably provide affordable care? Cost structures inspired by mainstream hospitals do not enable affordable care to be provided sustainably in developing countries with underfunded national healthcare schemes.
3. How to reduce the share of hospital expenses borne by the patient? High out-of-pocket expenses mean that a large share of the population remains excluded from private hospitals.
4. How to scale affordable hospital models? Few hospital chains have emerged locally, counting at best a few dozen facilities. Even those that have achieved scale locally struggle to grow / replicate across national borders.

5 The term 'facilities' in this section represents 'clinics and hospitals'
6 Mint. (2020). Less than a third of Indians go to public hospitals for treatment. Retrieved from *https://www.livemint.com/news/india/less-than-a-third-of-indians-go-to-public-hospitals-for-treatment-11588578426388.html*

BUSINESS MODELS AND CHALLENGES

The insights presented in the following section are derived from interviews, field visits and desk research on the following 5 innovators[7], which have all been aiming to foster inclusive healthcare provision with sustainable business models:

Based on in-person visits and interviews	
Clínicas del Azúcar	Started in 2012, Clínicas del Azúcar (CdA) is a chain of inclusive clinics providing diagnostics, specialist consultations, nutritionist advice, psychological support and pharmacy services to people suffering from diabetes and hypertension. It currently operates 37 clinics across Mexico and has treated 270,000 patients to date.
PRAAVA HEALTH	Started in 2018, Praava Health (Praava) is an affordable primary healthcare facility in Bangladesh offering consultations, telemedicine, lab and imaging, pharmacy and minor secondary procedures. It has served ~475,000 patients to date.
Based on interviews and public information	
ARAVIND EYE CARE SYSTEM	Founded in 1976, Aravind is the world's largest network of eye care facilities operating 14 eye hospitals, 6 outpatient eye examination centers and 100 primary eye care facilities. It also consists of a postgraduate institute, a training institute, an ophthalmic manufacturing unit, a research institute and eye banks[8]. It has served over 40 million outpatients to date and performs over 500,000 surgeries a year.
NH Narayana Health	Narayana Health (NH) started as a cardiac care hospital in 2000. Today, it offers in-patient and out-patient care for 30+ specialties across its 47 facilities in India and the Cayman Islands. 23 hospitals, 5 heart centers and 19 primary care facilities treat over 2.5 million patients each year.
apexsurgicentre	Started in 2020, Apex is a 24-bed state-of-the-art day-surgery hospital for minor surgeries in Soweto, South Africa. With 3 operating theatres and one procedure room, it covers several disciplines including gynecology, dental, maxillofacial surgery, general surgery, ophthalmology, ENT[9] and interventional radiology.

These 5 innovators have chosen one of three focus areas:

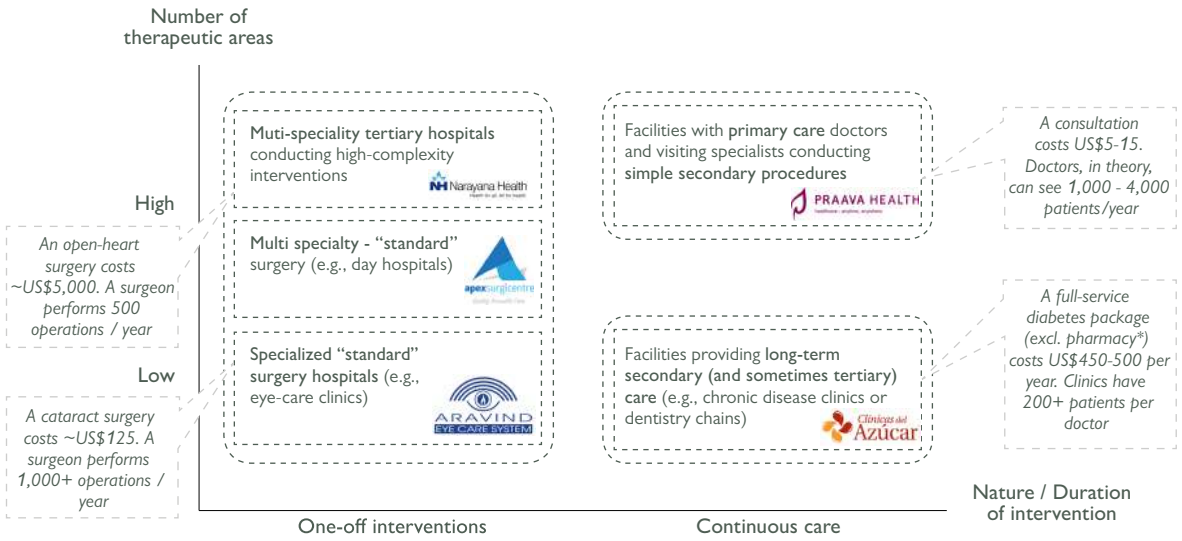
- Continuous (i.e., long-term) primary care with in-house physicians and visiting specialists conducting some basic secondary procedures.
- Continuous specialized (chronic disease) care with facilities providing long-term secondary (and sometimes tertiary) care such as chronic disease clinics or dentistry chains.
- One-off tertiary care including specialized "standard" surgery hospitals like eye-care clinics, multi-specialty standard surgery like day care hospitals, and multi-specialty tertiary hospitals conducting high-complexity interventions like heart surgery or organ transplants.

7 Our analysis cites a few other best practice examples including *Biodent*

8 An eye bank is a non-profit organization that is involved in the donation, procurement, testing, processing, preservation, storage and distribution of human ocular tissues and cells for use in corneal transplantation, ocular surgery, research and education

9 Ear, Nose and Throat

Figure 3 - Matrix of focus areas for the business models studied[10]



Note: (*) In addition to drugs, other costs of treatment costs such as monitoring devices and their inputs (e.g., disposable strips for a glucometer) are not included in the package.

INNOVATIONS AND RECOMMENDATIONS

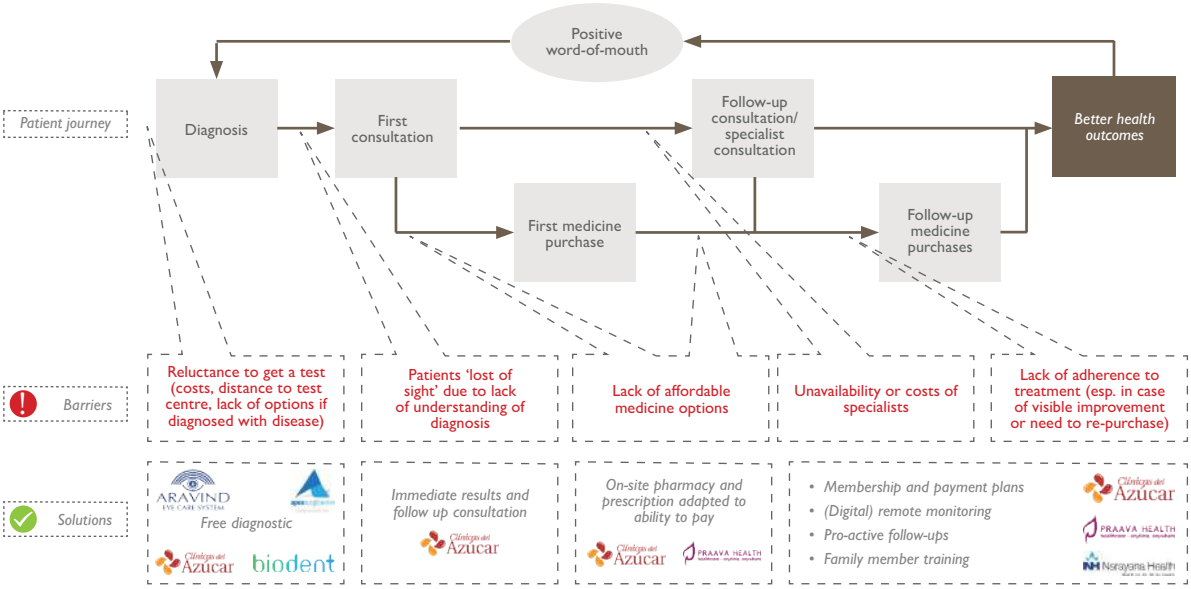
These innovators and other inclusive clinics and hospitals have found solutions to the first three of the four key questions above:

1. They have created comprehensive seamless patient centric models.

- **Becoming comprehensive (a one-stop-shop) with all services/skills under one roof, with a key differentiator that attracts patients in the first place.** At CdA, patients access a wide range of services – including lab and diagnostics, specialist consultations, nutritionist advice, psychologic support and pharmacy services – delivered together at each visit. At Praava, patients access one or two services at each visit – physical consultations, telemedicine, lab and imaging, pharmacy and minor secondary procedures. CdA's free diagnostics and Praava's state-of-the-art lab are key differentiators to attract new patients.
- **Ensuring seamless continuity of care across the patients' journey** by identifying possible barriers at each step and providing innovative solutions to ensure patients do not stop midway (see figure 4 below). For example, CdA delivers its diabetes and hypertension diagnostic immediately after the test is done. Additionally, doctors use a reassuring script for first consultations. Diagnosed patients are told that "there is an affordable solution" and that "everything will be okay", increasing chances that they decide to act on their diabetes and follow through with a membership plan. Further, CdA's flat-fee membership offering unlimited access to its services aligns the patient's and clinic's interest to manage chronic diseases with as few consultations as possible – while removing patient's excuse to delay an appointment for budgetary reasons.
- **Being patient-centric at each step of the patient journey minimizing the reasons for patients to delay or forgo care.** They do so by designing services that ease the patients' experience and by placing patient satisfaction at the center of their models. A consultation at Praava lasts at least 15 minutes compared to an average of less than 1 minute in Bangladeshi public hospitals. There is no desk between doctor and patient, making doctors' consultation less intimidating and allowing patients to talk freely. Praava uses NPS to track patient satisfaction, enabling to rapidly correct any issue in terms of quality of service. At CdA, patients access 7 appointments in 1.5 hours versus 6 months on average in a government clinic. This patient-centric design extends to payment plans: CdA's different NCDs bundle offerings for diabetes and hypertension include a range of flexible payment options like monthly instalments to match patients' cash flows.

10 Hystra and IQVIA field visits and analysis

Figure 4 - Continuity of care[11]



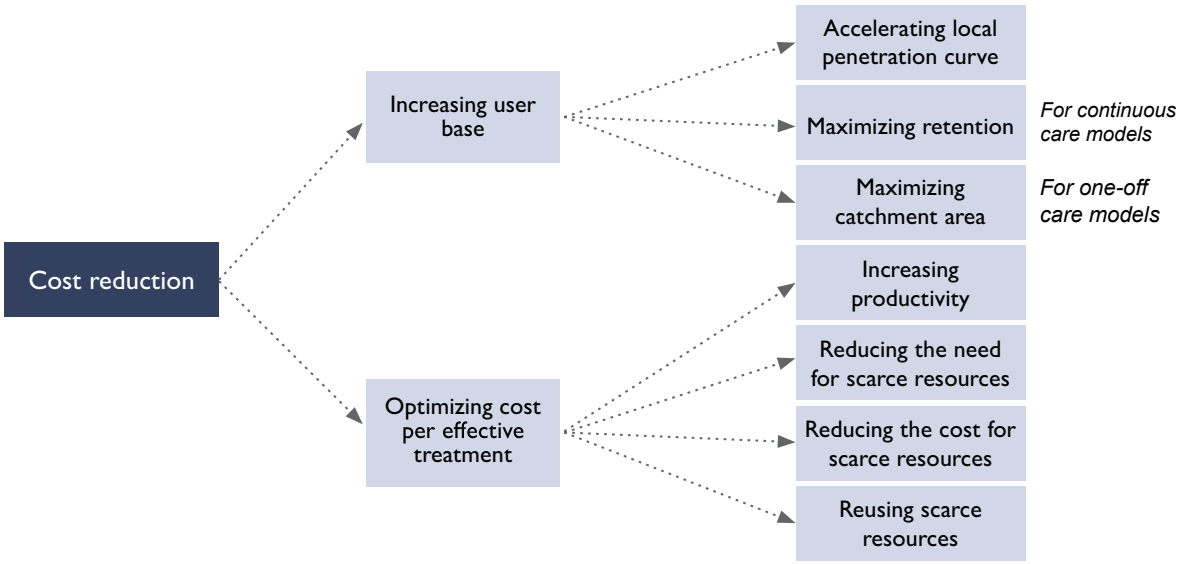
2. They have reduced costs of treatment by a factor of 5x+ by increasing user base and optimizing cost-effectiveness

They increase their user base with tactics depending on whether interventions are one-off or continue over the long term.

- **Successful facilities for both one-off and long-term care have found ways to accelerate their local penetration curve.** They choose a strategic location: Apex built its day-care hospital close to existing saturated facilities to absorb the overflow of patients. A dedicated team of analysts ensures that CdA clinics are in specific locations, such as retails centers, which facilitate walk-in. They start marketing pre-opening: CdA clinics initially focus on online and door-to-door marketing resulting in at least 20 clients on opening day. They set up referral loops: commissioned local doctors refer patients requiring tests to Praava's sample collection points set up in partner pharmacies across Dhaka and around 50 visiting specialists periodically conduct consultations at Praava, increasing the facility's footfall.
- **Facilities that serve patients over the long-term focus on patient retention.** Best practices include providing loyalty discounts, flexible payment plans and follow-up with patients. CdA ensures patients' adherence to treatment – even when their blood sugar levels[13] drop – by offering a low-cost digital option for continued care after the 6-month mark. Praava engages patients proactively to encourage regular check-ups, treatment follow-ups and continuity of care, via its mobile app or its call center.
- **Facilities that provide 'one-off' tertiary interventions maximize their catchment area via hub-and-spoke models and diversification of the specialties they cover.** NH's specialized hospitals – which cover 30+ specialties today – are relayed by telemedicine[14] points in 19 primary health centers, which refer patients and help to create large volumes of already triaged patients. Aravind conducts 2,500+ free eye camps each year at schools, workplaces and rural communities that bring in around 30% of the total cataract surgeries it performs.

11 The barriers mentioned in the figure are not exhaustive. Other factors may result in discontinuity of care across the patient journey. Hystra and IQVIA field visits and analysis
12 Hystra and IQVIA field visits and analysis

Figure 5 - Levers of cost reduction[12]



They challenge conventional wisdom and practices to optimize the cost per effective treatment.

- **They increase productivity of scarce resources** like doctors. At Aravind, each operating room has one surgeon, but at least two operating tables, multiple sets of equipment and multiple nursing teams to carry out non-surgical tasks. This enables a doctor to perform 6 to 8 procedures per hour as opposed to the norm of one surgery per hour. A tailor-made organizational software enables CdA to monitor and optimize the workflow in real time, including minimizing idle time between patients.
- **They reduce the need for scarce resources while maintaining quality.** NH replaces staff with family by teaching the latter pre-and post-surgery skills and management of cardiac disease over time. An RCT[15] showed a 71% reduction in 30-day post-surgical complications for patients with family caregivers. Both NH and Aravind train nurses and paramedics to manage most low-skill tasks and free-up time for the doctors. By leveraging innovative protocols such as Aravind's manual small-incision cataract surgery and NH's beating heart surgery[16], pioneers have been able to use simpler equipment or lower-skilled surgeons while also reducing complications and post-operation stays. NH minimizes waste by sending doctors a daily text message with the previous day's P&L[17] – showing how their decisions on medicines, supplies, or tests affect cost for patients – inducing them to limit tests and care to what is truly necessary. Finally, by focusing on prevention, regular treatment for chronic diseases, and post-op care, Praava helps avoid acute events that are very risky and costly for patients.
- **They reduce the cost of hospital consumables by internalizing manufacturing and striking innovative deals with suppliers.** In 1992, Aravind established its own manufacturing facility, Aurolab, to value engineer the design of imported intra-ocular lenses: this reduced the price of these lenses from US$70 to US$2. NH strikes pay-per-use deals with equipment providers, instead of purchasing expensive diagnostic equipment.
- **They reuse single-use products** simply thrown away by most hospitals due to the careful maintenance and repair required to avoid any possible risks. For instance, NH sterilizes and reuses US$160 steel clamps for heart surgeries between 50 to 80 times[18].

13 This is checked via a simple blood test that measures your average blood sugar levels (HbA1c) over the past 3 months
14 Hystra. (2014). The Broadband Effect Enhancing Market-based Solutions for the Base of the Pyramid. Retrieved from *https://static1.squarespace.com/static/5fc8cfc5ae882d23f7359f96/t/600859487b917d7fd2f8d1bf/1611159890672/Broadband_effect-full+report.pdf*
15 A study of 188 caregivers in Kolkata (India) done by Noora Health and NH
16 Govindarajan, V. (2013). Delivering World-Class Health Care, Affordably. Harvard Business Review. Retrieved from *https://hbr.org/2013/11/delivering-world-class-health-care-affordably*
17 Profit and Loss statement
18 Govindarajan, V. (2013). Delivering World-Class Health Care, Affordably. Harvard Business Review. Retrieved from *https://hbr.org/2013/11/delivering-world-class-health-care-affordably*

3. They have reduced payment for low-income patients via differential offers for the wealthy and additional services for ecosystem actors

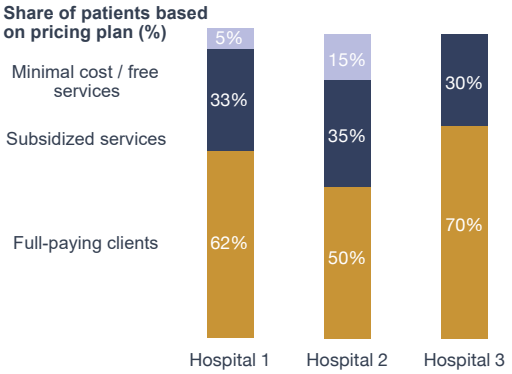
Cross subsidies and tiered pricing limit costs for low-income patients while capturing consumer surplus for those ready to pay. For its annual packages, Praava applies different pricing margins to cater to different budgets. The "silver" package at ~US$65/year – which includes unlimited (remote or in-person) consultations and 25% discount on all services – has a lower margin than the platinum package at ~US$130/year, which offers 20+ lab tests free in addition to the services of the silver package.

Higher payment by wealthier clients buys better non-clinical amenities but the quality of medical care remains identical for all patients. At Aravind, patients that pay higher prices (several times the price of a basic package) have a better level of comfort and privacy of their accommodation[19]. However, the surgeon in the operating theatre is unaware of the price that a patient has paid for the procedure. The following graph[20] shows the pricing structure of three affordable hospital models, which have 30 to 50% of subsidized or non-paying[21] patients.

Figure 6 - Differential non-clinical amenities and pricing structures for affordable facilities[22]

Shared general ward

Non-shared room with AC and attached toilet



Innovative hospitals limit out-of-pocket expenses for low-income patients by offering paid services to third parties. They can pay for:

- **Treatment / care.** For example, corporates (co-)pay for employees' health packages at Praava because of their vested interest in employee wellbeing. Similarly, insurers have a vested interest in treating patients early-on versus bearing the high costs of delayed care. For instance, the National Road Accident fund[23] (South Africa) covers orthopedic surgeries for road victims at private hospitals like Apex to avoid increased cost of delayed care at overburdened public hospitals.
- **Activities that directly serve the third party's purpose.** For example, an eye care charity initiative pays for free screening for students at Apex; schools invite dentistry chain Biodent to conduct dental education programs for children and parents in Mexico, in turn reducing the need for paid marketing for Biodent.
- **Positive health outcomes.** The Cameroon Cataract Bond finances the Magrabi ICO Cameroon Eye Institute[24] - a part of whose staff has been trained by Aravind - to provide free / discounted treatment to low-income patients. The Social Impact Incentives (SIINC[25]) instrument provided US$275,000 to CdA with KPIs[26] based on the ratio of BoP[27] clients among CdA's active members and improvement in HbA1c[28] levels among these patients.
- **Otherwise unused capacity.** For instance, Praava maximizes its lab's utilization by testing samples for other hospitals that do not have their own diagnostic center. Apex plans to partner with a nearby public hospital to absorb the overflow of (publicly insured) patients on its low-activity days.

19 Photo credits: Aravind Eye Care
20 Hystra and IQVIA analysis. (2023). Share of patients based on pricing plan
21 Services provided either free of cost or at a small symbolic price
22 The Commonwealth Fund. (2017). Expanding Access to Low-Cost, High-Quality Tertiary Care: Spreading the Narayana Health Model Beyond India. Retrieved from https://www.commonwealthfund.org/publications/case-study/2017/nov/expanding-access-low-cost-high-quality-tertiary-care; Aravind Eye Care System. (2021). Vision: Eliminate needless blindness. Retrieved from https://aravind.org/wp-content/uploads/2021/09/Activity-Report-2020-2021.pdf; Hystra and IQVIA analysis.
23 Road Accident fund. (2023). Retrieved from *https://www.raf.co.za/*
24 Government Outcomes Lab. (2022). Cameroon Cataract Bond. Retrieved from https://golab.bsg.ox.ac.uk/knowledge-bank/case-studies/cameroon-cataract-bond/
25 Roots of impact. (2023). Social Impact Incentives (SIINC). Retrieved from *https://www.roots-of-impact.org/siinc/*
26 Key Performance Indicator
27 Base of the Pyramid
28 A person's average blood sugar levels over the past 3 months

More needs to be done, notably in terms of affordable insurance schemes which are discussed in section on 'Health coverage and disease prevention' of this report (see BIMA, CarePay, NayaJeevan and Microensure case studies).

Opportunities for the sector: Replicating existing best practices

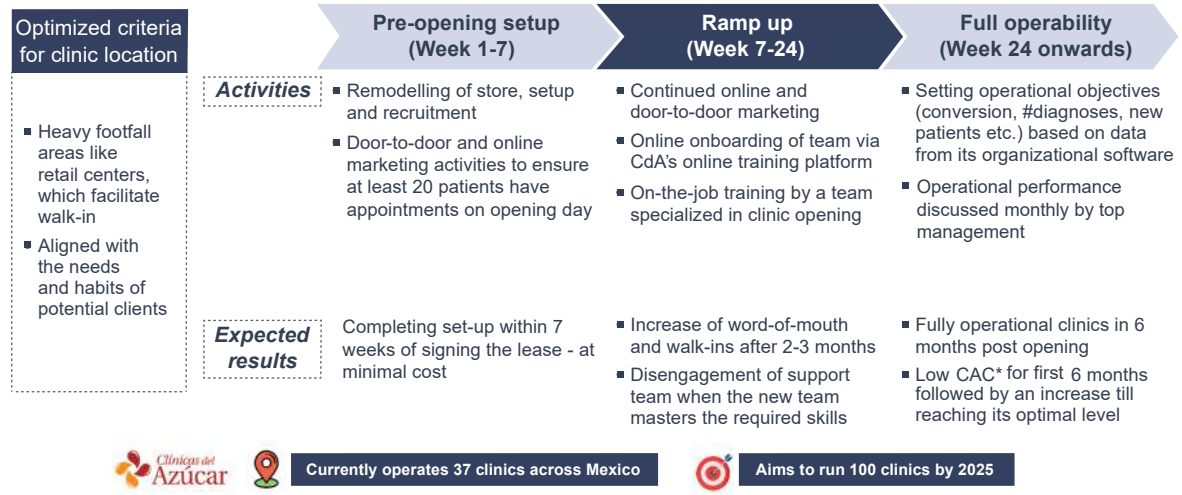
The numerous best practices from pioneers listed above can effectively address the key challenges of the sector – of quality of care, cost optimization and cost sharing with third parties beyond patients – and help existing players increase their reach, impact and sustainability of models.

Health funders (foundations, development agencies, impact investors, etc.) could accelerate the dissemination of such best practices to the broader sector. Concretely, they could fund insight-sharing workshops, knowledge dissemination support and technical assistance projects[29] for existing clinics and hospitals. Pioneers themselves might be interested in developing a consulting arm to share those practices – as Aravind has done with LAICO.

The fourth key question – on how to scale up and replicate successful clinics and hospitals – has found only few responses so far. While a few inclusive clinics and hospitals have leveraged their ecosystem to grow locally, they have struggled to grow / replicate across national borders. Those who have achieved scale locally have done so via:

- **Standardized set-up processes for new facilities, enabling faster and cheaper opening of new clinics.** Once the lease of a new clinic is signed, CdA's team executes a streamlined process to setup clinics in under 7 weeks, train the new clinic team and make the new clinic fully operational (and breakeven) within 6 months. This limits the amount of external capital required for scale-up.

Figure 7 - CdA's timeline and streamlined processes to open new clinics[30]



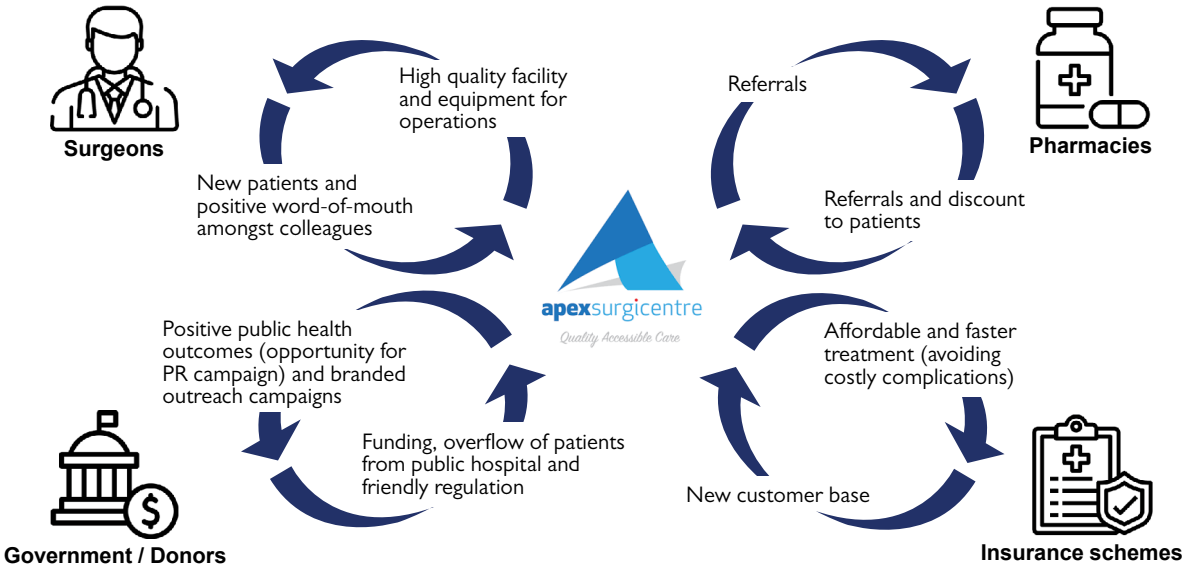
Note: (*) Customer Acquisition Cost

- **Creation of promoters out of every actor in the ecosystem to "grow the pie" of affordable quality healthcare, and benefit from their free support to grow.** NH benefits from free land lease from local governments, keen to see quality affordable hospitals set up in their localities. Apex is working with every actor in the ecosystem of the Soweto township where it is present: visiting surgeons, pharmacies, government / donors and insurance schemes all benefit mutually from reinforcing loops of referrals and growth, making them likely to support the creation of a second hospital in another part of the township, when the time comes.

29 Technical Assistance is the process of providing targeted support to an organization with a development need or problem, which is typically delivered over an extended period of time

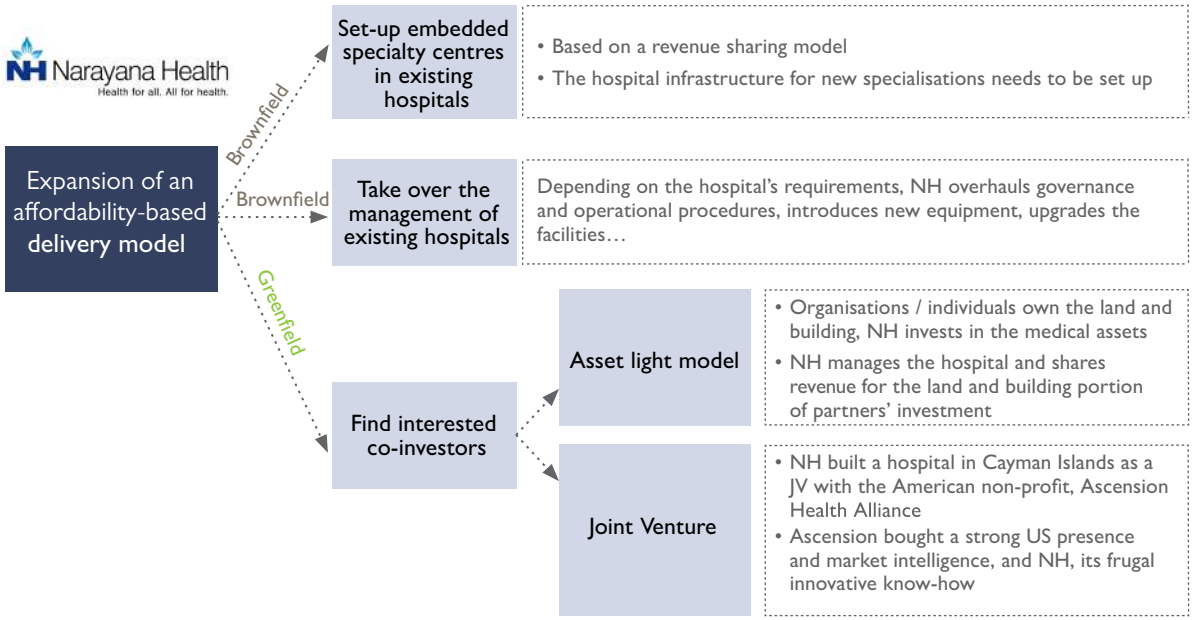
30 Hystra and IQVIA field visits and analysis

Figure 8 - Apex 'growing the pie'[31]



- **Mixing brownfield (technical assistance to, or building new services in, existing hospitals) and greenfield to accelerate growth.** The Figure 9 below shows how NH has expanded via innovative brownfield and greenfield ventures to reduce capital investment. The brownfield approach involves setting up specialty centers in existing hospitals or taking over the management of underperforming hospitals, and the greenfield approach leverages partnerships with co-investors who finance hospital infrastructure or contribute other tangible / intangible assets in a joint venture.

Figure 9 - Narayana Health's scale-up model[32]



31 Hystra and IQVIA interviews and analysis

32 Narayana Health's ten-year plan. (2013). Retrieved from *https://smartceo.co/narayana-healths-ten-year-plan/*; The Commonwealth Fund. (2017). Expanding Access to Low-Cost, High-Quality Tertiary Care: Spreading the Narayana Health Model Beyond India. Retrieved from *https://www.commonwealthfund.org/publications/case-study/2017/nov/expanding-access-low-cost-high-quality-tertiary-care*; Hystra and IQVIA analysis

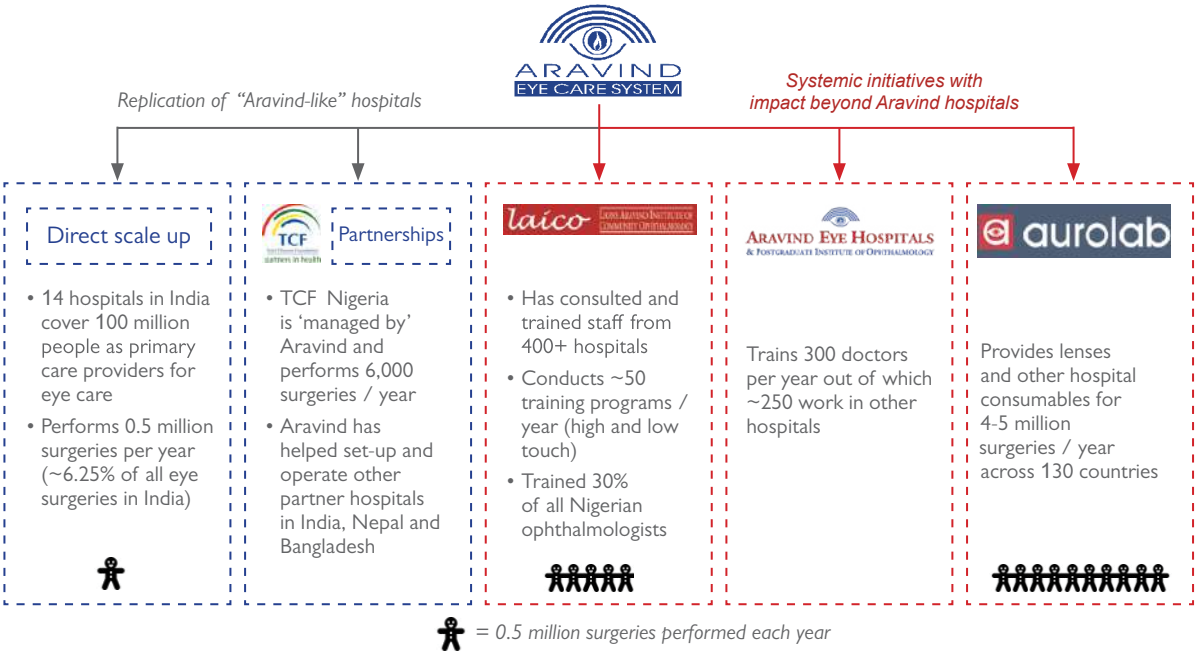
Successful scaling and replication of hospitals globally requires five key resources, which can be developed individually for the entire sector, or brought together to set up facilities in new countries:

1. **Knowledge, Intellectual Property (IP) and skills enabling efficient operation in terms of infrastructure, processes and systems:** They can be transferred to a new facility via consultancy, capacity building workshops and training for hospital staff. The Lions Aravind Institute of Community Ophthalmology (LAICO[33]), an Indian consultancy part of the Aravind group, provides such services on a large scale. CrestCare[34], a hospital operating company in South Africa, develops, operates and optimizes hospital facilities to provide healthcare in typically underserved yet high growth peri urban areas. This simultaneously opens doors for investor and health insurer engagements to widen the reach of affordable private healthcare.
2. **Sourcing of cost-and-quality optimized equipment and consumables:** Substituting expensive imports with locally produced, frugal hospital consumables can significantly reduce the costs of inputs, as Aravind has done with Aurolab[35], which decreased the cost of ocular lenses by a factor of 35. Aurolab currently provides lenses for 8-10 times the number of surgeries performed by Aravind Hospital alone. Furthermore, setting up centralized purchase platforms like Via Global Health[36] which aggregate demand and ensure supply for hard-to-reach communities reduces inefficiencies in distribution and increases affordability.
3. **Skilled medical staff:** Setting up professional training centers to help doctors specialize and learn ways to perform more efficient operations is a critical factor to replicate the practices of existing inclusive clinics and hospitals. Aravind set up an eye care postgraduate institute[37] which trains each year 6 times more professionals than what Aravind hospitals need, helping the sector as a whole.
4. **Financing**, which can take the form of:
    - **Direct private investment**, for example, CdA.
    - **Joint Venture (JV) with an external player**, for instance, the JV between NH and the American non-profit Ascension Health Alliance – to build a hospital in Cayman Islands – where Ascension's strong USA presence and market intelligence was combined with NH's frugal innovative know-how.[38]
    - **An ecosystem-level intervention** such as the partnership between Deutsche Bank (acting as fund manager), the International Agency for the Prevention of Blindness[39] (responsible for raising interest on the demand side) and Ashoka[40] (supporting marketing, fund structuring and the liaison between the financial and social sectors) that led to the creation of Eye Fund I with Assets Under Management of ~US$15 million. The fund gave three loans in Nigeria, China and Paraguay to construct new facilities, purchase advanced eye care equipment, expand outreach programs and train practitioners. A complementary grant fund provided technical assistance for investees based on best practices from Aravind.
5. **A visionary local entrepreneur**, with intimate knowledge of the local ecosystem and who facilitates the integration of a foreign entity into a new geography. NH's expansion into Cayman Islands and Aravind's expansion in Nigeria, Bangladesh and Nepal was made possible by partnerships with entrepreneurs familiar to the lay-of-the-land. Visionary leaders continuously focus on operational excellence and inspire a strong culture of service and accountability. To quote Dr. Aravind Srinivasan, Chief Medical Officer of Aravind Eye Hospital Chennai, "The intangibles are the foundation on which the tangible can be built."

Aravind has probably had the most comprehensive approach to date under the Aravind Eye Care System (AECS), playing an active role in transferring several resources to the whole ecosystem, and contributing significant direct and indirect impact on the advancement of eye care worldwide, in addition to the 14 hospitals that it operates in India (see figure 10 below).

33 Lions Aravind Institute of Community Ophthalmology (LAICO). (2023). Retrieved from *https://laico.org/*
34 Crestcare. (2023). Retrieved from *http://crestcare.co.za/*
35 aurolab. (2023). Retrieved from *https://www.aurolab.com/*
36 VIA Global Health. (2023). Retrieved from *https://viaglobalhealth.com/*
37 Aravind Eye Hospitals & Postgraduate Institute of Ophthalmology. (2023). Retrieved from *http://www.pgopthalinstitute.org/*
38 The Commonwealth Fund. (2017). Expanding Access to Low-Cost, High-Quality Tertiary Care: Spreading the Narayana Health Model Beyond India. Retrieved from *https://www.commonwealthfund.org/publications/case-study/2017/nov/expanding-access-low-cost-high-quality-tertiary-care*
39 The International Agency for the Prevention of Blindness. (2023). Retrieved from *https://www.iapb.org/*
40 Ashoka. (2023). Retrieved from *https://www.ashoka.org/en-us*

Figure 10 - Aravind's contribution to the eye care ecosystem[41]



Opportunities for the sector

As described above, there are five key resources for successful scaling and global replication of hospitals: (i) knowledge, Intellectual Property (IP) and skills enabling efficient operation, (ii) sourcing of cost-and-quality optimized equipment and consumables, (iii) skilled medical staff, (iv) financing and (v) a local entrepreneur. These can be brought together by three models:

1. Joint investments: A joint venture (JV) between a local entrepreneur (who brings in the local context and sometimes existing infrastructure) and an existing successful model (which brings its know-how, IP, sourcing, training capabilities etc.). For example, the JV between NH and Ascension Health Alliance to replicate NH in Cayman Islands.
2. Consulting + IP transfer: A consulting entity set up by the existing successful model - like Aravind's LAICO described above - can transfer critical know-how and IP rights to hospitals in new geographies, who already have their own financing and local entrepreneur in place.
3. Replication vehicle: An impact fund which regroups teams of (i) people with know-how of building, operating and optimizing facilities; (ii) experts of creating efficient business models and (iii) impact investors. These teams work together to replicate best practices from models with proven profitability, via greenfield or brownfield investments coupled with technical assistance. Such a fund could be financed by manufacturers (e.g., of devices or pharmaceutical companies, with an interest in seeing more of their products used) along with foundations and development agencies (with an interest in seeing improved health outcomes) providing additional outcome-based funding, e.g., to extend access to treatment for low-income patients unable to afford treatment.

Note:

Quality and control concerns have created hesitation among pioneers to expand using franchise models. The value added of the franchiser is considerable at the beginning but reduces remarkably over time, making this model likely ill-adapted for the replication of inclusive clinics and hospitals.

In parallel, a few initiatives could help trigger broader systemic impact and would benefit existing clinics and hospitals as opposed to replicating full models:

- Existing successful inclusive facilities can set up medical training institutes, supported by health funders (including governments) aiming to help train the next generation of doctors, by leveraging their knowledge, skilled practitioners and infrastructure.
- Producers of affordable quality equipment, procurement intermediaries (such as wholesalers), health funders and facilities can come together to create centralized platforms for purchase and distribution of affordable quality hospital consumables from producers, like Aurolab or Via Global Health.

41 Hystra and IQVIA interviews and analysis

An mPharma mutti pharmacy

Credits: mPharma

PHARMACY-BASED MODELS

This section focuses on models leveraging formalized drug shops and pharmacies in LMICs. A vibrant community of entrepreneurs, which has raised growing interest from VCs in the past decade, has leveraged digital solutions to revamp these outlets and improve supply chains, business efficiencies, and healthcare service delivery at the point of sale. Notably, these models are built on the current behaviors of underserved patients – who spend most of their healthcare budget on over-the-counter (OTC) drugs – and leverage a vast existing retail infrastructure. Looking ahead, there may be opportunities for the overall ecosystem to help expand the work and impact of pioneers, enabling pharmacies and drug shops to play a unique role in access to care, especially for patients suffering from NCDs, and further lower treatment prices which will be required to move the needle for underserved populations.

MARKET OUTLOOK

Pharmacies and drug shops are focal points for patients, not only to buy treatment but also to seek medical advice. Hundreds of thousands of outlets (pharmacies and drug shops) of various types - and subject to different policy environments - can be found in LMICs. However, a lack of capabilities and system-wide inefficiencies prevent these outlets from ensuring access to quality and affordable drugs or delivering adequate professional advice.

Across the board, patients visit retail outlets[42] much more frequently than any other healthcare practitioner. To quote Farouk Meralli, CEO of SwipeRx, "In Indonesia, patients would visit a pharmacy or drug shop 12 times a year and a physician 1.2 times per year, and this is even more acute the further you go away from main cities". Most patients are looking to buy treatment and seek medical advice from pharmacy staff. And from mPharma's 2021 impact report[43], "In Ghana, 55% of patients opt for pharmacies when they first experience symptoms while 23% opt for a clinic or hospital."

While these outlets can be counted in tens or even in hundreds of thousands in some geographies, the ratio of outlets per capita varies significantly, and so does the size and shape of the shops. For example, Nigeria and India have an estimated 200,000 outlets, leading to 10.1 outlets per 10,000 people for Nigeria, compared to only 1.5[44] for India, while the OTC Indian market value is expected to be 3 times larger[45] than the Nigerian one in 2023[46].

The outlets also deliver very different patient experiences. They range from licensed drug shops – lower-tier retail outlets, with no trained pharmacist, selling OTC[47] drugs, chemical products, and household remedies, such as the Patent and Proprietary Medicine Vendors (PPMVs[48]) in Nigeria or the Accredited Drug Dispensing Outlets (ADDOs) in Tanzania – to formal pharmacies where licensed pharmacists are selling both prescription and OTC medicines[49]. In number of outlets, drug shops are dominant (in countries where they are authorized). For example, 98% of the outlets in Nigeria and India are drug shops[50]. Contrary to the pharmacies that are primarily concentrated in urban areas, drug shops have better coverage in rural areas. For example, 43% of Nigerian PPMVs are in rural areas (as high as 50% in some states[51]). But when it comes to prescription medicine, drug shops account for a marginal market share and in most cases they are not authorized to distribute them.

42 Retail points / outlets in this section corresponds to pharmacies and drug shops
43 mPharma. (2021). Annual Impact Report. Retrieved from *https://mpharma.com/wp-content/uploads/2022/04/Impact-Report-_mPharma-2021.pdf*
44 These numbers do not take into account the informal retail / market
45 Statista. (2022). Consumer Market Insights, OTC Pharmaceuticals - India. Retrieved from *https://www.statista.com/outlook/cmo/otc-pharmaceuticals/india*
46 Statista. (2022). Consumer Market Insights, OTC Pharmaceuticals - Nigeria. Retrieved from *https://www.statista.com/outlook/cmo/otc-pharmaceuticals/nigeria*
47 Over The Counter
48 Patent and Proprietary Medicine Vendors (PPMVs), defined as "a person without formal training in pharmacy who sells orthodox pharmaceutical products on a retail basis for profit"
49 However, not always present in the pharmacy
50 The numbers do not consider the informal (unlicensed) retail / market
51 The landscape of patent and proprietary medicine vendors in 16 states of Nigeria; Society for Family Health, Nigeria

The policy environment varies significantly across countries, from heavily regulated to very liberal ones. For example, in French West Africa (FWA), pharmacy chains and primary care services within pharmacies and drug shops are not allowed while prescription drug prices are regulated. Conversely, countries like Nigeria or Ghana allow pharmacies to be structured in branded chains, enable pharmacists to deliver basic healthcare services to patients, and do not regulate prescription drug prices. Even more interesting is the many shades of grey between these two contrasting models. Consequently, pharmacy-based model operators must be flexible and adaptable to evolve across borders.

Table 1 - Policy environments impacting the pharmacies' value proposition across selected LMICs[52]

	Pharmacy chain authorization	Price/Mark-up controls	Primary care services in pharmacies	Drug shop authorization
Senegal	Not authorized	Regulated	Not authorized	Not authorized
Ivory Coast	Not authorized	Regulated	Not authorized	Not authorized
Vietnam	Not authorized	Unregulated	Authorized	Authorized
Democratic Republic of the Congo	Authorized	Regulated	Not authorized	Not authorized
India	Authorized	Regulated	Authorized	Authorized
Indonesia	Authorized	Regulated	Authorized	Authorized
Pakistan	Authorized	Regulated	Authorized	Not authorized
Kenya	Authorized	Unregulated	Authorized	Not authorized
The Philippines	Authorized	Largely unregulated	Authorized	Authorized
Ghana	Authorized	Unregulated	Authorized	Authorized
Nigeria	Authorized	Unregulated	Authorized	Authorized (PPMVs)

Note: (1) Price/mark-up controls are about prescription drugs; (2) primary care services to patients includes services such as telemedicine, diagnosis, etc.; (3) 'Not authorized' means that the activity is not allowed in the country and 'Unregulated' implies that price/mark-ups are 'not subject to regulation'.

BUSINESS MODELS AND CHALLENGES

Unfortunately, patients often struggle to access consistent quality and affordable drugs with professional advice and services. These challenges are present across all outlets, yet with various degrees of intensity depending on the type of retail points (pharmacies vs. drug shops), local context (urban vs. rural), and policy environment.

1. Stockouts and inconsistent quality due to poor management practices, lack of tools at the outlet level, and supply challenges

Pharmacies and drug shops in LMICs face frequent stockouts, which limit the ability of patients to access the treatment they need, especially those suffering from NCDs. A benchmark study of 15 South East Asian countries reveals that less than 10%[53] of facilities have a complete basket of essential medicines for treating NCDs. Other research conducted in 42 private medicine outlets in the Philippines shows that only 35% of the most common generics and branded medicine for diabetes, hypercholesterolemia, and hypertension were available in the shops[54]. Drug shops such as ADDOs in Tanzania can face stockouts of several weeks or months[55].

52 IQVIA analysis. (2023). Policy environments impacting the pharmacies' value proposition across selected LMICs

53 WHO. (2017). Improving access to medicines in the South-East Asia Region: Progress, Challenges, Priorities. Regional Office for South-East Asia. Retrieved from *https://apps.who.int/iris/handle/10665/258750*

54 Lambojon, K., Chang, J., Saeed, A., Hayat, K., Li, P., Jiang, M., Atif, N., Desalegn, G. K., Khan, F. U., & Fang, Y. (2020). Prices, Availability and Affordability of Medicines with Value-Added Tax Exemption: A Cross-Sectional Survey in the Philippines. International Journal of Environmental Research and Public Health, 17(14), 5242. *https://doi.org/10.3390/ijerph17145242*

55 Apotheker. (2022). Assessment of the Landscape and the Relevance of MFI Serving Health Sector in Tanzania for the Sanofi Impact Investment Fund. *https://apotheker.co.tz/*

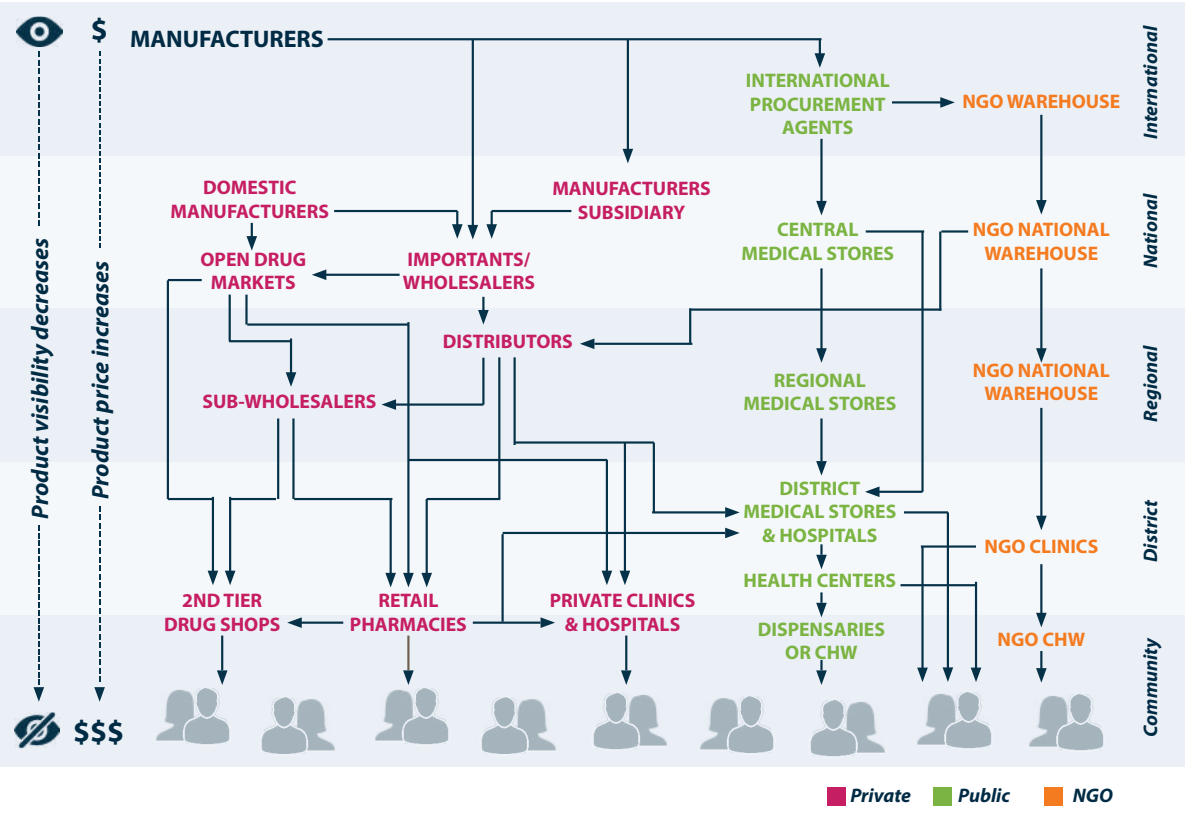
The key factors driving stockouts[56] are the lack of access to finance to stock sufficiently, the inefficient inventory management practices, and the preference of pharmacy and drug shop owners for stocking products with consistent demand. In addition, outlet owners often lack stock management tools. For example, 78%[57] of Tanzanian ADDOs' owners are still using paper-based business records. Consequently, a significant share of the stocks ends up expired and wasted. As per Kwesi Arhin, Vice president of Retail at mPharma, "expired products can represent up to 10-15% of community pharmacies' stock before becoming a member of mPharma's franchise model."

Beyond these issues at the outlet level, several challenges on the upstream supply chain are causing stockouts and a lack of quality assurance. A study in Colombia cited manufacturing problems as a significant cause of drug shortages. According to WHO, 1 in 10 medical products in LMICs is substandard or falsified[58].

2. Unaffordable and volatile prices due to supply chain inefficiencies (vs. pharmacy markups), foreign exchange fluctuations, and in some cases, the low penetration of generics because of their poor perception

In some contexts, the fragmentation and multi-layered supply chain strongly impact the medicine price before it arrives in the pharmacy. The graph below is part of a 2021 report[59] by Salient Advisory, and illustrates the multitude of actors between the manufacturer and the patient in the Nigerian context. Through their research, Salient Advisory estimated that 60% of a product's "price to the patient" is due to costs added from when the product enters the port to when it is dispensed, including retail margin.

Figure 11 - Health product supply chains in developing countries[60]



56 Estevez, I., Matthew G. (2020). Innovative Financing Approaches for Increasing Pharmacy Inventory. SHOPS Plus. Retrieved from *https://shopsplusproject.org/sites/default/files/resources/SP_Brief_Fin-Pharm_061620_v07f-print_Quick508ed_arrowheads.pdf*

57 Apotheker. (2022). Assessment of the Landscape and the Relevance of MFI Serving Health Sector in Tanzania for the Sanofi Impact Investment Fund. *https://apotheker.co.tz/*

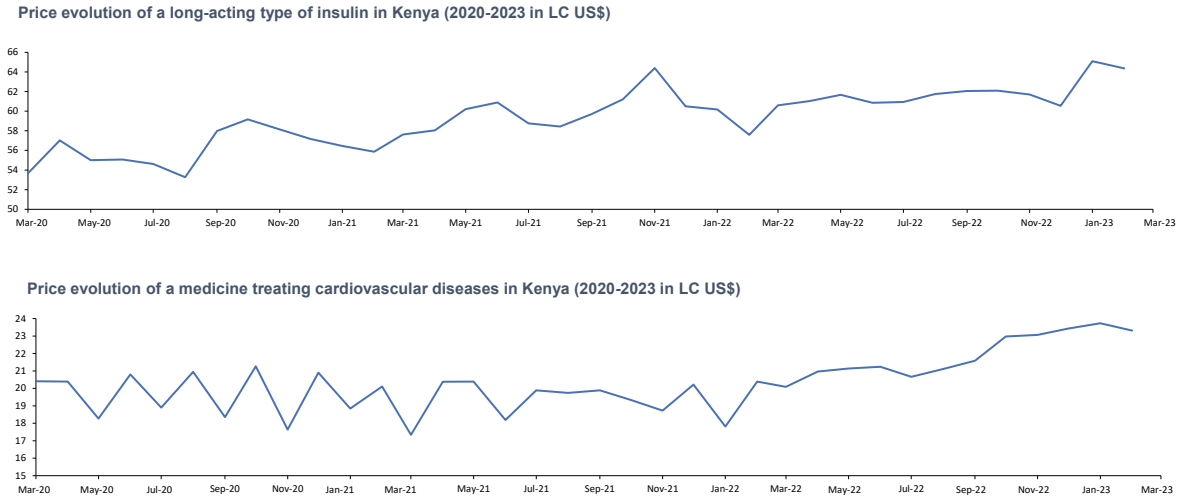
58 WHO. (2017). 1 in 10 medical products in developing countries is substandard or falsified. Retrieved from *https://www.who.int/news/item/28-11-2017-1-in-10-medical-products-in-developing-countries-is-substandard-or-falsified*

59 Salient Advisory. (2021). Innovations in Health Product Distribution in Sub-Saharan Africa: Market Intelligence Report. Retrieved from *https://healthtech.salientadvisory.com/reports/african-health-product-distribution-2021/*

60 Framework in Salient Advisory's report adapted from Yadav P. (2015). Health Product Supply Chains in Developing Countries: Diagnosis of the Root Causes of Underperformance and an Agenda for Reform. Health systems and reform, 1(2), 142–154. Retrieved from *https://doi.org/10.4161/23288604.2014.968005*

Price points are particularly volatile in some geographies with unregulated prices and/or high FX fluctuation. For example, in Ghana, prices vary across retail shops or neighborhoods in Accra and within a given shop over a month. The graph below shows examples of monthly fluctuation of distributor price points[61] in Kenya for two medications (one long-acting type of insulin and one medication used to prevent cardiovascular diseases). As witnessed in the field, these fluctuations are often directly passed on to patients.

Figure 12 - Examples of monthly distributor price fluctuation in Kenya[62]



Generics have reached high penetration rate in many LMICs thanks to their lower price points. However, the penetration of generics is not as high for NCDs treatments. For example, the overall penetration rate of generics in FWA is 90% but only 71% for NCDs-specific generics.

NCDs generics are significantly cheaper than branded originals in most countries. For instance, in FWA, an anti-diabetic medication used to treat type 2 diabetes in its generic version is sold between 70% to as low as 18% of the price of the originals. Similarly, the price of generics for a medication used to treat high blood pressure and coronary artery disease – ranges between 91% and 4% compared to the originals[63].

Such lower penetration of NCDs generics is surprising as expected NCDs patients could be expected to have higher awareness due to the chronic nature of their disease or to be more sensitive to price points. This could be explained by a remaining lack of trust in generics, especially in environments where substandard and counterfeit products circulate[64]. As a result, many patients would favor branded medications, even if it means not taking the complete treatment. A study[65] on the perception of generics in Lebanon showed that a third of people surveyed thought that the generics "were not as effective", "were of lower quality" or "had more side effects" than the original brand medicines. 52% of the respondents had never brought a generic drug, and 69% preferred using a brand drug over a generic one.

3. Poor advice and service for patients rooted in the lack of training for professionals and the lack of incentives for outlets to expand service

While pharmacists are qualified healthcare professionals, field interviews showed that they often do not fulfil the role they should because:

61 The graph depicts fluctuations in 'distributor price' (LC US$, i.e., local currency converted to US$) and thus does not include margins for wholesalers and pharmacy
62 IQVIA analysis. (2023). Kenya Private Sales Data
63 IQVIA analysis. (2022). MIDAS data
64 WHO. (2017). 1 in 10 medical products in developing countries is substandard or falsified. Retrieved from *https://www.who.int/news/item/28-11-2017-1-in-10-medical-products-in-developing-countries-is-substandard-or-falsified*
65 Hatem, G., Itani, R., Ajrouche, R., Abbas, N., Farah, R., Goossens, M., & Awada, S. (2023). Knowledge, perception and acceptance of generic drugs in the general Lebanese population: A cross-sectional survey among adults. The Journal of Medicine Access, 7, 27550834221147 7. *https://doi.org/10.1177/27550834221147789*

- **Many are insufficiently trained and in particular lack continuous training**[66] (in most of the LMICs visited for this study[67]). A 2021 survey on contraceptives conducted by SwipeRx in Vietnam revealed gaps in pharmacists' knowledge regarding side effects, contraindications, and correct use for oral and emergency contraceptives, as well as limited knowledge of the benefits and reversible attributes of longer-acting methods.
- **They often delegate patient-facing roles to pharmacy assistants.** Some health sector actors, both from Sub-Saharan Africa and South East Asia, attested that while having a pharmacist's license to open a pharmacy is mandatory, most pharmacists have another principal job.
- **They are incentivized to maximize drug sales rather than providing healthcare services.** A study conducted by Maisha Meds[68] demonstrated that, while malaria patients mainly seek treatment in pharmacies, 58% of people buying ACT[69] treatment did not even suffer from malaria. This resulted in negative effects at many levels: wasted out-of-pocket spending for patients, poorer health outcomes for malaria-negative patients, and increased potential for drug resistance through over-use of antimalarial treatment.

These limitations are even more drastic in the case of drug shops, as shop owners are much less qualified than pharmacists. A 2014 survey of 20,000+ PPMVs by the Society for Family Health and the University of California, San Francisco[70] across 16 states in Nigeria showed that 61% of PPMV owners surveyed had no health qualifications. Only 47% had completed secondary education, and 37% had completed post-secondary education[71].

INNOVATIONS AND RECOMMENDATIONS

Our global scan for pioneering inclusive initiatives helped us identify the most promising entrepreneurs actively innovating to address these challenges at the pharmacy and drug shop levels. The insights presented in this section are derived from interviews and field visits of the following six innovators.

Based on in-person visits and interviews	
DrugStoc Empowering Health-Care Providers	Founded in 2015 in Nigeria, DrugStoc offers a digital marketplace and fulfillment services to 3,000+ pharmacies, hospitals, and accredited drugstores. It also enables health providers to resolve cash flow constraints and drive down costs by offering them stock financing and group purchasing services.
Maisha Meds	Maisha Meds started in 2017 as a provider of a digital point-of-sales system in Kenya and expanded to Uganda, Tanzania, and Nigeria. Since 2018, its activities have expanded to include programs delivering targeted subsidies.
mPharma	Started in 2014 as a health tech company, mPharma pivoted to become a vertically integrated healthcare provider. Today it operates across nine countries in Sub-Saharan Africa and has three main activities: retail, wholesale, and diagnostics.
SwipeRx	Created in 2014, SwipeRx (previously called mClinica) is a leading tech platform for independent pharmacies in South East Asia (Indonesia, Vietnam, Thailand, Philippines, Malaysia, and Cambodia). They offer a 'Community platform' enabling online education for pharmacists, peer-to-peer collaboration, referrals, etc., and a 'Commerce platform' enabling medicine purchase, financing, and logistics optimization.

66 Okoro, R. N., & Nduaguba, S. O. (2021). Community pharmacists on the frontline in the chronic disease management: The need for primary healthcare policy reforms in low and middle income countries. Exploratory Research in Clinical and Social Pharmacy, 2, 100011. *https://doi.org/10.1016/j.rcsop.2021.100011*
67 Including Nigeria, Kenya, Ghana, and Indonesia
68 USAID. (2022). A digital approach for targeted malaria treatment. Retrieved from *https://pdf.usaid.gov/pdf_docs/PA00ZH49.pdf*
69 Artemisinin-based Combination Therapy
70 University of California San Francisco. (2023). Retrieved from *https://www.ucsf.edu/*
71 PPMV. (2021). Society for Family Health and Merchants of Medicine - Society for Family Health Nigeria. Society for Family Health Nigeria. Retrieved from *https://sfhnigeria.org/download/ppmv-report-society-for-family-health-and-merchants-of-medicine/*

Based on remote interviews and/or public information	
FARMACIAS SIMILARES "LO MISMO PERO MAS BARATO"	Founded in 1997, Farmacias Similares is Mexico's largest drugstore, with 8,500+ locations across 9 LATAM countries. It offers patients low-cost "similar.[72]" drugs, lab services, a 24x7 hotline providing free access to doctors, nutritionists, and psychologists, and consultations (136 million in 2022).
Generika drugstore	Founded in 2004, Generika Drugstore[73] (Generika) is a Filipino pharmacy chain with 830+ stores that introduced generics into the retail market. They engage local communities to generate awareness and trust in generics while providing additional services like consultations and lab tests for patients.

These innovators vary in how they engage with outlets and generate revenue, and therefore the potential number of outlets they cover.

Table 2 - Revenue models of the pioneers studied[74]

	Pharmacy chains and franchises	E-marketplace and digitally-enabled wholesalers	Platforms that monetize externalities
Case studies	mPharma, Generika drugstore	DrugStoc, SwipeRx Commerce	SwipeRx Community, Maisha Meds
Relationship with pharmacies or drug shops	Franchise or branch	Service provider	Free service provider
Possible revenue streams	• Profit share • Franchise fee • Wholesale margins	• Wholesale margins • Software license fee	Third party payment for • Service delivery (campaign, research) • Health outcomes or outputs

Revenue per outlet ↘ Number of outlets covered

To provide a comprehensive offering for patients and pharmacies, they have all expanded their activities beyond their initial business lines with the majority developing either a wholesale or a reordering activity as illustrated in the table below.

72 "Similar" drugs refer to drugs manufactured by Farmacias Similares, which differ from generics because they are not entirely equivalent to the original drug

73 Contrary to the four other innovators studied for this report, Hystra and IQVIA did not visit Generika on the field. The insights are based on interviews conducted with the founder

74 Hystra and IQVIA field visits and analysis

Table 3 - Expansion of activities beyond the initial business line[75]

	Solutions to donors and corporates CSR (e.g., access to data, etc.)	Wholesale	Business services (e.g., inventory management tool, etc.)	Professional training	Services to patients (e.g., teleconsultation, nurse, etc.)
mPharma	✓	1	✓	✓	✓
SwipeRx	✓	✓	✓	✓	✗
Maisha Meds	✓	✗	1	✗	✗
DrugStoc	✗	1	✓	✗	✗

1 Starting point ✓ Activities developed ✓ Activities developed partially ✗ Activities not undertaken

Sustainable innovations are emerging at four levels: (1) improving supply chain efficiency, (2) delivering healthcare services at the outlet level, (3) reducing price points for patients, and (4) nudging healthier behaviors with outcomes-based funding at the point of sale.

1. Leveraging digitally-enabled innovations in the supply chain

Innovators have used digitally enabled advances in supply chain and stock management to reduce stockouts and improve the quality of treatment. Pharmacists are often reluctant to invest in standalone digital tools that must be delivered as part of broader value propositions. For example, mPharma has developed a franchise model called QualityRx that unites revamped pharmacies under a unique brand (mutti[76]), aggregates demand across outlets, provides drugs on consignment, bears the risks of product expiry, and provides adequate staff training. mPharma also equips pharmacies with a proprietary management software (Bloom), which provides visibility to the company on inventory and sales, while helping franchisees in running their business, patient relationship, and stock management.

Another innovator, SwipeRx, has developed a digital social network focused on pharmacy professionals that has expanded to 250,000+ professionals from 50,000+ pharmacies in 7 South East Asian countries. It offers content in local languages, including regularly updated drug information, accredited educational content, news feed from users and partners, peer-to-peer interaction, etc. New features such as e-referral have been added over time. In 2019, SwipeRx added a procurement and supply business line to its model to aggregate demand and increase affordability. The company leverages its market intelligence to find reliable stock delivered to clients the same day or next day with attractive credit terms. Clients can order via an online platform offering an e-commerce-like experience. Since 2022, SwipeRx has negotiated with manufacturers and distributors directly and stores inventory in its warehouses, enabling price points that are on average 9-10% cheaper than the competition.

Opportunities for the sector

Replicating large-scale digital training programs for pharmacy staff (a la SwipeRx)

SwipeRx developed a powerful platform, "SwipeRx Community", that provides continuous training to pharmacy staff, including accredited education and peer-to-peer exchange. On the one hand, with 30% of the pharmacies in South East Asia registered on their platform, they managed to raise significant interest from pharmacists. On the other hand, they can offer the platform for free to the pharmacies due to the interest of local governments and

75 Hystra and IQVIA field visits and analysis
76 A pharmacy enrolled in mPharma's franchise model

local pharma companies to pay for access to pharmacists with marketing content, the provision of training, and the access to data on pharmacists and patients. They are continuously developing new functions for the platform. The platform is now leveraged to promote e-referral and increase patient continuity by connecting pharmacies to the healthcare system.

- While SwipeRx Community is now well implanted in South East Asia, there is an opportunity to investigate if there would be a way to replicate a similar model across other geographies (e.g., Sub-Saharan Africa). Health Funders could play a role in de-risking the replication.
- While most of the sector has been to date focusing on acute diseases, health funders could be interested in pushing for the integration of NCDs, especially on the e-referral that can allow for early diagnosis. When it comes to silent-killer diseases such as diabetes, this could have a significant impact.

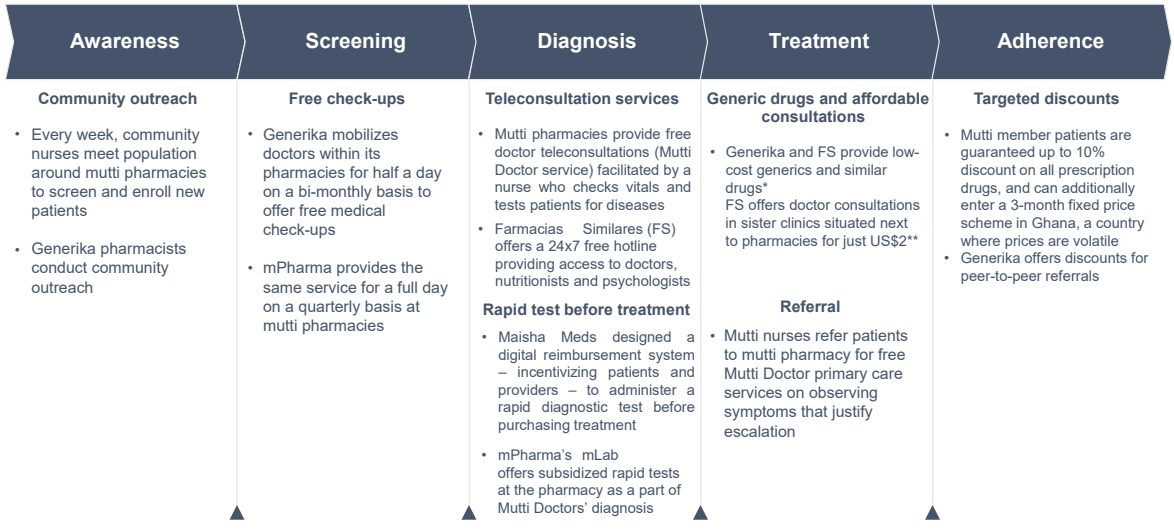
2. Developing patient-centric services that go beyond basic advice

Delivery of patient-centric primary care services at the pharmacy level - going well beyond basic advice, and ranging from raising awareness and increasing access to diagnosis to augmenting adherence - can generate additional revenue for the pharmacy and the wholesaler. This is due to the following:

- Higher sales revenue from increased traffic and/or spending per patient.
- Improvement in the pharmacy's brand image, reducing the need for paid marketing.
- Billing these services to patients even though this amount may only be a token contribution.

For some services, the incremental revenue and margins generated are sufficient to pay the costs of these services sustainably, whereas, for others, a complementary payment from health funders is required. In either case, deploying such services makes financial sense for the pharmacist, but only makes sense for a central organization (wholesaler or franchiser) to finance if the latter is sure to capture a significant enough portion of the additional revenue generated – in other words if it has a sufficiently significant share of wallet among its clients or franchisees.

Figure 13 - Examples of primary care services delivered in pharmacies[77]



Note: (*) "Similar drugs" refers to drugs manufactured by Farmacias Similares, which differ from generics in that they are not completely equivalent to the original drug, (**) as of 2018

77 Hystra and IQVIA analysis based on Interviews with mPharma management team. (2022) and 60dB. (2020). Consumer survey.

Opportunities for the sector

Transforming pharmacies into health hubs by expanding services to patients (a la mPharma mutti Doctor or a la Generika), with sustainable business models

As demonstrated by Generika and mPharma, there is an opportunity to increase the services delivered to patients in pharmacies while generating additional revenue. The next step is to explore which range of services would make sense regarding business (depending on local context) while providing the most health impact for underserved populations (e.g., people accessing primary care services, increased adherence, etc.).

In addition, patients, pharmacists, wholesalers (due to the increased revenue), and health funders for health impact could all pay part of the services.

- Chains of pharmacies (including franchises) and wholesalers with solid relationships with pharmacists could be essential players in developing this model, as they would all benefit from additional footfall and revenue.
- Impact investors and health funders could play a strategic role in financing pilots to demonstrate both the business and impact cases. They could support as well exploratory work on regulation.

Supporting drug shops that remain a critical focal point yet often neglected per the health ecosystem

As mentioned before, drug shops are numerous in LMICs, providing OTC drugs to the population in both rural and urban areas. Drug shop owners are oftentimes less educated than pharmacists. Yet, as people are already using these retail points, there is a significant opportunity to support these shops in becoming more reliable to augment patient care. Some initiatives emerge, like mPharma's GoodHealth Shop which has been supported by the Bill & Melinda Gates Foundation. This model unites PPMVs under one brand to leverage economies of scale, marketing expertise, and insights to drive better business decisions, increase growth and profitability and enhance patient care in local communities[78].

- Health funders and networks of pharmacies could work together to integrate drug shops in their approach to raise the quality of health care and expand their reach.

3. Reduction in prices based on supply chain efficiencies and generics

Innovators have reduced patient prices thanks to supply chain efficiencies, yet those reductions are oftentimes insufficient to provide major savings for patients. Price reductions rely on:

- Passing discounts to final consumers: Demand aggregation and removal of intermediaries enable SwipeRx to provide drugs to pharmacies on average at 9-10% cheaper prices than other suppliers. 64% of outlets are passing on these savings to the patients. Similarly, DrugStoc only sources products directly from manufacturers or primary importers, eliminating intermediaries and enabling them to negotiate competitive prices for the final consumer.
- Offering innovative drugs at controlled prices: DrugStoc de-risks the supply chain by leveraging its tech-enabled solution to deliver medicines within hours after a partner pharmacy receives a prescription for a listed high-cost medication. This allows patients to access these medicines at a discounted and controlled rate.
- Protecting against price fluctuations and loyalty benefits: In Ghana, where the government does not fix drug prices and they can vary widely based on foreign exchange fluctuations, mPharma modifies retail prices only once a month. Additionally, patients can join a 3-month-fixed price scheme, known as "mutti Keep My Price" starting at GHS 10[79]. mutti members also enjoy a permanent 5-10% discount on prescription drugs and additional discounts from cashback rewards from loyalty points.

78 Rockson, G. (2019). Introducing the GoodHealth Shop. Retrieved from *https://medium.com/mpharma-insights/introducing-the-goodhealth-shop-f4430e8089d6*
79 US$1 = 11.85 GHS in March 2023

However, the observed price reductions have been insufficient to change the status quo on affordability. Drugs alone account for 46%[80] of the total cost of treatment (estimated at US$600 per annum) for a diabetic patient requiring insulin in Kenya. Knowing that 55% of the poorest households in Kenya have an annual disposable income of less than US$6,000, the costs are still too high for low-income patients to be adherent to their diabetes treatment[81].

Pharmacy chains that have promoted quality generics as an alternative to branded drugs and substandard generics are the exception. Farmacias Similares sells "similar" drugs up to 75% cheaper than branded medicines, and a consultation cost US$2[82] (vs. US$15-20 elsewhere). Generika introduced low-cost generics into the Filipino retail market. In addition to discounts for peer-to-peer referrals, free medical check-ups, and community outreach, Generika offers lab testing at 3-5 times cheaper prices than the market. It has created a systemic impact on the Filipino pharma industry by inspiring new competitors (like The Generics Pharmacy[83]) to enter the market, leading to further decreases in prices.

Opportunities for the sector

To go beyond this, upstream value chain efforts would be needed.

In some countries, it could be possible to reduce distribution margins without impoverishing the end of the supply chain and diminishing patients' level of care. Public payers and health funders could play a role in moving the industry and (1) enable lower margins and (2) push cheaper products into the system (generics, access products, etc.) while ensuring price reductions at the distributor are passed on to the patients.

Fostering the emergence of pharmacy chains focused on generics (a la Generika, Farmacias Similares)

Innovators like Generika and Farmacias Similares have created trust in quality generics by building chains of pharmacies with a clear value proposition of promoting cheaper but quality drugs. While Generika (and then The Generics Pharmacy) and Farmacias Similares have reached significant amplitude within their geographies (respectively, the Philippines and Latina America), we have yet to see any similar model developed in other geographies, especially Africa. Generics manufacturers, wholesalers, and pharmacists could be interested in pursuing this opportunity further, with the potential support of regulators and funders.

4. Mobilizing third-party funding in smart/sustainable ways

Some innovators have monetized data and positive externalities to third parties to incentivize the delivery of services at pharmacies, finance training of pharmacy staff, etc. Setting up digital networks and infrastructure is a prerequisite to deploying such programs. Via SwipeRx's platform, funders can provide online training, conduct market research digitally, and engage pharmacy professionals on the network (up to 250,000+ professionals). Funders can also improve the quality, availability and affordability of medicines through SwipeRx's supply chain initiatives. Similarly, Maisha Meds' open-source digital point-of-sale system – used by 1,500+ last-mile pharmacies and clinics – acts as the catalyst allowing funders to channel targeted discounts for patients and incentives for providers, thus improving both quality and affordability of care.

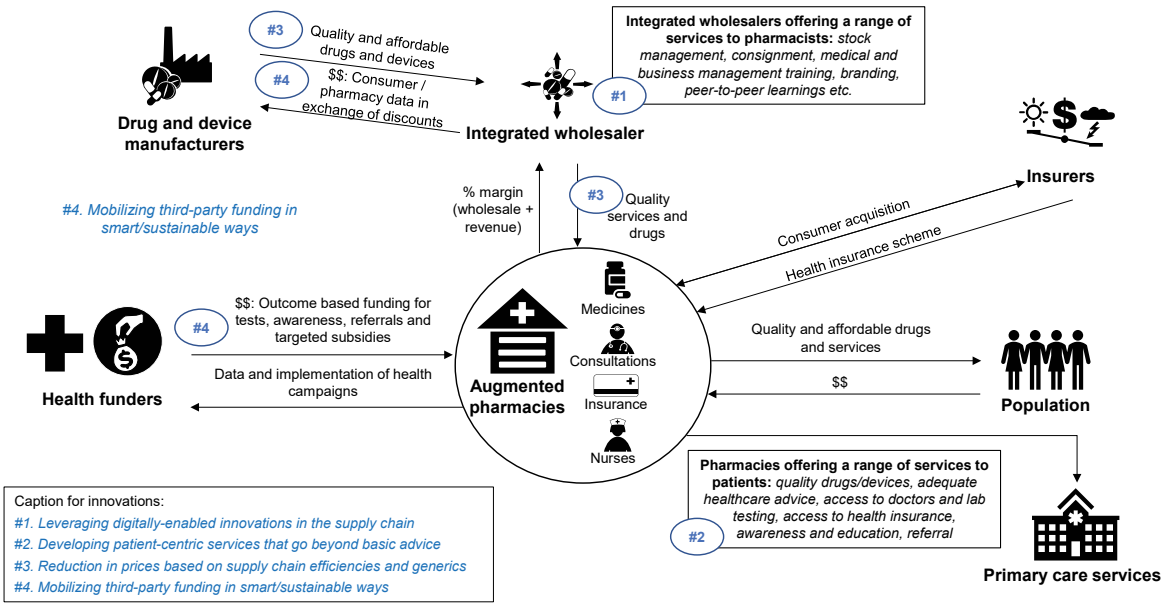
Opportunities for the sector

Continue funding and design new outcome-based funding[84] mechanisms to increase the health impact

Health funders could leverage the augmented pharmacies to provide additional services. Indeed, they can further incentivize these pharmacies through outcomes-based funding in exchange for positive externalities, like in the example of Maisha Meds and its malaria testing incentive scheme. That would enable health funders to subsidize drugs, not at the manufacturers' level, but at the patients' level, increasing the likelihood of impact and adequacy of treatment.

80 IQVIA analysis. (2023)
81 Hystra and IQVIA analysis. (2023). IQVIA local private retail and 2020 Euromonitor data
82 Miller, L. (2023). Mexico promised healthcare for all, Its failure to deliver made this smiling mascot famous. Los Angeles Times. Retrieved from *https://www.latimes.com/world-nation/story/2023-03-01/la-fg-mexico-doctor-simi-mascot-healthcare-crisis*
83 The Generics Pharmacy. (2023). Retrieved from *https://tgp.com.ph/*
84 An innovative financing mechanism where the disbursement of funds is dependent on the impact outcomes achieved

Figure 14 - An illustrative, integrated model combining innovations at every level[85]



85 Hystra and IQVIA field visits and analysis

A CHW examining a patient

Credits: Healthy Entrepreneurs

COMMUNITY-BASED MODELS

This section is focused on models leveraging community-based health workers in LMICs. The networks of community health workers (CHWs) were set up by governments in the 20th century in LMICs to serve last-mile communities. They relied on the volunteer work of trusted individuals that have long remained undertrained and underpaid and therefore underperforming. Realizing the potential of these underutilized resources, social enterprises and NGOs have built on the rise of digital innovation to expand the range of services they offer and increase the sustainability of their role. While undeniable progress has been made, the different models are still exploring the CHWs' potential scope of work and the economic sustainability of the models.

Donors and governments have a defining role to play to experiment with NGOs and social businesses and foster innovations to enable CHWs to fulfill their unique potential at the last mile, thereby defining the primary care model of the digital age.

If successful, this could benefit both patients and governments. Patients would have increased access to essential healthcare - services and in some cases medications - and a better ability to pay (thanks to the reduction of transportation and time to seek medical care). In parallel, governments would improve population health by better leveraging an existing asset in which they have already invested; and improving productive capabilities with a population in better health. This would also mean they would need to adapt their regulatory models to leapfrog into the digital health space.

MARKET OUTLOOK

An estimated 8 million active CHWs work in LMICs[86]. Governments have recruited and trained millions of them since the 1920s (with an acceleration of national health programs in the 1970s-80s) to offer convenient and culturally relevant primary care access to the population living in underserved rural areas and informal urban settlements. The World Health Organization (WHO) defines CHWs as "health care providers who live in the community they serve and receive lower levels of formal education and training than professional health care workers such as nurses and doctors"[87].

These networks have historically been set up by governments, multilateral agencies, or large non-profit organizations to "ensure healthy lives and promote well-being for all at all ages"[88] (SDG 3). For example, UNICEF has actively participated in establishing the CHW network in Ethiopia, providing essential equipment to about 60% of the 34,000 CHWs[89] present there.

The local names of CHWs and their exact model vary across geographies, with different levels of training, compensation, or activities performed. They may be called Community Health Volunteers, Accredited Social Activists, Health Extension Workers, etc. In this report section, we will use Community Health Workers ("CHWs") as the generic name. The regulations framing the roles and responsibilities of CHWs, as well as the degree of their integration into the national health systems, also differ across countries. For example, while a CHW can sell some prescription drugs in Uganda, they are not allowed to own an inventory of any prescription drugs in Kenya.

86 USAID Maternal and Child Survival Program. (2020). Health for the People: National Community Health Worker Programs from Afghanistan to Zimbabwe. Retrieved from *https://www.exemplars.health/-/media/files/egh/resources/community-health-workers/partner-content/health-for-the-peoplenational-chw-case-studies2020.pdf*

87 WHO. (2020). What do we know about Community health Workers? A systematic review of existing reviews. Retrieved from *https://www.who.int/publications/i/item/what-do-we-know-about-community-health-workers-a-systematic-review-of-existing-reviews*

88 UN Department of Economic and Social Affairs. (2023). SDG 3: Ensure healthy lives and promote well-being for all at all ages. Retrieved from *https://sdgs.un.org/goals/goal3*

89 UNICEF. (2016). The UNICEF Health Systems Strengthening Approach. Retrieved from *https://www.unicef.org/media/119741/file/UNICEF%20Health-Systems-Strengthening-Approach.pdf*

Yet, as to the profile of CHWs, a common persona emerges globally. First, 70%[90] of CHWs are female (up to 90%, for example, for Living Goods in Uganda[91]). A series of conversations led by Hystra and partners with 14 last-mile organizations[92] selling health-related products help reveal the most common persona. The CHW is a respected and well-liked community member, married and with children who are old enough for her to spend at least a few hours a day away from home. Lastly, the CHW is a strong speaker with prior work or volunteer experience, oftentimes in community activities[93].

BUSINESS MODELS AND CHALLENGES

Despite their potential and magnitude, CHW networks have been widely under-resourced and underutilized. Most CHWs lack training and incentives to address most community primary care needs. There are some exceptions with NGO-led campaigns in selected therapeutic areas. For example, CHWs in Indonesia, commonly known as Kaders, undergo a one-week formal training and do not receive fixed financial incentives, except for the reimbursement of transportation expenses. While the WHO advocates for fairly compensating CHWs, only a few are paid enough and on time. Only 14% of CHWs in Africa are salaried.[94]

The CHWs have been focusing on few therapeutic areas, leaving behind a large part of the population, especially those suffering from non-communicable diseases (NCDs). The primary focus of national CHW programs has been family planning and maternity, neonatal, and child health (MNCH). Then, they have long supported efforts to combat infectious diseases like HIV, TB, and malaria. However, as evidenced by Table 4, NCDs-focused programs remain rare.

Table 4 - Examples of national community health worker programs[95]

Country	Organization	Network size	Main focus				Training	Monthly incentives
			Family planning	Maternal, neonatal and child health	Infectious diseases	Non-communicable diseases		
Afghanistan	Community Health Worker Program	27,000 CHWs	✓	✓	✓		4 months (incl. field experience)	In-kind incentives*
Ethiopia	Health Extension Program	40,000 HEWs	✓	✓	✓		1 year	US$ 84
	Women's Development Army	3 million WDA volunteers					-	In-kind incentives*
India	Accredited Social Health Activist Program	971,000 ASHAs	✓	✓	✓	✓	4-5 weeks	US$ 25+ performance-based
	Anganwadi Worker Program	1.3 million AWWs					3-4 weeks	US$ 50 – 130
Indonesia	Community Health Worker Program	500,000 Kaders	✓	✓			1 week	In-kind incentives*
Kenya	Community Health Volunteer Program	86,000 CHVs	✓	✓	✓		3 months	US$ 20 – 60
Myanmar	Community-based Health Worker Program	24,000 AMWs	✓	✓	✓		6+ months	In-kind incentives*
		36,000 CHWs					1 month	In-kind incentives*
Nepal	Community Health Worker System	52,000 FCHVs	✓	✓		✓	2 weeks	In-kind incentives*

*In-kind incentives: Gifts from communities, recognition in health system, sale of health products at a small markup

Not surprisingly, because they are frequently the only point of care for remote and underserved communities, they end up providing services beyond their area of responsibility. For example, while the primary duties of CHWs, namely screening and referral, are explicitly outlined in Nigeria's National Standing Orders, they frequently carry out more complex healthcare tasks, such as initiating a treatment plan and ensuring adherence[96].

90 WHO. (2007). Community health workers: What do we know about them? The state of the evidence on programmes, activities, costs, and impact on health outcomes of using community health workers. Retrieved from *https://chwcentral.org/wp-content/uploads/2013/07/Community-Health-Workers-What-do-we-know-about-them.pdf*

91 Living Goods. (2023). The Living Goods Approach. Retrieved from *https://livinggoods.org/what-we-do/the-living-goods-approach/*

92 Hystra. (2022). Women sales force: an impactful channel for health-related products? Retrieved from *https://www.hystra.com/our-insights/women-sales-force*

93 Ibid

94 Community Health Impact Coalition. (2023). Common CHW payment models do not reflect WHO recommendations for pay. Retrieved from *https://static1.squarespace.com/static/5a0507ca6f4ca346d3a11552/t/6156222b816e5507ace9c7ef/1633034796946/payment-models-1+%281%29.pdf*

95 Hystra and IQVIA analysis based on information from USAID Maternal and Child Survival Program. (2020). Health for the People: National Community Health Worker Programs from Afghanistan to Zimbabwe. Retrieved from *https://www.exemplars.health/-/media/files/egh/resources/community-health-workers/partner-content/health-for-the-peoplenational-chw-case-studies2020.pdf*

96 Ajisegiri, W. S., Abimbola, S., Tesema, A. G., Odusanya, O. O., Peiris, D., & Joshi, R. (2023). "We just have to help": Community health workers' informal task-shifting and task-sharing practices for hypertension and diabetes care in Nigeria. Frontiers in public health, 11, 1038062. *https://doi.org/10.3389/fpubh.2023.1038062*

INNOVATIONS AND RECOMMENDATIONS

A few innovators have realized that these networks of CHWs are incredible assets in areas where primary healthcare access is essentially lacking. While making such networks more viable seems a tough challenge, the rise of digital health has opened new opportunities.

The business models around CHWs are less mature than other models documented in this report, based on the profitability of ventures or the funds raised in the space. CHWs are first accredited public agents: private experiments require administrative benevolence, or at least tolerance and successes take time to generalize. Besides, some market-based approaches may be challenged by the ecosystem (e.g., on diagnostic and prescription risk, or on legitimacy of providing products or for fee services).

We visited and documented three recognized organizations in the sector: Healthy Entrepreneurs, Living Goods, and reach52.

Living Goods is a not-for-profit entity that collaborates with governments and partners to improve CHW effectiveness and strengthen national community health systems. Living Goods tries to ensure that CHWs are Digitized, Equipped, Supervised, and Compensated (DESC approach) as well as supports CHW supervisors through a "trainer of trainers" approach. By the end of 2022, the company has supported more than 12,000 CHWs, reaching nearly 7 million people.

Healthy Entrepreneurs is a social business providing access to essential medicines (including NCDs treatment) to last-mile communities through Community Health Entrepreneurs (CHEs). Healthy Entrepreneurs strengthens the effectiveness of traditional CHWs providing them with entrepreneurial opportunities to earn complementary revenue (e.g., the sale of diagnostic services, medication, and products). By the end of 2022, the company has trained over 15,000 CHEs, reaching over 12 million people.

reach52 designs and implements health campaigns for underserved rural communities, on behalf of B2B clients (pharma companies, FMCGs, and global health funders), in alignment and coordination with government health systems. Each campaign focuses on a given health topic and is delivered by "Agents". reach52 recruits certified CHWs, equips them with digital tools, trains them on specific activities, and supports them through outcomes-based income from B2B clients. Further, reach52 endeavors to ensure campaigns products are available to patients, either directly through CHWs or through in-pilot push and pull activities with last-mile drug shops and mom and pop shops. By the end of 2022, the company has supported over 13,500 CHWs.

While their models differ, the innovators have all been (1) leveraging existing and available networks, (2) improving their efficiency, and (3) deepening and widening access and quality of healthcare for patients, while (4) upgrading economic sustainability for CHWs and networks.

1. Leveraging existing and available networks

All three actors have been leveraging existing CHW networks and partnering with governments or local NGOs in different ways:

- Living Goods mobilizes funding from donors to co-invest alongside with governments in their CHWs' networks. Living Goods works in close cooperation with governments to improve the performance of their CHWs and strengthen their national health systems at the last mile.
- Healthy Entrepreneurs recruits entrepreneurial CHWs from existing public networks, testing their initial health knowledge and entrepreneurial spirit. The company strengthens their effectiveness by providing them with convenient training, digital tools, and supply of products.
- reach52 mobilizes government-certified CHWs to run health campaigns for underserved rural communities. reach52 equips them with a digital tool, "reach52 access", and trains them in specific activities.

2. Improving the efficiency of CHWs thanks to digital (frontline and back-end)

Innovators have all equipped CHWs with digital tools (health app, monitoring, e-market place, etc.) and built back-end systems to improve their efficiency. The impact of the improved efficiency can be two-fold:

- **Sustainability:** it can support the research of economic sustainability significantly when data can be accessed and analyzed to demonstrate impact
- **Health impact:** it can upskill the CHWs by enabling them to dedicate more time to patient interaction, rather than rebuilding background check and referral history or excessive numbers of low-value visits.

The Living Goods' DESC approach (Digitized, Equipped, Supervised, and Compensated) enhances productivity of CHWs through context-appropriate digital solutions and structured managerial and supervisory practices. Beyond this, it motivates and empowers CHWs with financial and non-financial incentives. As shown in Figure 1, the management dashboard enables CHW's supervisors to closely monitor the CHWs' activities, and ensuring they are on target. An RCT study[97] in 2014 in Uganda demonstrated that CHWs supported by Living Goods helped decrease child deaths by 27%.

Figure 15 - Living Goods' management dashboard for supervisors to manage networks of CHWs[98]

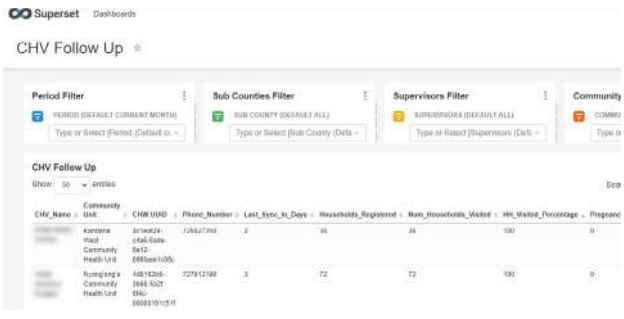
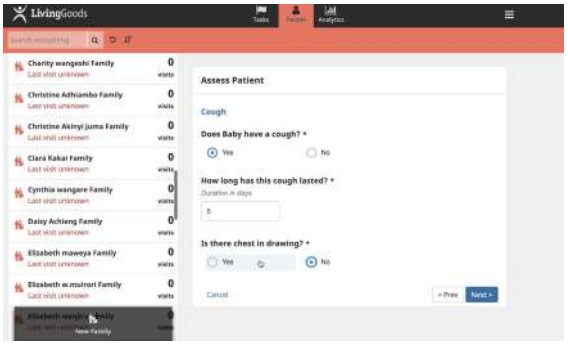


Figure 16 - Living Goods app used by the CHWs to enable diagnoses of malaria, diarrhea, and pneumonia[99]



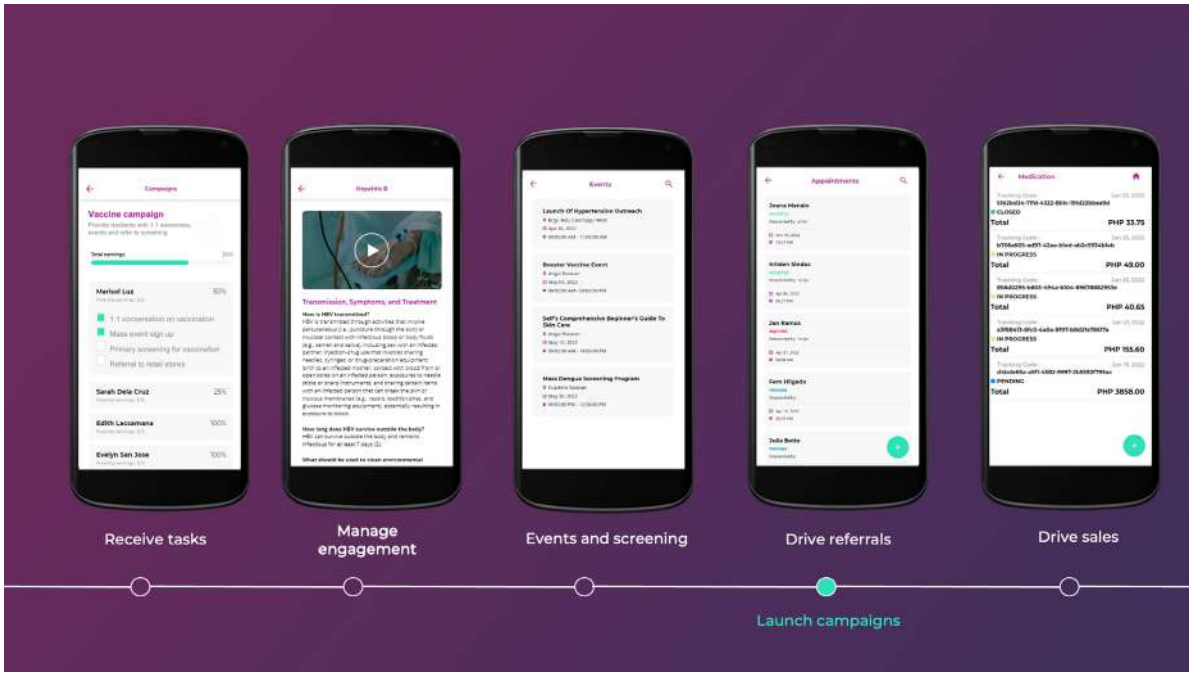
The "reach52 access" platform can increase the efficiency of CHWs through targeting. It can be used offline in rural, low-resource settings and enables structured collection of individual health data. First, the CHW uses it to collect critical health and demographic data. Then, using the data collected, reach52 filter cohorts of people, enabling CHWs to conduct targeted campaigns. The platform supports CHWs for screening, education, training, and sales management. Last, it also allows connection to primary care clinics for appointments and access to telehealth services.

97 Nyqvist, M. B., Guariso, A., Svensson, J., & Yanagizawa-Drott, D. (2019). Reducing Child Mortality in the Last Mile: Experimental Evidence on Community Health Promoters in Uganda. American Economic Journal: Applied Economics, 11(3), 155–192. *https://doi.org/10.1257/app.20170201*

98 Living Goods. (2023). The Living Goods Approach. Retrieved from *https://livinggoods.org/what-we-do/the-living-goods-approach/*

99 Ibid

Figure 17 - reach52 platform – a journey of CHWs running campaigns[100]



3. Improving access and quality of healthcare for patients

Digitally enhanced diagnostic support is reshuffling the way healthcare can be delivered beyond CHWs. This change is an incredible opportunity for CHWs with low levels of certification and most of the time localized in remote places, so with minimal interactions with more skilled health practitioners (such as doctors).

Beyond diagnostics, all three innovators have equipped CHWs with digital tools, (e.g., health app, monitoring systems or e-market places) to (i) increase the quality and consistency of care to patients and (ii), in some cases, to expand the scope of intervention (either delivered by CHWs directly or in connection with other health providers). In addition, some have worked on (iii) strengthening the supply chain to increase access to drugs.

i. Increasing the quality and consistency of care to patients

Digitization opens opportunities to improve access to health throughout the patient journey, as shown in the table below: screening, teleconsultation, monitoring, referral, and follow-up. The three innovators have all made progress on these, yet the full potential has yet to be reached.

100 reach52 internal document

Table 5 - The opportunities offered by digitization that the three innovators have seized[101]

Activities	CHW (potential) role	LivingGoods	reach52	Healthy Entrepreneurs
Screening	The CHW collects socio-demographic and health data enabling screening on targeted diseases for at-risk population	✓	✓	✓
Teleconsultation	The CHW acts as a mediator between the patients and the remote healthcare provider	✓	✓	✓
Patient monitoring	The CHW monitors patient thanks to guided questions and algorithm, and dedicated devices, e.g., follow up on immunization and family planning. The CHW is able to record patient data, hence conducting the monitoring over time	✓	✓	✓
Referral and follow-up	The CHW refers patients to a health facility and/or pharmacies. Ideally, the CHW could book appointment and get the notification when the patient has been examined so the CHW can be involved in the follow-up	✓	✓	✓

Living Goods assisted the Kenyan Ministry of Health in creating the Electronic Community Health Information System (eCHIS). This standardized platform has the potential to scale and is compatible with the broader health system. This platform aims to improve the quality and guarantee the consistency of patient care. eCHIS was successfully piloted in Kisumu County in 2022 and should now be scaled up to all 95,000 CHWs across the country.

Healthy Entrepreneurs strengthens CHWs by providing them with digital tools and training in addition to supplying them with products. Research shows that households reached by their CHWs are more likely to use modern contraceptives than households reached by regular CHWs[102].

reach52 provides CHWs with a digital tool, 'reach52 access', that includes recommendations for patient care to standardize the level of care provided. This resource offers CHWs guidelines on handling certain cases and which patients to refer to doctors. reach52 also ensures care quality by continuously training CHWs on specific topics.

ii. Expanding the scope of interventions, in particular to NCDs

An expansion in therapeutic focus has been observed– notably on NCDs and, in terms of scope – moving from awareness and prevention activities towards some role in diagnostic and prescription. The latter is especially made possible by digital tools propping up the lower skills and training of CHWs compared to other healthcare professionals and enabling them to leverage these professionals' capabilities:

- Healthy Entrepreneurs is testing innovative approaches to continue improving access to quality and affordable care for NCDs patients. For instance, Healthy Entrepreneurs in Kenya tries to integrate an NCDs workflow into the country's eCHIS, allowing CHWs to pre-diagnose and refer patients with diabetes and hypertension. Some experimented CHWs can already sell diagnostic services to patients, for example, US$0.25 for hypertension screening or US$0.40 for diabetes testing. These CHWs also run monthly Peer Support Groups with 10-15 patients with similar conditions, during which they discuss their coping strategies and record vitals through the app. When needed, they follow up with an HE Clinical Officer.

101 Hystra and IQVIA interviews and analysis

102 Borst, R., Hoekstra, T., Muhangi, D., Jonker, I., & Kok, M. O. (2019). Reaching rural communities through 'Healthy Entrepreneurs': a cross-sectional exploration of community health entrepreneurship's role in sexual and reproductive health. Health Policy and Planning, 34(9), 676–683. *https://doi.org/10.1093/heapol/czz091*

- In Cambodia, people have a 25% chance of dying prematurely between 30 and 70 from a non-communicable disease. In 2022, reach52 launched the SAKAM project, a fully integrated health campaign for low-income communities, providing screening, health education, regular testing, and affordable medicines delivered directly to residents with hypertension and/or diabetes. 84 Agents were trained and equipped with the reach52 access tool to enroll and follow up with residents. It also hired public health nurses to run behavior-change activities. Over 90% of the initially registered residents participated throughout the 9-month campaign. Compared to baseline, preliminary analysis indicates a 65% reduction in participants with stage 2 hypertension after three months of enrolment.

iii. Strengthening the supply chain

Beyond digitization, some innovators have been working on the supply chain when they want to provide access to medications or health-related products.

For example, HE ensures frequent delivery of products through regular cluster meetings. Initially once a month, they were rescheduled to twice a month to limit working capital requirements from CHEs (minimum order size of US$7.5). CHEs can place orders and pay through a "product app", designed as an e-marketplace. Healthy Entrepreneur's CHWs substantially improve the availability of essential basic medicine (+80%), are more motivated, refer twice as many patients, and spend more (25%) time on health work.

reach52 improves overall care quality by ensuring the availability of judicious medicines and consumer health products in local stores during and after campaigns.

Opportunities for the sector

Accelerate financing of digitalization to expand the scope and improve the level of care

With enabling regulations, donors could fund

- Equipping CHWs with digital tools and associated initial training
- Development of a plug-in to increase continuity of care by linking CHWs to the rest of the healthcare system (especially last mile health centers and drug shops)

By doing so, donors could foster socio-demographic and health data collection that could nurture national health strategies.

Improve regulations to fully integrate CHWs (and drug shops) into the health system

Regulators could potentially augment the role of the CHWs by clarifying the products and services they can distribute. For health national systems, this could mean:

- More persons integrated into the health care system (incl. with awareness, etc.)
- More competent CHWs if the augmentation of roles is combined with adequate training resources (incl. digital)
- Better use of scarce qualified resources (e.g., general practitioners)

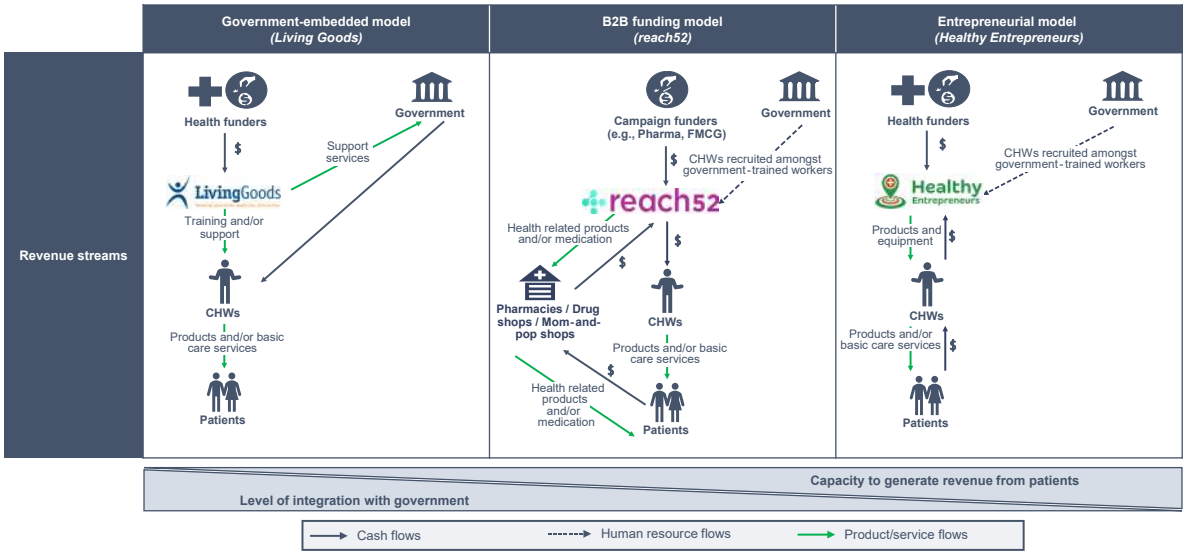
It should be noted that the potential conflict of interest between activities - diagnostic vs. prescription vs. drug delivery – would require further exploration to determine what is in the patient's best interest depending on the potential risks. This could only happen with adequate tools and relevant controls.

Donors could finally support experimentation of new services expanding care access to patients while ensuring safety (e.g., Healthy Entrepreneurs testing QR codes for drugs delivery).

4. Improving economic sustainability for CHWs and networks

The three innovators are operating different revenue models towards economic sustainability that are enabling them to pay higher compensation to CHWs and generate margins to cover overheads. All are showing promise, yet also facing outstanding challenges.

Table 6 - The three different revenue models that have emerged[103]



i. Government-embedded model

This model directly supports governments to improve the performance of their CHWs and strengthen their community health systems with the expectation that, in the long run, the government will be empowered to do so on its own.

For example, Living Goods has been working with Kisumu County to co-finance and co-implement the DESC approach that equips CHWs to provide high-quality, comprehensive health services in their communities.

Living Goods supports government supervisors—called Community Health Assistants (CHAs)—through a "trainer of trainers" approach. For instance, they support them in leveraging best practices, including setting clear targets on indicators such as pregnancies registered, or sick children treated. Close collaboration through office-sharing at county and sub-county levels is essential. It ensures alignment and makes it possible to transfer skills and learnings, including coaching on using data to drive performance and make decisions. Thanks to this approach, the Kisumu County managed to decongest health facilities, with 96% of under-five-year-old children's referrals completed in September 2022.

The objective of Living Goods is to create a sustainable community health system where governments are in the lead, so that outcomes are sustained after their exit. For example, the Kisumu County has progressively increased financing of their community health (30% to 60%), whilst Living Goods has tapered down its contribution (70% to 40%). County provided overall leadership, systems, and human resources, when Living Goods only handled specific responsibilities (notably the distribution of phones and technical assistance through peer coaching at all levels).

Yet, the replicability of this model strongly depends on political goodwill at the local and national levels. Further evidence would be required to demonstrate the health outcomes and the economic impact of investing in CHWs.

103 Hystra and IQVIA interviews and analysis

Opportunities for the sector

Support best practice sharing among governments

Innovators like Living Goods in Kisumu have been working closely with local governments to empower them to self-operate CHW in the long run. As seen in these cases, health funders can play a decisive role in disseminating good practices between governments and supporting the empowerment of local governments to take full ownership in the long run of augmented CHWs.

Policies are still evolving to ensure they can play the role they should, which still requires experimentation. For example, Healthy Entrepreneurs is working with the Kenyan government to include an NCDs workflow in the national Electronic Community Health Information System (eCHIS) so that CHWs can sensitize, pre-diagnose, and refer diabetes and hypertension conditions (as a starting point).

Global health funders can support local governments and innovators working together to enable policy evolution, by fostering cycles of experimentation/validation/regulation.

ii. B2B funding model

The model leverages CHWs to conduct health campaigns and gather data, which interests B2B clients such as pharmaceutical, consumer healthcare, and FMCG companies. It offers them a seamless, targeted, and cost-efficient way to meet their health and sustainability targets, build their commercial presence in frontier markets, and generate data and insights.

For example, reach52, through these campaigns, has developed an attractive value proposition to CHWs, increasing their income by US$30-120 per month. CHWs report feeling more confident and trusted to deliver health community services thanks to upskilling and support. All health activities are free for residents, who, however, pay for medicines and consumer health products (in some campaigns, they may get discounts or incentives). reach52 has the ambition to expand this business line and become a pivotal partner to its B2B clients in driving product adoption in local shops and pharmacies.

Leveraging B2B funding in exchange for data or impact can support low-income patients in accessing healthcare at the last mile. Yet, the challenge is to guarantee sustainability over time and ensure continuity of care for patients. To ensure its sustainability, this approach will need to seek recurrent funding mechanisms and local infrastructure that can take over.

iii. Entrepreneurial model

This model empowers CHWs to become entrepreneurs and generate most of the revenue by selling health-related products and services to patients.

For example, Healthy Entrepreneurs enables CHWs to earn complementary revenue[104] (US$5-75) and strengthen their position within their communities. Revenue comes from sales of products or services on which they earn an average 20-30% markup on. Services include hypertension screening or diabetes testing. This model is primarily relying on funding from private impact investors, both equity and debt providers, and complemented with public funding to finance innovations and start-up expenditures for new markets.

It requires a robust end-to-end supply chain to enable entrepreneurs to deliver their work and some supervision regarding services (e.g., teleconsultation).

While it has the potential to generate revenue at the CHWs level that directly increases their income, the challenge is to cover their total compensation in addition to the operational and overhead costs. As seen in the field, the limitation is three-fold:

104 In Kenya renumeration of CHWs varies from one county to another

1. There is only a limited number of households (around 200 families according to Healthy Entrepreneurs) in the CHW's catchment, and only a share of them is actually served by the CHW
2. When it comes to medicines, the share of household spending on medication represents a minority of total medical expenses (including consultations, transportation, etc.) and represents only a limited dollar amount every month
3. When it comes to health-related products, CHW in semi-urban areas suffer from competition from surrounding mom and pop shops and thus only capture a fraction of the market potential

Opportunities for the sector

Continue funding innovation to explore sustainable revenue models

Governments and NGOs have historically led the community-based models. They have only been investigated by the private sector recently. Innovators have been trying to create more sustainable models over time. Yet, further exploration would be needed where health funders and governments should play a role:

1. To test and learn to see if there is an opportunity to capture all revenue in one model (B2B, B2C, B2Gov) to maximize revenue for the CHWs and, consequently, increase the time they spend in providing health care
2. To demonstrate that funding for CHWs, who are the only primary care solution at the last mile, could generate a significant impact per dollar invested (e.g., Living Goods already conducted RCTs to demonstrate the health impact, how to link it to dollars invested)
3. To generate additional revenue by:
    - Better monetizing data gathered at the last mile in an environment where it is lacking (in respect of data privacy), including testing products for attractiveness
    - Establishing CHWs as an acquisition channel for hospitals and clinics (e.g., we have seen hospitals like Aravind leveraging "eye camps" to create demand in remote areas))
    - Structuring CHWs around pharmacies and drug shops to improve treatment availability and compliance while increasing the demand (and its predictability) for the pharmacies (e.g., reach52 is trying to create a predictable demand of over US$1,000 per district by linking CHWs and pharmacies)

Build sharing platforms to federate the sector and disseminate best practices

In countries where community health networks are fragmented, CHWs would certainly gain from a knowledge sharing platform. Donors could fund a digital platform for CHW to foster peer-exchange between CHWs. The same platform could be leveraged to disseminate formalized and accredited training. This could be an opportunity to train CHWs on new topics such as NCDs.

Furthermore, donors could facilitate the convergence of sector's pioneers, fostering a convention for them to share their innovations and priorities, and collectively advocate for necessary changes.

MILVIK sales agents in Dhaka, Bangladesh

Credits: Hystra

HEALTH COVERAGE AND DISEASE PREVENTION MODELS

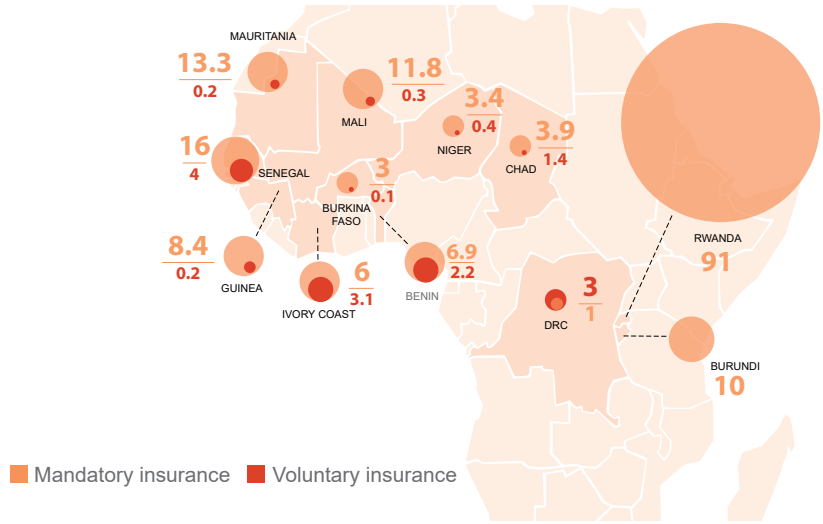
This section focuses on a new generation of innovators that have leveraged recent evolutions in health and digital sectors to provide health coverage and disease prevention with sustainable models in LMICs. Interestingly, all innovators are shifting away from pure insurance play towards comprehensive packages. Increased integration between payers and providers enables them to improve cost efficiency and to cover outpatient care. Additionally, co-payment by corporates and specialized care packages for patients with a pre-existing condition have reduced the financial burden on low-and-middle-income patients. Moving ahead, there could be opportunities for the overall ecosystem to foster innovations that aim at offering affordable outpatient coverage, promote multi-stakeholder efforts to build health coverage in selected, structured value chains, and scale up subscription models combining microinsurance with services.

MARKET OUTLOOK

Every year, an estimated 1.4 billion people forego care or face financial hardship due to the lack of healthcare coverage[105]**. The gap in coverage is particularly acute for NCDs, from prevention to treatment and follow-up care.** As reported by the 2021 WHO Global monitoring report on universal healthcare coverage[106], "while service coverage has improved in the last 20 years, the proportion of people facing financial hardship due to out-of-pocket health spending has increased". Progress has been particularly slow for NCDs, even though the prevalence of these diseases has been rising and currently account for at least 60% of early death and disability worldwide[107].

In the absence of public coverage, some people have turned to private insurers. However, private insurance covers structurally less than 10% of the population in the Global South, as it is mainly employer-sponsored and focused on the affluent market segments. The map below, extracted from a recent Proparco publication[108], represents health insurance coverage in selected sub-Saharan African countries. Relatively similar trends can be observed across South and Southeast Asia. To quote Moses Kuria, Managing Director of CarePay in Kenya, "the leading private insurers of Kenya have historically focused on the upper class, which is the top 3% of the population […] without outpatient coverage, many people postpone treatment which results in worsened conditions and expensive hospitalization."

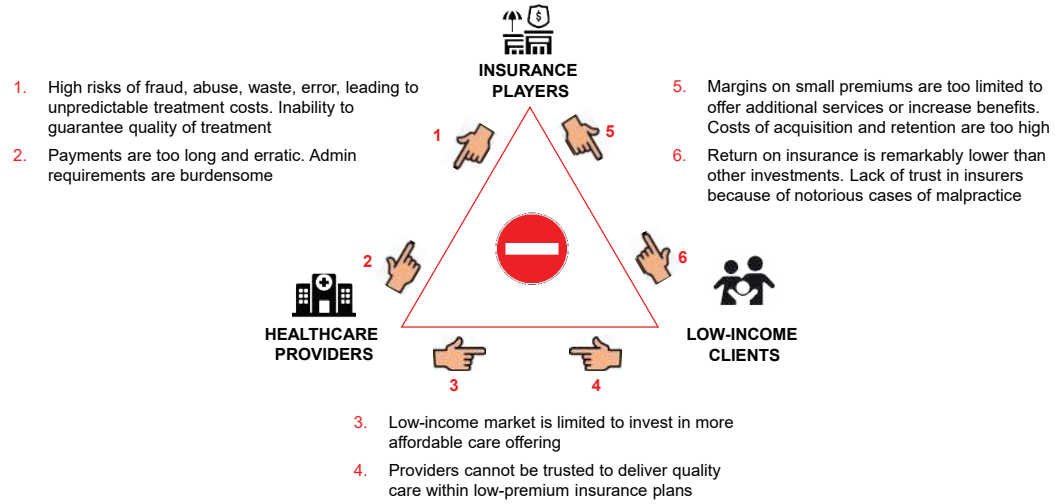
Figure 18 - Health insurance coverage in selected Sub-Saharan African countries (% of population)[109]



105 WHO, International Bank for Reconstruction and Development. (2022). Tracking Universal Health Coverage: 2021 Global monitoring report. Retrieved from *https://www.who.int/publications/i/item/9789240040618*
106 Ibid
107 Ibid
108 Del Hierro, L. (2017). The African insurance sector: building for the future, Private Sector & Development, Proparco. Analysis from the authors based on data from Preker and coll. (2010), Barroy and coll. (2015) Retrieved from *https://issuu.com/objectif-developpement/docs/proparco_revuepsd_n25_uk*
109 Ibid

The development of inclusive private health insurance has been limited across LMICs, as it faces a "trilemma" of challenges between patients, payers, and healthcare providers. As illustrated in the chart below, people are unwilling to pay for several reasons: lack of trust in insurers, better perceived opportunities to their money, or because of pre-existing conditions that would exclude them from coverage. Meanwhile, insurers have been unable to cover outpatient care with economically viable models, due to high risks of fraud, abuse, waste and error, and transactions costs that would be excessive for small outpatient tickets. Finally, health providers express concern with insurers paying too late or creating administrative burden: several clinics and pharmacies charge lower fees for cash paying patients.

Figure 19 - A "trilemma" of challenges between patients, payers and healthcare providers[110]



BUSINESS MODELS AND CHALLENGES

Over 20 years ago, a group of innovators came up with new business models coined as health microinsurance. Such models have addressed several issues of the trilemma and scaled to over 100 million users[111] globally. These innovators have drastically simplified products, automated premium collection by leveraging mobile solutions, and shaped partnerships with mobile network operators or financial institutions for customer acquisition and cost-efficient transactions. A flagship microinsurance product is "hospicash[112]", which provides a lump sum amount daily in case of hospitalization (independently from the actual cost of care). As Richard Leftley, founder of MicroEnsure, an innovator in the space, puts it "we developed the "hospicash" product after some failures in the early 2000s, where we had tried to lower costs of insurance with the same operating model". The table below summarizes some of the innovations developed by micro-insurance innovators.

Figure 20 - Innovations from microinsurance[113]

Challenges with health insurance	Distributive innovations from microinsurance
• Low ability to predict/control claims due to dependency on HCPs • High fraud esp. outpatient ("up to 20% premiums in developing countries")	**Drastically simplified products** that reduce dependency on providers (e.g., "hospicash" providing a lump sum amount daily in case of hospitalization)
• High burden of transaction costs that do not decrease with lower premiums	**Leverage of digital solutions and mobile payments** to simplify screening, collect premiums, pay benefits, manage clients, etc.
• High costs of acquisition: no demand for voluntary insurance (lack of trust in insurers, other investment priorities) • High risk of adverse selection in voluntary schemes	**Bundled sales with telco operators and financials institutions**, under their brands, with push marketing and "opt-out" to scale rapidly with minimal acquisition costs

110 Hystra and IQVIA analysis based on information from Del Hierro, L. (2017). The African insurance sector: building for the future, Private Sector & Development, Proparco. Analysis from the authors based on data from Preker and coll. (2010), Barroy and coll. (2015) Retrieved from *https://issuu.com/objectif-developpement/docs/proparco_revuepsd_n25_uk*

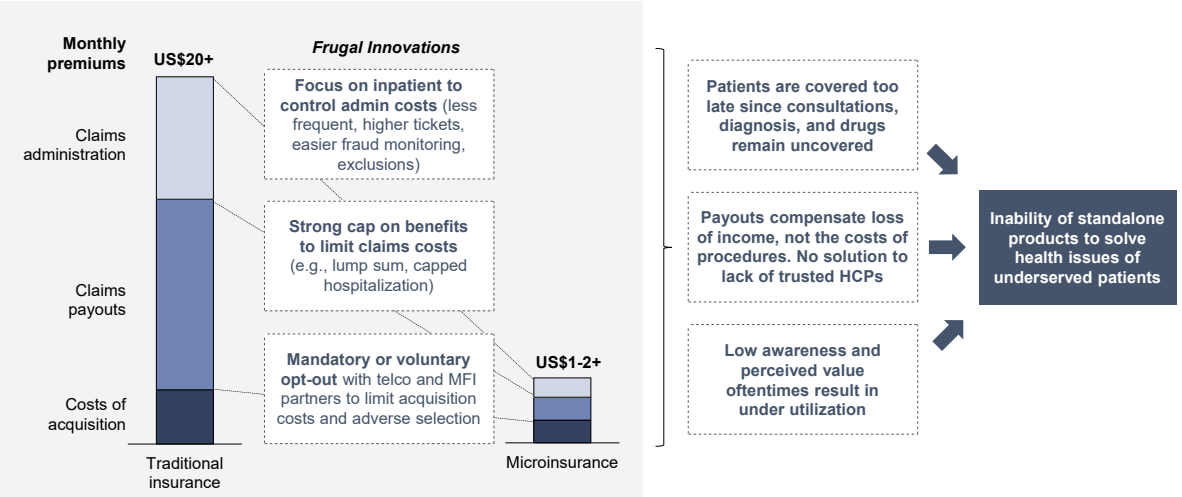
111 Microinsurance Network. (2021). The Landscape of Microinsurance 2021. Retrieved from *https://microinsurancenetwork.org/resources/the-landscape-of-microinsurance-2021*

112 A "hospicash" or hospital cash plan is an insurance plan that provides a fixed sum insured to meet miscellaneous expenses for each day of hospitalization

113 Hystra and IQVIA field visits and analysis

However, the first generation of microinsurance products had been designed to limit financial hardship for the insured, not to cover the costs of care. As a standalone product, microinsurance cannot be expected to address the healthcare coverage challenges of patients. For example, the amounts of lump sum payments with "hospicash" products have oftentimes been designed to correspond approximately to the loss of income due to missed work, not the costs of hospitalization. Standalone microinsurance products have had no impact in driving prevention, encouraging treatment adherence, or addressing the many health systems gaps that explain the lack of coverage (e.g., lack of trusted practitioners, low accessibility of treatment, etc.). Finally, as most microinsurance products have been sold in bundles (e.g., with mobile airtime plans or microinsurance loans), without a voluntary purchase from the end-users, the usage and satisfaction rates have often remained lower than expected.

Figure 21 - Limited health impact of microinsurance products[114]



INNOVATIONS AND RECOMMENDATIONS

Recent evolutions in the healthcare and digital spaces are creating the conditions for a new generation of innovative models to emerge. The insights presented in the following section are derived from interviews and field visits of the following four innovators, which have all been aiming to foster healthcare coverage and disease prevention with sustainable business models:

MicroEnsure, now part of MIC Global, is a global insurance provider which has developed innovative products used by 65 million low-income people in 17 African and Asian countries. It serves over 100,000 clients in Ghana.

BIMA (also known as MILVIK) offers digital health subscriptions, starting from <US$2 per month, including microinsurance, health wallets and m-health. It serves 10 million clients in 10 countries including 150,000 in Bangladesh.

Naya Jeevan and its partner DoctHERs deliver health packages, including prevention, outpatient, and inpatient, to over 60,000 previously uncovered people in Pakistan. Premiums are co-paid by corporates, in win-win model.

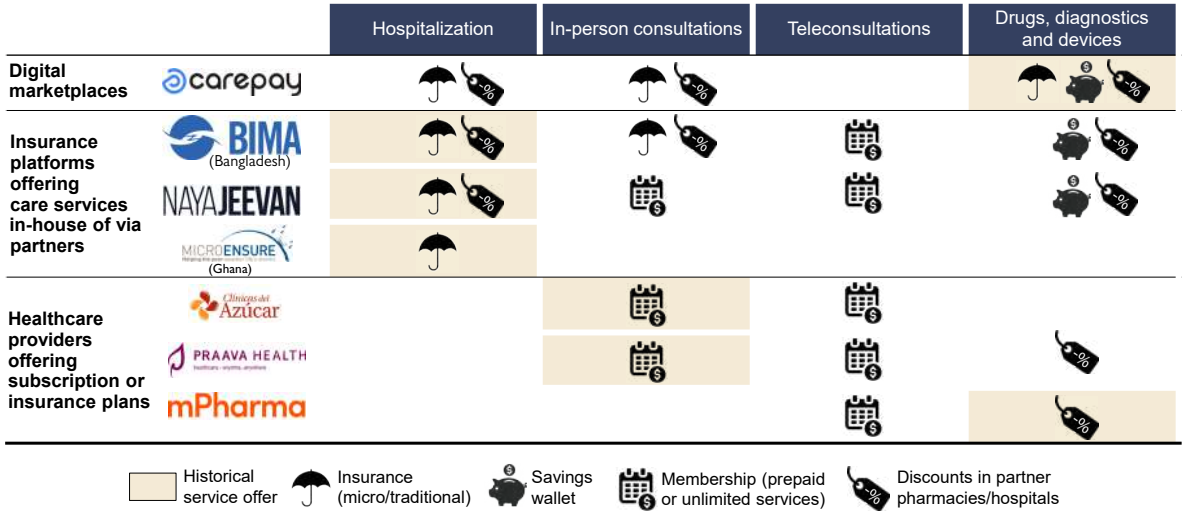
CarePay operates a digital health benefits platform serving 4.5 million users in Kenya and Nigeria and enables insurance to be affordable thanks to digital claims monitoring and a network of providers offering preferential prices.

114 Hystra and IQVIA field interviews and analysis

There is no "one-size-fits-all" solution to healthcare coverage and disease prevention. The four innovators that we have analyzed have developed very different solutions, catering to different situations and segments. That said, two lessons emerge across the board:

First, even though most low-income people are unwilling to pay for insurance alone, they are willing to pay for health benefits packages that deliver tangible and frequent benefits from day one. As a result, all innovators are shifting away from a pure insurance play towards comprehensive packages that include, for example, telemedicine, health monitoring services, referrals to trusted providers, discounts on medicine or hospitals fees, etc. The commonality of these packages is that benefits are tangible and frequent (contrary to insurance alone), and low-income people are ready to pay on a voluntary basis (e.g., BIMA, CarePay). As Asher Hasan, CEO of Naya Jeevan, puts it "The value of insurance is much greater when participants can "touch and feel" tangible benefits bundled with insurance." Damien Gueroult, Managing Director of BIMA in Bangladesh, further explains that "BIMA started to offer telemedicine as a standalone service and realized that the bundle had strong benefits: teleconsultation is a tangible service for clients from day one; and insurance service is a way to bring long term benefits to loyal telemedicine clients". Several quantified impacts of bundling insurance with healthcare services have been observed: one innovator increased its user satisfaction (Net Promoter Score) by +33%; while another one improved its customer retention by +49%.

Figure 22 - Shift from pure insurance value propositions towards comprehensive packages[115]



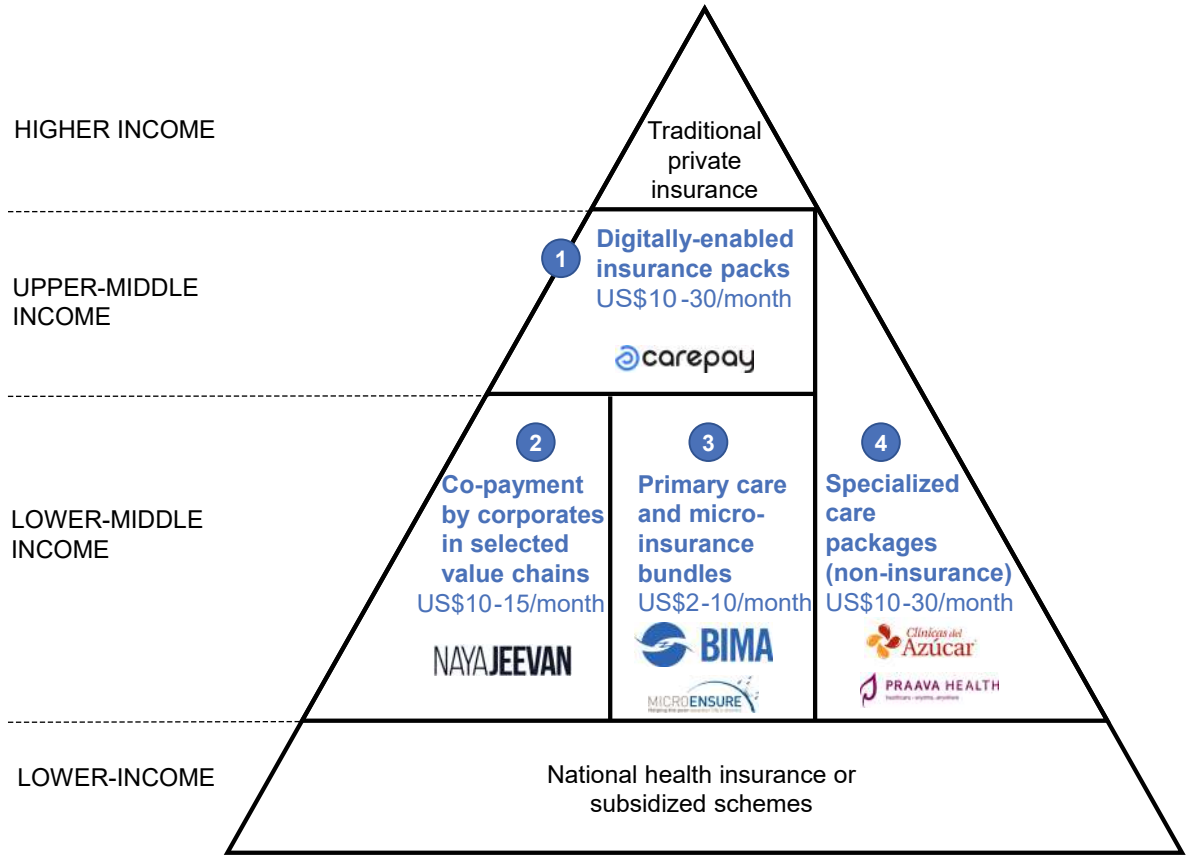
Second, further integration between payers and providers enables improvement in cost efficiency and coverage of outpatient care. Several models are possible: vertical integration or close partnerships operated via digital platforms.

- With vertically integrated models, a single player operates both healthcare delivery and insurance/payment services (e.g., insurance players have been developing in-house primary care services such as telemedicine, or health providers developing their own coverage solutions). For example, BIMA MILVIK offers telemedicine services to patients with their own doctors and paramedics, to all its patients in Bangladesh. This enables greater control of the patient journey, greater customization of products based on clinical data, as well as leveraging the telemedicine service as a preventive care tool with positive impact on reducing claims cost. Naya Jeevan delivers primary care consultations via its sister company DoctHERs, which has built a network of nurses and female doctors.
- With close partnership models, providers and payers remain separate, but transactions and services are made transparent and efficient thanks to digital. This reduces fraud, error, waste, and abuse for payers and allows swift payments. For example, CarePay integrates insurers and provider systems with a digital platform. One product developed with Penda Health clinics and the insurer Britam covers both inpatient and unlimited outpatient services (in selected hospitals of Nairobi) for <US$80 per year.

115 Hystra and IQVIA field visits and analysis

Beyond these two transversal lessons, four promising approaches have been observed to foster healthcare coverage and disease prevention with sustainable models, that cater to the needs of different population segments. The chart below represents which population segments these models would be best suited for, alongside an illustrative income pyramid. Of note, we have focused our research on private sector solutions, but these can be most effective in countries where they can build upon and complement an existing national health protection system.

Figure 23 - Promising approaches catering to different population segments[116]



1. Digitally enabled insurance packages (inpatient and outpatient) for the emerging middle class

Insurance packages covering both inpatient and outpatient can be made significantly more affordable (within US$100 per year) with digital platforms and selected provider networks. Such packages can reach the emerging middle class that has historically been left out. As previously mentioned, it is very challenging for insurers to cover outpatient with affordable premiums due to the high frequency of events, high administrative costs, and significant risks of fraud. With a digital platform and a network of 4,500 healthcare providers across Kenya, CarePay has worked with leading insurers to build relevant plans for less than US$100 per year (compared to traditional plans retailing for over US$500 per year). Savings can be made on every cost driver:

- Costs of administration, due to automation of payments and fraud monitoring, replacing tedious pen and paper processes, and using machine learning, so the more transactions flow through the system, the more accurately it can detect fraudulent claims (e.g., overbilling, over prescription, claims duplication).
- Costs of claims, by directing patients to selected panels of affordable hospitals and pharmacies. Some facilities provide quality care at significantly more affordable price points for consultations and treatment (e.g., Penda Health, Equity Afia). In addition, the reduction in transaction lead time is a key argument to negotiate lower prices.
- Distribution costs, by leveraging "aggregators" of demand, such as the marketplaces developed by leading mobile network operators (e.g., Safaricom).

116 Hystra and IQVIA field visits and analysis

Opportunities for the sector

- First the innovative models developed by CarePay to lower the costs of outpatient coverage are currently not widespread. CarePay is working on a new service, "outpatient claims outsourcing" to provide fixed costs[117] to insurers and encourage them to offer outpatient coverage. Indeed, a key lesson from CarePay's work is that outpatient claims can be highly predictable, provided client risk profiles are well analyzed, and fraud and error are contained. The expansion of such coverage by private insurers, with CarePay or other players in the sector, could make a meaningful difference to customers. Similarly, MILVIK Bangladesh is leveraging its telemedicine service to lower the cost of providing outpatient coverage. Under its packages, customers have access to an outpatient coverage against medication, diagnostic tests and in-person consultation expenses, but the coverage is restricted to outpatient expenses prescribed by MILVIK's telemedicine service. The Telemedicine service acting as a "gatekeeper" has helped reduce loss ratios on traditionally unprofitable outpatient coverage.
- Second, even when products are significantly more affordable, insurance remains a difficult product to sell to the previously uninsured. Opportunities to leverage existing trust structures (e.g., clients of telco operators or financial institutions, community-based savings groups, professional associations, savings groups, etc.) would not only be more effective but also limit adverse selection compared to retail insurance sold individual by individual. For example, CarePay is testing new distribution approaches with federations of motorcycle taxi drivers. More efforts would be needed in that direction, with a role to play for donors in de-risking innovative marketing approaches.

2. Co-payment of coverage by corporates for workers and contractors in selected value chains

Corporates may have a profitable business case in paying benefits for people linked to their value chains, beyond their direct employees. The business case is particularly strong for companies that have strong stakes in attracting, retaining, or encouraging loyalty of their value chain workers: salespeople and distributors who sell their product, smallholder farmers and cooperatives from whom they source strategic raw materials, or factory workers that manufacture their goods. The table below provides 3 examples of how such approaches have been developed. Of note, benefits may not be limited to healthcare insurance. Naya Jeevan also provides coverage for school fees.

Figure 24 - Copayment[118]

Examples of copayment programs	
NAYAJEEVAN	Delivers in insurance to sales agents working on the Unilever value chain in Pakistan. Unilever and their distributors co-pay most of the premiums. Salesforce attrition fell drastically
carepay	Works with a recycling company that needs a reliable feedstock. The company decided to allocate healthcare packages to waste pickers as an incentive for the materials they collect
AXA and L'ORÉAL	Partnered to offer inclusive crop loss and health insurance products to farmers in its strategic raw material supply chains and generate gains in supply chain stability

117 Such a fixed cost mechanism reduces variability of insurers' costs
118 Hystra and IQVIA field visits and analysis

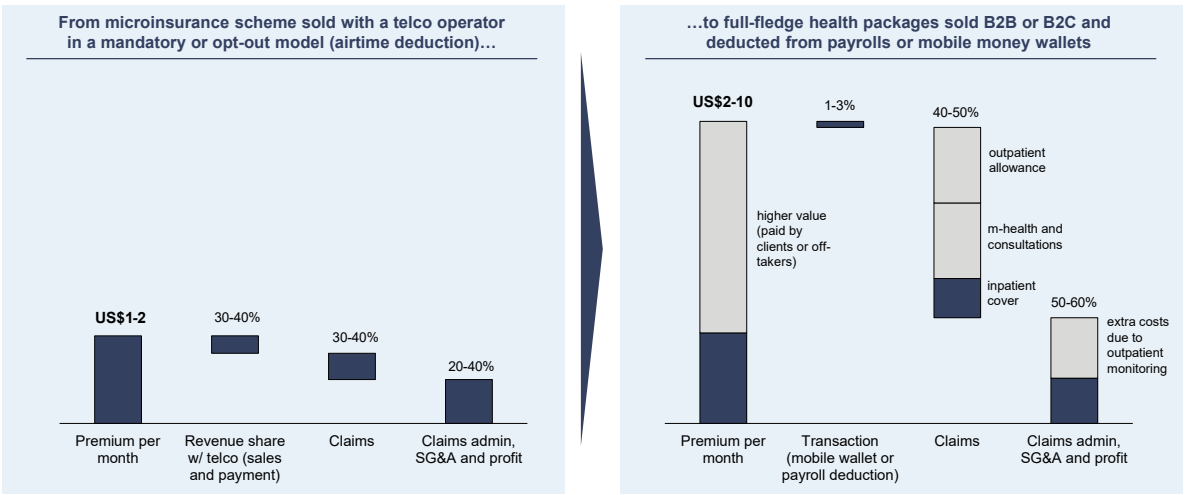
Opportunities for the sector

- An analysis from Naya Jeevan reveals that 90 million people in Pakistan are connected to corporate value chains. However, despite highly promising returns (e.g., one FMCG partner of Naya Jeevan generated +40 percentage point increase in retention of sales agents on its value chain after implementing and co-paying a health benefits package) and a visionary leader, Naya Jeevan is still only covering less than 100,000 people in the country. Combined voluntary efforts from corporates and evolutions in regulatory environments may be required to take such models to the next level, in Pakistan and other parts of the world.
- Multi-stakeholder efforts targeting selected, structured value chains could be considered. Such efforts that could be undertaken with corporates on a voluntary basis could also serve as a testing ground for governments to inform future national policies on employer-sponsored social protection. For example, the launch of mandatory social health insurance for formally employed workers in Cambodia, implemented since 2016, has been largely informed by projects initiated in 2007 for factory workers in the garment industry[119].

3. Primary care service and microinsurance bundles for the general population

Packages combining microinsurance with health monitoring services, telemedicine, discounts on medicine, savings wallets, etc. are showing traction for voluntary purchase by lower-middle income groups. Such packages make benefits more tangible from day one, and frequent compared to standalone microinsurance, and people are ready to pay on a voluntary basis (while they were not ready to pay for insurance). The cost-efficiency of such packages depends on (i) the sales and marketing approach to aggregate demand, (ii) the payment channel allowing for cost-efficient transaction and subscription, (iii) the ability to efficiently aggregate digital healthcare solutions, possibly including in-house or outsourced services. MILVIK Bangladesh (the local name for BIMA) provides a good illustration of where the next frontier stands for the sector. Initially, MILVIK was offering life and health microinsurance to the clients of a leading mobile network operator. Payments were deducted from customers' mobile plans, with higher benefits to those with higher airtime balances. In 2014, MILVIK started offering telemedicine as an add-on service, before deciding to systematically bundle with insurance, the two services being mutually reinforcing each other. Since 2019, MILVIK pivoted from airtime deduction to mobile money wallets as a payment channel, with a first-of-its-kind partnership with bKash (Bangladesh's largest mobile financial services provider with 55 million active clients). The new value proposition of MILVIK is attractive enough that it can be effectively sold via field agents deployed in targeted neighborhoods. The chart below represents an illustrative P&L of traditional, standalone microinsurance scheme (on the left), and how this compares to the P&L of a full-fledge package offering services on top (on the right).

Figure 25 - The potential of comprehensive offers to be viable business models[120]



119 International Labour Office. (2018). Cambodia: Health Protection for Workers. Retrieved from *https://www.social-protection.org/gimi/RessourcePDF.action?id=55357*
120 Hystra and IQVIA analysis based on Interviews with several providers

Opportunities for the sector

- While patients are ready to sign up for packages that combine microinsurance with services, the main challenge lies in the ability to drive retention and monthly payments among customer segments for whom subscription is not a habit. Companies have been shaping partnerships with mobile network operators and mobile financial service providers for automated deduction models. Yet this requires people to maintain a balance on their accounts, which is not always the case. Any cross-sector effort that would facilitate subscriptions would have the potential to take such models to the next level. Players that have the right assets to make a difference do not necessarily come from the health sector. For example, the Colombian electric utility Codensa has shown that an energy provider was well placed to become a platform offering loans for any kind of products and services. It has leveraged its client base, brand credibility and payment infrastructure to build a large-scale facility called Crédito Fácil[121]: could we imagine leveraging similar assets to disseminate relevant healthcare products?
- Another key frontier for the sector is the ability to develop more preventative care services as part of the full-fledge packages. MILVIK has also been exploring such area, for example by providing proactive scheduled teleconsultations and offering check-up services to diabetic patients. Yet such efforts have remained small scale and the underlying business model is yet to be demonstrated. Donors could de-risk some new products and models, for example, rewarding healthier behaviors in models inspired by Discovery Vitality[122] (over 20 million members in 35 markets, yet not proven among lower-income segments).

4. Specialized care packages for patients with a pre-existing condition

Some innovators have developed full-fledged non-insurance packages, allowing patients with an identified condition to smooth their expenses and access all the specialized care they need. Indeed, such patients are usually excluded from insurance coverage: they not only face challenges in financing care but also in getting all they need to handle their conditions from different practitioners and places. The packages developed by Clinicas del Azucar and Praava Health for patients with diabetes and hypertension, are good examples of such innovations: they provide everything that patients need under one roof (all specialists, follow-up processes, access to medicine, etc.).

Opportunities for the sector

The opportunities around the development of such models are discussed in another section of this report on inclusive clinics and hospitals, where Clinicas del Azucar and Praava are documented. Because such models are not insurance-based (in other words, they are not pooling expenses across several people to lower the annualized costs of care), they remain out-of-reach for the lower-income patients, except in the case where copayments from health funders or other parties can be leveraged.

121 Consultative Group to Assist the Poor. (2020). Electric Bankers: Utility-Enabled Finance in Sub-Saharan Africa. Retrieved from *https://www.cgap.org/research/publication/electric-bankers-utility-enabled-finance-in-sub-saharan-africa*

122 Vitality Health International. (2022). International Health Insurance 2022. Retrieved from *https://www.discovery.co.za/wcm/discoverycoza/assets/faz/medical-aid/2021/products-launch/vitality-health-international-brochure-french.pdf*

A community pharmacy in Ghana before renovation by mPharma

Credits: mPharma

APPENDIX

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Case study teams

CarePay: Moses Kuria, Onno Schellekens, Pieter Prickaerts

Clínicas del Azúcar: Fernanda Zorrilla, Javier Lozano, Judith Guzman, Miguel Garza, Omar Meza, Ricardo Londono

DrugStoc: Adham Yehia, Damilola Oluwalayomi, Dr. Chibuzo Opara,Nneka Nwuba, Somto Oteke

Healthy Entrepreneurs: Christos Nicolaou, Conslate Achieng, Germaine van Teeffelen, Joost van Engen, Nicole Syprose

Living Goods: David Watila, Dr. David Oluoch, Maureen Opiyo, Peter Kamonde, Ruth Chitwa, Thomas Opiyo Onyango

Maisha Meds: Daniel Rosen, Veronica Njeri, Victoria Goodfellow, Wangari Stewart, Wintana Belai

Microensure – MIC Global: Adwoa Yeboah, Leona Lillian Abban, Leticia Ashong, Richard Worentetu

MILVIK BIMA: Damien Gueroult, Debjit Chakraborty, Dr. Anwarul Mamun, Israt Mustafa, Rezaur Rahim, Shehreen Kamal

mPharma: Adams Akram, Emmanuel Agyei, Kwesi Arhin, Michael Liarbi, Naa Akwetey, Sophia Baah

Naya Jeevan: Dr. Asher Hasan, Zouina Sarfraz

Praava Health: Dr. Simeen Akhtar, Dr. Zaheed Husain, Joanna Strange, Keith De Alwis, Kerry Breen, Kutub Uddin Kamal, Manav Chaudhary, Md Shaharear Kabir, Mohammad Abdul Matin Emon, Sylvana Q. Sinha

reach52: Edward Booty, Kimsean Tan, Li Jen Lee, Logan Ansell, Maria Winarni, Rath Phal, Rithy Chhoem, Sokunthavry Sok

SwipeRx: Adam Lancaster, Farouk Meralli

Entrepreneurs remotely interviewed

Apex Surgi Centre: Dr. Donald Pupuma

Aravind: Dr. Aravind Srinivasan

CrestCare: Kit Wostenholm

Generika Drugstore: Julien Bello

Sponsors

BMGF: Jessica Martinez

CFAO Healthcare: Jean-Marc Leccia, Ken Accajou

Eli Lilly and Company: Adilet-Sultan Meimanaliev, Loren Becker

Leem: Caroline Allheily, Eric Baseilhac, Laurent Gainza, Léopoldine du Manoir

Proparco: Emilie Menard, Manal Tabet, Raffael Cagnazzo, Soline Joubert, Yann Masurel

Sanofi: Laura Collet, Thibaud Lefort

Experts

Alexis Geanotes (IFC), Anne Roos Weil (AFD), Anne Stake (Medtronic), Annette Jung (Philips Healthcare), Arielle Molino (Intellecap Advisory Services), Aurore Lambert (AFD), Barbara Profeta, PhD (SDC), Béatrice Garrette (Fondation Pierre Fabre), Bénédicte Denieul (TANGIBLE), Bertrand Pedersen (GAVI), Betty Abera (PSI), Borna Mueller (Roche), Cécile GA (MSF), Céline Bilolo (Boehringer Ingelheim), Céline Fleischmann (Digital Health Partnerships), Christian Bausch (Boehringer Ingelheim), Claire Stokes (PSI), Daphne Ngunjiri (Access Afya), David Green (Former Aravind / Seva Foundation), Diwakar Mittal (Sanofi), Donatus zu Ysenburg (Bayer), Emmanuel Akpakwu (Novartis CCO SSA region), Emmanuel Racey (Novartis), Femke Smeets (Total Impact Capital), Florence Gaudry-Perkins (Digital Health Partnerships), Francesca Colombo (OECD), Frank Loeffler (Roche), Gregory Lamory (Sanofi), Hema Srinivasan (MedAccess), Hilary Kinka (PSI), Ilka Wicke (Boehringer Ingelheim), Julien Guth (Former Millicom/ BIMA - Beenok), Lesley-Anne Long (GBC Health), Lisa Slater (Roche), Lorenza Niola (World Economic Forum), Louisa Kuhme (Sanofi), Malcom Quigley (PSI), Mara Hansen Stapler (Salient Advisory), Marloes Kibacha (Africa Health Business - AHB), Michael Anderson (MedAccess), Michael Fuerst (UCB), Michal Matul (AXA EC), Nadia Boughaba (AXA EC), Olayinka Subair (Pfizer Nigeria), Olesya Sruk (Philips Healthcare), Orphée Sadegh (Path), Quentin Guillon (GAVI), Rajat Chabba (JHPIEGO), Raphael Ferry (GAVI), Rich Bryson (ex-reach52), Romain Dissard (NCD Alliance), Ronald Ashkin (Cardno), Rosalind Ratanshi (Infectious Disease Institute), Sandrine Bouttier (Sanofi), Simon Mery (AFD), Solenne Barbe (Fondation Pierre Fabre), Stefan Wilhelm (Bayer), Tejas Bhatt (Digital Health Insure), Ties Kroezen (Philips Healthcare), Timo Beentjes (IDA Foundation), Tiphaine Lagarde (NCD Alliance), Veronika Wirtz (Boston University)

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ACRONYMS

ADDOs	Accredited Drug Dispensing Outlets (Tanzania)
AFD	Agence Française de Développement
AI	Artificial Intelligence
B2B	Business-to-Business
BCtA	Business Call to Action
BoP	Base-of-Pyramid
BRAC	Bangladesh Rural Advancement Committee
CGAP	Consultative Group to Assist the Poor
CGDEF	Centre for Global Development
CHW	Community Health Worker
CSR	Corporate Social Responsibility
CVD	Cardiovascular Disease
DAH	Development Assistance for Health
DFIs	Development finance institutions
DIB	Development Impact Bonds
eCHIS	Electronic Community Health Information System
GP	General Practitioner
HCP	Healthcare Provider
HIV	Human Immunodeficiency Virus
IFC	International Finance Corporation
IHME	Institute for Health Metrics and Evaluation
IICPSD	Istanbul International Centre for Private Sector in Development
LMICs	Low and middle-income countries
MLM	Multi-Level Marketing
MNCH	Maternal, New-born and Child Health
NCDs	Non-Communicable Diseases
NFC	Near Field Communication
NGO	Non-Government Organization
NPS	Net Promoter Score
OTC	Over-the-counter medicines (vs prescription drugs)
PPMVs	Proprietary and Patent Medicines Vendors (Nigeria)
RCT	Randomized Controlled Trial
SDI	Socio-demographic Index
SIBs	Social Impact Bonds
SIINC	Social Impact Incentives
SKU	Stock Keeping Unit
Telco	Telecommunications Company
UHC	Universal Health Coverage
UNDESA	United Nations Department of Economic Social Affairs
WHO	World Health Organization

FIGURES AND TABLES

Photo Credit: Clínicas del Azúcar

CASE STUDY: CLÍNICAS DEL AZÚCAR

Clínicas del Azúcar is a network of inclusive clinics giving access to affordable and holistic treatment for people with diabetes in Mexico

ORGANIZATION BACKGROUND

In 2011, Javier Lozano and Fernanda Zorrilla, after having personally experienced failures of the Mexican healthcare system, decided to explore opportunities to improve the patient's journey. They decided to focus their efforts on diabetes. Whereas it is a major health issue in Mexico where 16%[123] of adults suffer from the condition (one of the highest rates in the world), people with diabetes have the choice between going to free but overcrowded governmental hospitals or expensive private clinics.

In 2012, Javier and Fernanda opened the first Clínica del Azúcar to provide affordable and convenient care services to people suffering from diabetes. They developed an innovative model of clinics, which provides in a single location all the care services needed by people with diabetes: diagnostics, specialist consultations, nutritionist advice, psychologic support and pharmacy services.

Clínicas del Azúcar's network has been growing rapidly and they will open their 37th clinic by the end of 2022. Since they opened the first clinic, 270,000 patients have benefitted from a treatment, and more than 350,000 life-threatening and costly complications have been avoided.

123 Source: OECD (2019)

VALUE PROPOSITION

Clínicas del Azúcar has developed a holistic value proposition which provides patients all the services they need throughout their journey, from diagnostic to treatment and behavior change:

One-stop-shop to healthcare professionals: Laboratories, doctors, psychologists, nurses, nutritionists, pharmacies are all under the same roof, and the patient is seeing all of them in one overall appointment which lasts approximately one hour and half (compared to the 7 appointments booked in a different place/time in traditional patient care).

Free diagnosis and effective patient support: Thanks to their integrated laboratories, Clínicas del Azúcar removes logistics and financial barriers that are usually preventing people from being tested. They offer free and without booking check-up (which includes HB1C, glucose, BMI, tension) with results being delivered in 15 minutes. Following the test, the patient gets a consultation with the doctor, who pursues the diagnostic (asking about patient's lifestyle and medical history) and explains the conclusions. It allows the patient to understand the diagnostic and facilitates its acceptance. This support encourages the patient to start the treatment, and contributes to building a high conversion rate of new clients.

Access to affordable medicine: All clinics include a pharmacy that sells both branded and generic medicines. In addition, Clínicas del Azúcar doctors adapt their prescription depending on their patients' capacity to pay. For example, they will switch the prescription to medicines that are covered by the national social security system *(Instituto Mexicano del Seguro Social)*.

Additional offer of specialized consumer goods: Pharmacies offer a range of products (i.e., snacks with adequate content, shoes, creams, healthy range of food) which are part of diabetic diet or alleviate diabetes symptoms (e.g., dry skin, numb feet).

Psychological support: Compared to traditional patient care, Clínicas del Azúcar goes beyond treatment, and recognizes the importance of psychological support and behavior change to truly help patients over time. Clínicas del Azúcar staff adopt a supportive and positive mindset with the patients all along their treatment (i.e., giving diploma when they reach their goal for HCB1 level, etc), which maintains high retention rates (going from 60 up to 80%) among patients.

Flat fee membership: Patients are being offered a membership which includes unlimited access to Clínicas del Azúcar's services, encouraging them to come as often as they need. **Clínicas del Azúcar offers 4 different bundles of services:** prediabetes, diabetes, diabetes and hypertension, and hypertension. In addition, digital bundles have been developed recently to offer virtual and hybrid care options. Each bundle **can be offered within a determined range of discount and a set of payment options** depending on the patient capacity to pay (which is assessed by the salesperson when entering the patient's postcode).

DELIVERY MODEL

Clínicas del Azúcar has implemented a model of real-time monitoring and invests continuously in clinic performance supported by:

Tailor-made organizational software: It enables Clínicas del Azúcar to monitor and optimize in real time the workflow and ensure organizational effectiveness.

Efficient monitoring and supervision: With the data collected, Clínicas del Azúcar has defined the best operational criteria for its clinics. Both the clinic and district managers are monitoring the results and therefore can identify operational issues efficiently. Clinics' operational performance are reviewed and discussed every month by the top management to define clinics' performance ranking.

Continuous training: The digital training platform launched in 2019 called "Universidad CDA", provides continuous training to teams (approx. 1 hour per month). On specific topics, Clinicas outsources trainings to specialized entities such as laboratories.

Clínicas del Azúcar's staff become diabetes experts in less than 6 months, thanks to:

Fast specialization: Clínicas del Azúcar employees, especially the medical staff, have a steep learning curve as they are seeing a high volume of patients a day.

Strong team cohesion: As the teams share the same commitment and mission, despite their different background and position, they are efficiently collaborating to ensure quality and accessible care.

Clínicas del Azúcar's senior management team is convinced that commitment to patients from their operational team is an essential factor for quality of care, especially towards vulnerable populations. Hence, they nurture the following within their teams:

A strong sense of empathy so employees will do their best not to deny services to anyone who has made the effort to cross the door of a clinic.

A commitment to the mission and impact: Clinicas' staff have an absolute commitment to its mission, all the more since most employees have experienced diabetes complications having family/friends suffering from this condition. They relate to Clinicas' vision and patient stories remind them daily of the impact they have on thousands of lives.

A patient centric vision: The founder of Clínicas del Azúcar pushes his team to reflect on patient spending, hence limiting unnecessary services: 'When I am considering an expense (even a travel expense), I always ask myself whether our clients would want to pay for it'.

Clínicas del Azúcar's operational know-how and standardized procedures have enabled them to grow exponentially in the past three years:

Strategic location identified by a team of analysts: Locations are being assessed to ensure clinics are located in specific areas, such as retail areas, which facilitate walk-ins (50% of their patients)

7-weeks set up: Once the lease is signed, the Clinicas team organizes the setup (including remodeling, set up, and recruitment) of the clinic in record-breaking time

A dedicated training process for clinic opening: The new clinic team benefits from an online onboarding (through Clínicas del Azúcar's digital learning platform) and on-the-job training provided by a team specialized in clinic openings. The support team stays until the new team masters all the skill sets and procedures

Fully operational clinics 6 months after opening: Operational objectives (e.g., conversion rate, number of diagnoses, new patients) and full team capacity are reached 6 months after the clinic opening.

SCALE, IMPACT & SUSTAINABILITY

Clínicas del Azúcar successfully combines (i) a holistic value proposition adapted to patient needs and (ii) efficient operations thanks to the standardization of processes and their specialized knowledge. In a country with very few affordable and efficient treatments available for diabetes it enables them to ensure their impact at scale.

- **Scale:** Though it took them six years to reach 12 clinics, they have been opening 10 clinics a year for each of the past three years. They currently operate 37 clinics across Mexico, with the goal to run 100 clinics by 2025 and in the long term to have one clinic for every 500,000 citizens (i.e., reaching approximately a network of 260 clinics). They are considering international development (in USA and South America)
- **Impact:** through the long-term members get the greatest health impact, any patient who crosses the door of a CDA clinic starts enjoying health benefits

  75% people coming to the clinics are diagnosed with diabetes. Even if they do not take a treatment, diagnosed people start changing their behavior and therefore reduce by 1 point their HB1C level according to Clinicas estimations (MIT- RCT study).

  In 2022, Clínicas del Azúcar treated approx. 95,000 patients:

  - Up to 70% of people being diagnosed with diabetes enroll in the membership program and manage to reduce their HB1C level an average of 2.6 points in 6 months
  - 60% of patients finalize their one-year treatment program and up to 80% of them renew their membership to keep improving their condition

  So far, they prevented approximately 340,000 complications[124] from diabetes with 77% of their clients being middle/low-income people and sharing that it is the first time they have access to specialized private diabetes care.

124 (e.g., people with diabetes have roughly one complication every 10 years such as blindness, amputations, heart or kidney diseases, …)

- Sustainability:
  - Clinics reach breakeven in a short period of time after opening
  - Clínicas has grown +50% per year in revenue since its inception, all of it coming from patients as it is not getting any output-based aid
  - The core activities have been profitable since 2021 despite an acceleration in growth

SOURCES & CONTACT

Clinicas del Azucar website and reports, and in particular:

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Interviews with Clinicas del Azucar management team and visit of operations, December 2022

Contact: Javier Lozano, co-funder and CEO, jlozano@clinicasdelazucar.com; Miguel Garza, Business Development Manager, mgarza@clinicasdelazucar.com

Photo Credit: Praava Health

PRAAVA HEALTH
healthcare - anytime, anywhere

CASE STUDY: PRAAVA HEALTH

Since 2018, Praava Health has served 430,000+ patients with affordable primary care and lab services in its Dhaka "hub", which includes a patient-centric clinic and a state-of-the-art diagnostics center

ORGANIZATION BACKGROUND

In 2015, Sylvana Sinha, an American-born Bangladeshi, moved to Dhaka to build Praava Health (Praava), after a career in international law and development, including serving the World Bank, international law firms, and as a US foreign policy advisor. Sylvana started Praava with the vision to solve for the lack of affordable, quality, and trusted primary care for the urban middle class of Bangladesh, with an economically viable and scalable model.

Bangladesh's recent economic growth[125], equivalent to some of the best-performing Asian economies, has contributed to a substantial decrease in poverty, reduced aid dependency, and the sudden emergence of a large-middle class population (40 million+, doubling in size in the last decade) to whom neither the private nor the public health sector had traditionally catered. 72% of health spending is coming from the private sector, and the per capita health spending is projected to increase fivefold by 2040. The public sector is barely keeping up its health spending with the rate of inflation, putting undue pressure on the private sector to provide solutions for the new middle-class segment.

125 Bangladesh's economy has grown at a faster rate over a longer period than China's economy. Poverty declined from 40 percent in 2005 to less than 30 percent today. Bangladesh is now performing better than other South Asian countries on several development indicators (e.g., infant and maternal mortality rates have fallen by at least half since 1990; life expectancy has risen by 13 years to 72, four more years than in India and three more years than Indonesia; immunization expanded rapidly and by 2017, 89% of all children ages 12-23 months were "fully immunized" against infections such as tuberculosis, diphtheria, pneumococcal pneumonia, and measles; child nutrition improved significantly with the establishment of about 18,500 community clinics and union health centers, where 30 types of medicines are being given free of cost, etc.)

The Bangladeshi middle-class is facing several key challenges on their care journey: physicians can spend as little as 50 seconds per consultation, affordability of treatment in private facilities remains an issue with less than 1% of the population having health insurance coverage, and quality diagnostic testing is a major challenge with only 6 ISO accredited labs in country (1 for every ~30 million patients). Most people end up going directly to a nearby pharmacy to buy drugs over the counter, of which a significant portion are counterfeit.

To solve for these challenges, and particularly the vast variations in quality of care, Sylvana realized that Praava had to own the full outpatient experience. Within a few years, Praava became a trusted brand, with several major achievements:

- A flagship primary care facility in Dhaka, designed under patient-centric principles, with a skilled team of in-house physicians and visiting specialists.
- A state-of-the-art ISO-accredited lab, the first one to introduce molecular cancer diagnosis in Bangladesh, which has been performing up to 7% of all Covid-19 tests in the country at the peak of the pandemic.
- A global network of renowned professionals supporting Praava such as Dr. Husain, who helped setup the lab after a 30-year career in oncology at the Beth Israel Hospital in Boston and on the faculty of the Harvard Medical School.
- A set of digital services to complement the physical experience, which Praava progressively developed including teleconsultations, m-health, and an e-pharmacy.

By 2022, Praava had served 430,000+ patients, and demonstrated the economic viability of the model: its flagship facility achieved unit profitability in 10 months of operations in November 2018, and the corporate entity achieved EBITDA profitability in 2021. Praava's growth plans will depend on future fundraising, which has proven difficult as the company does not fall into a typical category of the investing landscape (too small for DFIs, not enough tech-focused for VCs, not enough low-income focused for donors). With access to capital, Praava would accelerate its expansion with a "hub and spoke" infrastructure including smaller clinics and a stronger digital backbone. Otherwise, Praava would aim at consolidating the revenue of its lab, which would be progressively reinvested in its clinical infrastructure.

VALUE PROPOSITION

Praava is targeting the Bangladeshi urban middle class, who is lacking quality and affordable alternatives between public hospitals and highly expensive private facilities. Patients seeking care at Praava include walk-in patients for primary and secondary care or diagnostic testing; patients who have subscribed to an annual membership plan; and patients whose health benefits are covered by one of Praava's 1,000+ corporate clients.

Praava's value proposition resulted in an impressive 87% net promoter score among its patients:

- A patient entering Praava can access all-in-one-place: consultations with GPs and specialists, diagnostic testing, and pharmacy – and conveniently access services from home thanks to an app and teleconsultations services.
- Price points are typically 2-3 times cheaper compared to private hospitals (e.g., US$7 vs US$15-24 per consultation, US$3 vs US$6 for a blood test). Interestingly, many walk-in patients assume that price points would be higher, given the modern outlook of Praava's facility and its location in the relatively affluent Banani area.
- The whole journey is patient-centric, from the design of facilities (e.g., no desk between doctor and patient in consultation rooms) to the way doctors run consultations (e.g., 15 minutes per patient).
- Praava is engaging patients proactively, which is also a unique feature compared to other facilities in country, to encourage regular checkups, treatment follow-ups and continuity of care, via its mobile app or its call center.

Praava is offering membership plans with unlimited consultations, discounts on procedures and treatment, and lab exams. The offering is segmented with different services depending on people's ability to pay and conditions: the entry-level plan starts at US$40 per year, and plans for patients with diabetes or hypertension are sold at US$350 per year. For lower-income patients outside Dhaka, Praava recently launched a new plan called "Aastha", retailed in partner pharmacies at US$5 for three months, and offers unlimited access to teleconsultations with Praava doctors and discounts on e-pharmacy and testing.

DELIVERY MODEL

Praava has built a diversified and skilled team of ~400 employees, to "own" the entire outpatient experience. The teams are in Praava's hub facility in Dhaka, that includes 19 consultation rooms, imaging rooms, a basic procedures room and a diagnostics center.

Praava employs 7 family doctors and 5 specialized physicians, and hosts another 50 visiting specialists (for women's health, pediatrics, dentistry, ophthalmology, physiotherapy, nutrition, gastroenterology, gynecology, cardiology, diabetes, etc.). Specialists perform minor procedures, but serious cases are escalated to secondary or tertiary care hospitals. Praava also progressively realized the need to internalize several non-medical functions to deliver an irreproachable patient experience: for example, the call center was previously outsourced and is now operated in-house.

The economic viability of Praava relies on synergies between the clinical care and diagnostics. The lab is the "main asset and heart of the business", as the largest source of revenue and most profitable business line. Lower margin primary care services, including pharmacies and teleconsultations, have large outreach and serve as acquisition channels for the lab.

The business viability of Praava relies on the following drivers:

- Maximizing utilization of the lab capacity, with cost-efficient acquisition: Covid-19 has significantly disrupted operations at Praava. Since mid-2022, Praava has re-invested into its original primary acquisition channels, which translated into double-digit month-on-month growth. Most of the tests performed at the lab come from Praava's direct to consumer patients, and the rest are coming from B2B partners: hospitals that do not have their own diagnostic center; doctors operating in other facilities or pharmacists who refer patients to Praava. Referral channels are typically less profitable (it is common practice for physicians to charge referral fees that amount to >30% of test prices). Praava established a network of 40+ collection points in partner pharmacies across Dhaka and periphery, which receive a commission on each collection. A Praava phlebotomist collects patient samples at the collection point and transports them to the diagnostic center. More recently, phlebotomists also operate home collections.
- Increasing patients' lifetime value: the high satisfaction rates of Praava have driven loyalty among patients and translated into word-of-mouth acquisition: the most efficient and viable referral channel for new Praava patients is word-of-mouth referrals from a family or friend. The call center plays an active role in driving retention, in offering membership to walk-in patients, in ensuring that patients with memberships perform regular check-ups, and in upselling relevant services to existing member patients.
- Digitizing operations to optimize costs and plan for scale: Praava's physical infrastructure is backed by efficient and scalable processes – in administration, customer relations, transactions, clinical protocols and more– using tools like an in-house health information system for data management.

SCALE, IMPACT & SUSTAINABILITY

- **Scale:** Praava has served 400k+ patients to date and designed a facility and infrastructure that would have capacity to serve many more patients. The path to scale will depend on capital raised and Praava's ability to build a hub and spoke model with smaller clinics.
- **Impact:** Praava is solving a gap for the middle class of Bangladesh who lack quality and affordable alternatives. Patient-centricity has translated into high satisfaction (87% NPS).
- **Sustainability:** Praava achieved unit profitability on its flagship facility in November 2018 and demonstrated the business potential of a model combining primary and secondary care and diagnostics. It is now focused on maximizing the utilization of the lab in a post-Covid reality.

SOURCES & CONTACT

Praava website and reports

Interviews with Praava Health management team, and visit of operations, December 2022

Sylvana Q. Sinha, CEO and founder, Praava Health, sqsinha@praavahealth.com

US$1 = 102 BDT

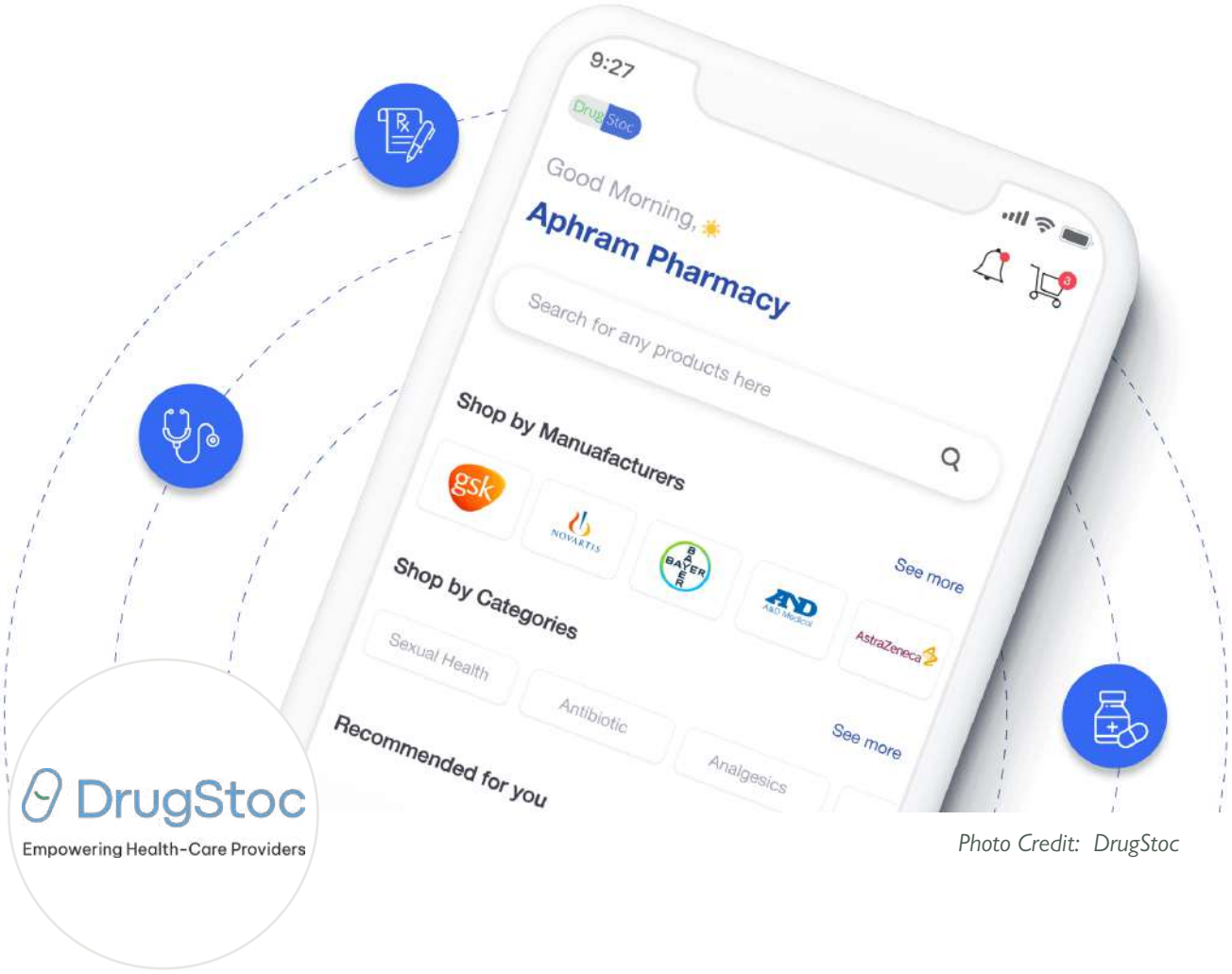

Photo Credit: DrugStoc

CASE STUDY: DrugStoc

DrugStoc has developed an end-to-end procurement solution to provide healthcare facilities with all their medical needs in one place within a few hours, enabling them to improve drug availability

ORGANIZATION BACKGROUND

Drugstoc is a data driven pharmaceutical supply chain company co-founded in 2015 by Dr. Chibuzo Opara (CEO) and Adham Yehia (President) with the mission to increase access to pharmaceutical products and healthcare commodities. Chibuzo, a practising physician struggled with sourcing medicines in his day-to-day medical practice. Adham, a hospital director at that time also faced similar challenges sourcing medicines and healthcare commodities for his practice.

In 2014, the pair initially provided comprehensive management services (recruitment, payroll, procurement, etc…) to clinics, however they continued to struggle with sourcing medicines and healthcare products. The Nigerian drug distribution landscape is highly fragmented, resulting in a cumbersome drug procurement process. Before a medication eventually gets to a patient, it goes through multiple layers, consisting of manufacturers, importers, distributors, wholesalers, informal open markets, and several middlemen and eventually to healthcare facilities such as hospitals, pharmacies. Healthcare facilities will often need to procure through several providers as distributors usually represent a hand-picked group of pharmaceutical companies and thus may only provide part of their client needs. Moreover, around half of drug sourcing in Nigeria occurs settings where logistics support and customer service are deprioritized.

In 2016, Adham and Chibuzo piloted an e-procurement service, delivering to pharmacies and clinics. However the fragmented upstream supply chain made this venture unsuccessful. In 2017, they pivoted, using an asset-light tech-enabled model, to deliver a large portfolio of quality medication at affordable prices to their customers. Drugstoc complemented its procurement solution with Drugstoc pay, an embedded financing solution launched in 2021, and with Pillometer an Inventory Software solution in 2022.

Drugstoc currently provides 7000 pharmaceutical SKUs to over 3000 healthcare facilities across South-West and South-South Nigeria, consisting of pharmacies, hospitals and clinics.

VALUE PROPOSITION

Drugstoc provides access to a large portfolio of quality medicines for last-mile healthcare facilities (Pharmacies and Clinics) through an easy-to-use e-procurement solution.

- Large portfolio: By providing approximately 7000 SKUs from several local and multinational manufacturers, healthcare facilities have access to a comprehensive portfolio in one 'shop'.
- Quality assurance: In Nigeria, where counterfeit and substandard drugs have a high penetration, Drugstoc guarantees access to quality-checked medications.
- Quick turnaround: customers can rely on an easy-to-access stock as an order from a healthcare practitioner is ready to ship within 2hrs while it takes 24hrs to ship an order from a pharmacy or a clinic.
- Competitive pricing and credit terms: Drugstoc offers transparent pricing which usually match or is cheaper than competitors and healthcare facilities have access to attractive credit terms (buy now pay later option) through Drugstoc pay.
- Convenient e-commerce platform with a strong client service component which enables the client to order either through the platform or directly with representatives.

Drugstoc also provides a user-friendly inventory management solution, Pillometer, that enables pharmacies to manage their stock and facilitate the procurement process, thus improving availability of treatment for patients. It enables pharmacy owners to oversee their businesses more effectively.

Finally, with Drugstoc Access, the company has for objective to increase availability of innovative high-cost innovative medicines. Healthcare facilities are often unwilling to take the risk of sourcing and providing innovative high-cost medicines due to limited demand. Drugstoc bear the risk of potential loss due to expiry and make these medicines available in partner pharmacies.

DELIVERY MODEL

Drugstoc is ISO certified for quality management systems and good distribution practice. They only source products directly from manufacturers or primary importers which eliminates middle-men and enables them to negotiate competitive prices. Moreover, they follow a rigorous quality management track and trace system all the way from the manufacturers to the retailers thus ensuring that a recall is possible in the event of quality or safety. This ensure that quality is preserved and provides end-to end visibility of product movements from the manufacturer to the client.

Clients are onboarded with order placements done either through the e-platform, phone or face to face.

Drugstoc delivers all over Nigeria. Within Lagos, and certain 1st tier cities, Drugstoc delivers within 24 hours while it takes a bit longer with other 2nd tier cities.

Drugstoc Pay, the embedded finance solution, has different value adds which are based on the client's credit score. Business lending at affordable rates, inventory lending are provided in partnership with a leading commercial bank.

In order to increase access to high-cost innovative medicines, the company leverage its tech-enabled supply chain solution as a backbone to ship medicines within hours through Drugstoc Access.

Drugstoc Access de-risks the supply chain allowing patients to access these medicines at a controlled rate from partner pharmacies.

SCALE, IMPACT & SUSTAINABILITY

- **Scale**: Drugstoc currently serves over 3000 healthcare facilities with a range of products from several local and multinational pharmaceutical manufacturers.
- **Impact**: Drugstoc provided over 22 million prescriptions through its partner pharmacies in 2022.
- **Sustainability**: Drugstoc is a market based operation providing good quality affordable pharmaceutical products to hospitals and pharmacies. It has scaled quite quickly due to its asset light operation deploying sustained inventory financing solutions.

SOURCES & CONTACT

Drugstoc website and reports

Interviews with Drugstoc management team, and visit of operations in Lagos, January 2023

US$1 = 460 Naira

Contact: info@drugstoc.com.

Photo Credit: Generika

CASE STUDY: GENERIKA

Generika is a Filipino chain of pharmacies which introduced generics into the retail market in order to make medicines more affordable to the middle- and low-income population

Disclaimer: This case study is based solely on interviews with the co-founder (Julien Bello) and the current managing director (Atty. Yet Abarca), and it focuses on the genesis of the project, when they enabled the entry of generics into the Philippine market.

IDENTIFYING A MARKET FAILURE

After a couple of years working in microfinance in Manila's slums, Julien Bello realized that very often his clients could not reimburse their loans due to sickness or medical emergencies. Among the costs related to sickness, medication represented a significant part, and most of the time was paid out-of-pocket by the uninsured population.

At the time, the market was dominated by Mercury Drug[126] which had an estimated 50% market share. Their marketing was solely focused on branded and therefore expensive medicines. While some generics for common molecules were locally produced and up to 10 times cheaper than branded drugs, they could only be found in public hospitals so most families had to purchase expensive branded drugs through retail channels.

To address this market failure, Julien partnered with Teodoro Ferrer, a newly retired Ayala[127] executive, and launched, in 2004, a pharmacy named Generika Drugstore that would focus on providing generics in low-income neighborhoods.

126 Mercury Drug. (2023). Retrieved from *https://www.mercurydrug.com/*

127 Business conglomerate, founded in 1834, with diversified business operations. It operates in various industries, namely real estate, financial services, water, telecommunications, automotive, power generation, transport infrastructure, electronics manufacturing services, business process outsourcing, education and healthcare.

TESTING THE VALUE PROPOSITION AND DELIVERY MODEL

After only a couple of months of operations, Generika opened its first pharmacy, at Montillano, Muntinlupa City. The pharmacy sold all the generics available on the market (which were on average 50% to 80% less expensive than the branded ones), in addition to other health-related products.

They did so by sourcing generics from the available production capacities of local generics manufacturers as well as from a local wholesaler serving public facilities (who later on became a competitor). The drugstore reached its breakeven point in only a few months, thus validating the potential of the Generika drugstore concept.

At the time of the launch, Generika's prices were clearly providing value to consumers, but the company had to engage with local communities to generate awareness and trust in its products. They did so by nurturing positive word of mouth within communities through local marketing initiatives

- They transformed the patient-pharmacist relationship by sending drugstore personnel to communities. The pharmacy staff who were used to waiting for patients to come to the store spent a lot of time doing outreach in the low-income neighborhoods nearby.
- In addition, they partnered with associations and created referral mechanisms to attract patients, e.g., providing discounts to teachers' associations, giving free vitamins in exchange of referral, etc.
- They also mobilized doctors within the pharmacies for half a day on a bi-monthly basis to offer free medical check-ups. This was a very effective strategy to attract new patients and renew prescriptions.

Later on, they developed more elaborate marketing activities thanks to a mobile van that could offer a bundle of lab exams (chest X-Ray, blood test for diabetes and hypertension, etc.) at a price 3-5 times cheaper than in a normal laboratory (about 5 euros for 8 tests).

SCALING UP AND SYSTEMIC CHANGE

By 2007, they had opened 16 pharmacies, and had developed all the services required (HR, training, IT, etc.) to support their stores. To sustain and accelerate their growth, the management team decided to transform their model into franchising. To convince pharmacies to become a franchisee, Generika offered them to take charge of the branding, the training of its employees as well as the supply chain. In exchange, they collected a percentage of the revenue share and required the store employees to conduct outreach activities with local neighborhoods.

In the meantime, they inspired competitors, and their main wholesaler[128] duplicated a simplified version of Generika, named 'The Generics Pharmacy'. Learnings from Generika coupled with simplified processes and capital enabled them to rapidly overgrow Generika. The Generics Pharmacy has developed over 2,000 shops to date.

In 2015, with almost 500 Generika drugshops opened, Julien could be proud of the impact he was looking for initially. With the competition growing, it was time to find support from a larger actor. He decided to sell his stake to Ayala Healthcare Holdings, Inc. (AC Health), a wholly-owned subsidiary of Ayala Corporation. As a member of the AC Health Group, Generika Drugstore became part of a bigger ecosystem that strives to provide every Filipino access to affordable healthcare and represents now 830 (2022)[129] pharmacy stores.

Generika has not only made generics more accessible via its licensed pharmacies, it also had a systemic impact on the Filipino pharmaceutical industry by inspiring new competitors to enter the market with similar value leading to further decreases in generic prices.

This model was sustained by a favorable regulation that required doctors to note the name of generics on prescriptions, and authorized pharmacists to suggest generics as an alternative to well-known branded products.

SCALE, IMPACT & SUSTAINABILITY

- Scale: Over 830 stores by 2022.
- Impact: By enabling the generics to enter the retail, they have transformed the local context and made generics more affordable for low-income population.
- Sustainability:
  - Since 2015, Ayala Healthcare Holdings, Inc. (AC Health), a wholly-owned subsidiary of Ayala Corporation, acquired a stake in Generika Drugstore.[130]
  - In 2017, Generika recorded ₱3.3 billion (≈US$59.7 million) in revenue, up 15 percent from a year ago.[131]

128 The Generics Pharmacy. (2023). Retrieved from *https://tgp.com.ph/about-us/*
129 AC Health. (2023). Generika Drugstore. Retrieved from *https://www.achealth.com.ph/generika#:~:text=Bubuti%20Ka!,of%20over%20830%20branches%20nationwide*
130 Generika Drugstore. (2023). Retrieved from *https://www.generika.com.ph/*
131 Ayala. (2018). Ayala posts ₱30.3 Billion in Net Income in 2017, up 16%. Retrieved from *https://ayala.com/press-room/press-releases/ayala-posts-p30-3-billion-in-net-income-in-2017-up-16*

Photo Credit: Maisha Meds

CASE STUDY: MAISHA MEDS

Maisha Meds provides digital management solutions to over 1,400 last mile pharmacies and clinics in East Africa, enabling them to limit stock outs, deliver quality medicines to patients, and channel targeted incentives to patients with evidence-based care

ORGANIZATION BACKGROUND

Maisha Meds is an impact-driven organization (including a non-profit and a for-profit entity), started in 2016 by its CEO Jessica Vernon when she was a medical student at Stanford University School of Medicine. Maisha Meds works with last mile pharmacies and clinics, to ensure they can deliver high-quality medicines at affordable prices. Maisha Meds started with the development of a digital point-of-sales system in 2017 and expanded to further activities including programs delivering targeted subsidies at the point-of-sales since 2019. Operations were started in Kenya and expanded to Uganda, Tanzania, and now Nigeria. Maisha Meds recently secured growth funding from global health funders, including the Bill & Melinda Gates Foundation and USAID DIV.

VALUE PROPOSITION

Maisha Meds improves access to adequate treatment in last mile healthcare providers for underserved patients, on all critical dimensions of availability, quality, and affordability of medicine, and access to adequate diagnosis and monitoring.

- Maisha Meds developed an open-source digital point-of-sales (POS) system that helps last mile pharmacies and clinics in avoiding stockouts of essential medicines or last-minute purchases of unknown quality products, thus improving availability and quality of treatment for patients
- Maisha Meds realized that many of the medicines purchased by underserved patients were inappropriate due to lack of testing and monitoring (e.g., in one program that they analyzed, 50% of patients buying malaria drugs did not have malaria), leading to waste of out-of-pocket spendings and drug resistance. Maisha Meds is leveraging its digital POS system to channel targeted discounts for patients and incentives for providers, thus improving both quality and affordability of care.

Beyond underserved patients, the value proposition of Maisha Meds is also compelling for the other players in the value chain: last mile healthcare providers, and health funders.

- For last mile pharmacies and clinics, the digital POS system is accessible for free, is easy to use, works offline, and requires only basic hardware. By adopting it, they can generate business gains (less product expiring, no missed sales opportunities), improve convenience for their staff, and client satisfaction. It is also an extremely valuable tool for facility owners to monitor their business remotely, as they are often not on site. Finally, the targeted incentives for providers in delivering healthcare services such as testing can represent significant additional revenue opportunities for the facilities and drive increased footfall to their businesses.
- For health funders, Maisha Meds enables more efficient use of funding. Treatment subsidies were historically focused on the manufacturer level. Maisha Meds can limit transaction costs with mobile payments and reduce fraud with digital verifications and demonstrated with robust evaluation studies that such a model delivers more effective and cost-efficient outcomes.

Example: Targeted digital incentives for Malaria

- An estimated 190m malaria cases affect sub-Saharan Africa annually, and more than half of these patients access malaria treatment via pharmacies and drug shops.
- Maisha Meds analyzed the outcomes of a global health initiative that previously introduced manufacturer-level subsidies for treatment, to make them available for US$1 at pharmacies in East Africa. This program had a positive impact, with most pharmacies stocking and selling them to patients. Yet, Maisha Meds data analysis shows that only 10% of patients access a diagnostic test, and only 50% of those purchasing treatment are sick with malaria. This causes wasted out-of-pocket spending for patients; risks poorer health outcomes for malaria-negative patients, and, this increases the potential for drug resistance through over-use of antimalarial treatment.
- Maisha Meds built a digital reimbursement system to create incentives for both patients and providers to administer a rapid diagnostic test before purchasing malaria treatment, ensure that the treatment is only given if test is positive, and that treatments are quality assured (accumulated incentives to patients and providers are ~US$1 per untreated patient and ~US$2 per patient treated).
- Researchers from UC Berkeley tested this approach with an RCT and demonstrated that targeted incentives at the last mile are effective at encouraging testing uptake, with a statistically significant 300%+ increase in appropriate malaria case management compared to the control group. This can both improve patient outcomes and represent more efficient spending for funders compared to the status quo manufacturer-level subsidies.

DELIVERY MODEL

Maisha Meds is offering the POS system for free (optional features might be charged in the future), to make it as widely available as possible, as it is the backbone for other business and impact activities. Maisha Meds only charges last mile providers for optional initial onboarding and inventory listing activities and can sell mobile tablets for those who don't have digital equipment, yet all these services are optional. They keep developing new features for the POS system, including patient records, for which some clinics have expressed a willingness to pay and that might be charged as options in the future. The acquisition of last mile providers has historically relied on door-to-door sales agents. Maisha Meds is now looking to accelerate adoption, via referral incentives to create further word-of-mouth[132], and partnership opportunities to acquire several providers at a time.

Targeted subsidy programs are delivered through providers in the network and represent the fastest growth activity since Maisha Meds demonstrated their unique potential for generating outcomes cost-efficiently. Turning these programs into fully sustainable business "will require Maisha Meds to shift from being a grant recipient to becoming a service provider to global health funders and governments". Maisha Meds is exploring several outcomes-based funding mechanisms that could drive sustainable scale and is expanding to other therapeutic areas beyond malaria and contraceptives, including HIV for example. Some new therapeutic areas will require tracking the same patients across several providers, a new feature that Maisha Meds is currently piloting (and which would be particularly relevant to NCDs). Expanding to new therapeutic areas would enable them to deliver more programs per point of care, hence generating economies of scale and reducing costs per patient.

Finally, Maisha Meds generates revenue from data and insights, which will become even more robust and granular as Maisha Meds continues to grow. It realized there is a demand from both health funders and pharmaceutical companies to better understand choices of patients and providers at the last mile, which it was uniquely placed to generate (e.g., data about the products and prices that patients are accessing, supply chains that pharmacies are using). The revenue from selling these insights has enabled Maisha Meds to keep investing in a robust data science team.

SCALE, IMPACT & SUSTAINABILITY

- Scale: As of 2022, Maisha Meds had deployed its POS system in 1,500 pharmacies and clinics (including 700 in Kenya), which served 4m+ patient encounters. Maisha Meds plans to grow to 5,000 facilities by 2024 and to 10,000 by 2025. It has provided targeted subsidies to over 114,000 patients through 350 facilities since June 2020, and has secured funding to reach over half a million malaria patients by 2025.
- Impact: MM directly support 8,500 patients every month to access malaria care, injectable contraceptives, and HIV self-tests through their loyalty programs.
- Sustainability: 2022 booked revenue will likely exceed US$13 million, largely driven by significant growth in grant income, but including US$2.5 million in revenue for malaria outcomes financing, alongside commercial income from POS services, and data sales in the region of US$1.5 million. Recent grant funding secured will enable them to grow the network and number of patient interactions to a level that means costs per patient interaction in their subsidy programs will reach compelling levels in the next 12-24 months, further supporting the transition to an outcomes-financing approach where Maisha Meds will earn revenue on a per-patient basis from a range of health funders.

SOURCES & CONTACT

Maisha Meds website and reports. Interviews with management and visit of operations, October 2022

Victoria Goodfellow, Chief Strategy Officer, victoria@maishameds.org

US$1 = 120 KSH

132 Feedback from users is very positive: "93% of pharmacies report an improvement of their business" (MAISHA MEDS survey)

Photo Credit: mPharma

CASE STUDY: mPharma

mPharma is an integrated healthcare provider that improves access to affordable drugs and primary care solutions by providing value-adding services to hospitals, pharmacies and patients in nine Sub-Saharan countries

ORGANIZATION BACKGROUND

mPharma is a Pan-African health tech start-up founded in 2014 by Gregory Rockson (CEO), James Finucane and Daniel Shoukimas (CPO[133]) with the mission to make medicines more accessible and affordable for end consumers. While its overarching mission has remained the same, mPharma has pivoted its business model and approach multiple times since inception in order to achieve this mission.

The company started by developing a mobile and web-based electronic network app (EPN) to help doctors connect patients to pharmacies with available prescription drugs. mPharma expected that it would generate drug dispensation data that could be used to inform decisions along the fragmented drug supply chain. However, this solution did not address the fundamental problem of poor quality inventory, unavailability of stocks or patients' ability to pay for the drugs. So, in 2015, mPharma decided to become a wholesaler and launched a Vendor Managed Inventory (VMI) solution for its B2B customers (hospital and retail pharmacies) to reduce stockouts and improve inventory management in these pharmacies. By aggregating demand across this network of VMI customers, mPharma could receive discounts from its suppliers which were passed on to the VMI customers.

Having addressed the drug availability issue through its wholesale business, mPharma then decided to tackle the issue of affordability. This was particularly important as mPharma had no influence or control over drug retail prices at the pharmacies within its VMI network and there was increasing evidence that the discounts passed on to the VMI customers were not always passed on to patients. In 2019, mPharma launched its QualityRx program, a conversion franchise model that transforms existing community pharmacies into primary care providers under the brand "a mutti pharmacy". Every mutti pharmacy is refurbished to upgrade its physical look, enabled with proprietary pharmacy management software called Bloom, and offers patients mPharma's health membership rewards program also called mutti. The mutti program offers discounts and innovative financing solutions mainly to patients who pay for their drugs out-of-pocket. The company launched QualityRx for drug shops (PPMVs[134]) in Nigeria under the brand "GoodHealth shop" in 2019 in partnership with the Bill & Melinda Gates Foundation.

mPharma currently operates 3 main business units - Retail, Wholesale and Diagnostics - across 9 countries in Sub-Saharan Africa[135], with over 550 pharmacies and PPMVs in their network. mPharma has raised several rounds of funding over the years with their latest at US$35 million[136] in a Series D round early 2022.

Disclaimer: The study focuses on retail pharmacies directly reaching consumers in Ghana. The field visit was conducted in October 2022.

VALUE PROPOSITION

Beyond drug delivery, mPharma significantly improves the care experience of patients by offering a full range of primary healthcare services for free via its mutti pharmacy network.

- Early diagnostics: community health nurses conduct weekly community outreach to register and screen new mutti members for free. They leverage this occasion to check vitals - blood pressure, blood glucose and body mass index, and refer patients to the nearest mutti pharmacy or health centers for more advanced care as needed.
- Adequate treatment: in mutti pharmacies, patients have access to *Mutti Doctor,* a free doctor teleconsultation service (with a maximum 15-minute wait) facilitated by a nurse who checks vitals and tests patients for diseases such as malaria, syphilis and diabetes as needed.
- Improved compliance: mPharma's business management system has definitely increased patients' access to quality drugs, by reducing both stockouts and expired products. In a country such as Ghana, where prices are not fixed by the government and can vary widely based on foreign exchange fluctuations, mPharma only modifies its retail prices once a month. Furthermore, patients can join a 3-month-fixed price scheme, known as "mutti Keep My Price" (for as little as GHS 10). In addition, Mutti members enjoy a permanent 10% discount on prescription drugs and additional discounts from cashback rewards linked to loyalty points.

These services are especially valuable for patients suffering from chronic conditions. The combination of doctors that can review prescriptions, the mutti membership (which offers loyalty discounts), and the possibility to lock drug prices are particularly supportive for people suffering from chronic conditions.

mPharma provides a strong value proposition recognized by the pharmacies that have joined the QualityRx program (churn rate <5% over the last 12 months). While the value offering of traditional wholesalers is limited to 30 to 90-day payment terms on drug purchases for customers that meet strict criteria, mPharma invests in an initial revamping and branding of all franchisees (up to US$8,000), provides drugs to the pharmacy on consignment (100% financing of inventory), bears the risk of expiry, and regularly trains staff of the pharmacy. Prescriptions generated by the *Mutti Doctor* service can contribute to significant additional revenue for pharmacies where the service is available. In exchange for the benefits of the QualityRx program, pharmacies accept to give up some control over their pharmacy operations: exclusivity of drug supply, retail prices are set by mPharma, use of mPharma proprietary management system Bloom is mandatory, and sales proceeds go into a joint bank account with dual signatures.

134 PPMV: Patent and Proprietary Medicine Vendors defined as "a person without formal training in pharmacy who sells orthodox pharmaceutical products on a retail basis for profit", source: *Pharmacy Council of Nigeria*

135 Ghana, Nigeria, Ethiopia, Uganda, Kenya, Rwanda, Zambia, Gabon and Togo

136 TechCrunch+. (2022). mPharma raises $35 million in round joined by Tinder co-founder's JAM fund, Bharti executive. Retrieved from *https://techcrunch.com/2022/01/05/mpharma-raises-35million-in-round-participated-by-tinder-co-founders-jam-fund-bharti-executive/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAEvBHNRpiaBaZPrzW3Lez-PlJhkAEkY3fTxeh-gJliKf4ijZqsqxHBjQx-VRLytK-h0ZFWxyILJSHDB5KHVgUbzUQLVUwkHiwdrisxblr_xyPkB232KbTmn6fgIyAb7ARO9g-1bmOGfnTkz9ftSAC9Wjgw_o2lc6WO24ZQICBsN4*

mPharma's franchise model has been essentially of interest for low-performing pharmacies. Such pharmacies have been able to survive because they have enjoyed high-margin and local regulations imposing a minimum distance between two pharmacies. By bringing additional services, particularly the consignment model for drugs and Mutti Doctor services, mPharma generates significant growth in revenue for the pharmacies.

While serving patients and pharmacies, mPharma also benefits other stakeholders of the ecosystem.

- **Pharmaceutical companies** are attracted to mPharma's ability to provide drug dispensation data that can justify targeted subsidies (discounts on drugs via their "Access programs" and conjoint creation of Patients Support Programs).
- As part of their employee health packages, Corporates (more than direct consumers) have been willing to pay for a delivery service mPharma provides.
- **Donors and governments indirectly benefit from the community outreach work conducted by mutti's community health nurses.** There could be an opportunity for mPharma to monetize this impact.
- Governments can value mPharma's expertise in supply chain. In 2021, mPharma signed a contract to serve as technical advisor to the government of Gabon[137].
- **mPharma is building a trove of data at pharmacy and patient levels.** In countries where market data is scarce and often unreliable, they are building a strong and tangible asset that they could monetize in the future.

DELIVERY MODEL

mPharma's conversion franchise model has enabled it to grow fast by leveraging existing pharmacies. In the Greater Accra region of Ghana, pharmacies are relatively numerous for the region[138], due in part to local protective rules which allow only one pharmacy for every 400 meters. This leads to numerous small and independent pharmacies which survive while bringing limited value to patients (challenges such as stocks-outs, limited portfolio and limited capacity to provide advice to patients are commonplace). By targeting struggling pharmacies with its conversion franchise model, mPharma has managed to build an asset-light model, freeing them from having to invest in real-estate or having to acquire pharmacist licenses as required by law (except when they make strategic acquisitions of pharmacy chains in specific countries). This enables the company to focus on brand and technology, and to support fast but sustainable growth for the mutti pharmacies.

In a country where doctors[139] are rare, for example, 65 times fewer doctors relative to population than in France, Mutti Doctor - the telemedicine consultations at mutti pharmacies (combined with a nurse) - offers an effective and convenient way (less than 15 minutes waiting time) for patients to access primary care services. While they are a scarce resource, mPharma utilizes the doctors' idle time by fitting teleconsultation between their "usual consultations". On the other hand, **mPharma smartly leverages the numerous unemployed community nurses in Ghana**[140] to support doctor teleconsultations (hence limiting doctor's time), as well as to conduct weekly screening campaigns while registering new mutti members. The nurses are accessible first points of contact who can refer patients to the healthcare system when required (for example to the nearest mutti pharmacy or other healthcare facilities).

mPharma minimizes waste all along its supply chain. Thanks to its business model which prioritizes inventory management, mPharma reduces waste by conducting regular stock counts which helps to identify and manage expiry of drugs within its mutti pharmacy network.

mPharma succeeded in developing technology solutions highly replicable across countries, for both wholesale and retail businesses. mPharma, as a health tech company, invested early in its software solutions (e.g., VMI). Each mutti pharmacy is equipped with mPharma's proprietary pharmacy management software (Bloom) which provides visibility to mPharma on inventory and sales, while helping pharmacies run their business (including customer management).

137 mPharma. (2021). Annual Impact Report. Retrieved from *https://mpharma.com/wp-content/uploads/2022/04/Impact-Report-_mPharma-2021.pdf*
138 2.1 pharmacies for 10k capita in Greater Accra vs. 0.45 for overall Ghana or 1.23 for Nigeria (*WHO*)
139 0.1 physician for 1k people in Ghana vs 6.5 in France, (*The World Bank)*
140 Ghana Business News. (2022). More than 10,700 unemployed nurses demand postings from government. Retrieved from: *https://www.ghanabusinessnews.com/2022/11/11/more-than-10700-unemployed-nurses-demand-postings-from-government/*

SCALE, IMPACT & SUSTAINABILITY

mPharma successfully combines (i) efficiency gains along their supply chain with (ii) valuable services for patients and pharmacies. In an industry often driven by high-margins and oligopolies, this has enabled mPharma to create a positive impact for patients and small pharmacies.

- Scale: currently operates 350 Mutti pharmacies and 200 Good Health shops across 9 countries (22% owned, 78% franchisees)
- Impact: Through its community outreach activities with nurses and teleconsultations with doctors, mPharma creates an opportunity to identify new patients with non-communicable diseases or to bring back existing patients into the health care system. It can play a significant role in screening and early treatment, both of which are often key pain points in the patient journey. A 60 Decibels Survey conducted in June 2020 showed that: 22% of patients report a chronic illness in the family amongst which 39% reported improvements in the experience of their illness, and 61% of customers said their life improved because of mutti.
- Sustainability: The retail business in Ghana crossed US$1 million in revenue in 2021 and is projected to grow 3x in 2022 from both organic growth and addition of new franchisees.

SOURCES & CONTACT

US$1 = 13 GHS

mPharma website and reports (incl. Harvard Business School case studies (A) and (B)). Interviews with management and visit of operations, November 2022

Contact: Naa Akwetey, Senior Vice-President, Strategy & Business Development, naa@mpharma.com

Photo Credit: SwipeRx

CASE STUDY: SwipeRx

SwipeRx has built a digital network of 50,000+ pharmacies and 250,000+ pharmacy professionals in South East Asia and enables private and public partners to engage them and improve the level of service delivered to patients, the availability of supply, and affordability of drugs.

ORGANIZATION BACKGROUND

Farouk Meralli established SwipeRx (formerly mClinica) in 2014, with the aim to address a public health problem with a business approach. Farouk had a background in public health and spent several years working with global pharmaceutical companies.

In South East Asia, patients visit pharmacies 10 times more often than they visit a physician. However, they face many challenges preventing them from adequately serving patients: lack of training, stock outs, poor quality or expensive drugs, etc. Pharmacies have also been largely absent from public health programming since their fragmentation makes traditional programming approaches highly inefficient (over 80% of which are independent in South East Asia).

Farouk decided to build solutions that could address that fragmentation challenge. After launching a first business line digitizing patient support programs, he launched SwipeRx in 2017 as a digital social network focused on pharmacy professionals. The network was rapidly expanded to over 250,000 users from approximately 50,000 pharmacies in 7 South East Asia countries. This growth was possible thanks to partnerships with ministries of health and pharmacy associations in every country, and a sustainable revenue model from pharmaceutical companies and public players.

In 2019, SwipeRx decided to launch a procurement and supply business line. The aim was to strengthen the supply chain and further make a difference by helping pharmacies access quality drugs more reliably, with affordable prices and appropriate working capital financing. This new activity was started in Indonesia, where SwipeRx had its largest community and strong connections with public stakeholders. As of 2022, while this new business line is still focused on Indonesia, it accounts for most of the company's revenue and is its priority growth area.

SwipeRx has been backed by several commercial and impact investors, and it is now a Series B company, having recently announced a raise of US$37 million. It is a recipient of several global and local awards including the 2021 World Economic Forum's "Technology Pioneers".

VALUE PROPOSITION

The first business line, SwipeRx "Community", was conceived as a digital social network focused exclusively on pharmacy professionals (owners, managers, pharmacists, pharmacy assistants and others). It consists of a free-of-charge mobile app that offers every content that professionals would be looking for (all in local language): regularly updated information on drugs, accredited educational content, news feed from users and partners, a peer-to-peer platform where professionals can interact, etc. New features have been added over time, such as e-referral. Different features appeal to different user segments. The feature that has been quoted as most valuable by most users is the accredited online education content, which offers a free cost- and time-efficient alternative to the traditional offline training that pharmacy professionals are required to undertake.

SwipeRx has always intended to keep the platform free for professionals, so it had to monetize it with outside funding. The company has two categories of clients: pharmaceutical companies, and outcomes funders (governments and donors). In both cases, these clients are paying to engage the pharmacy professionals on the platform and essentially be more efficient in delivering activities that they were previously conducting offline or less efficiently. The fact that the app is already used by the professionals also makes it superior to digital tools that would be designed for a single program. Activities include:

- Conduct highly segmented research targeted by user demographic information or geographic location data (e.g., digital surveys to understand pharmacists' knowledge, practices, issues)
- Deliver targeted news and awareness campaigns, using the app newsfeed and social media channels (e.g., campaigns to encourage routine screening, "no prescription, no antibiotics")
- Create customized features for pharmacists (e.g., an e-referral tool to help pharmacists identify clients needing care from a health facility for TB symptoms, contraceptive choice, or HIV testing)
- Provide accredited professional education (e.g., COVID-19 rapid antigen test education units or diabetes education units developed by the government, courses created by pharmaceutical companies to promote new treatments under the condition that content remains non-branded).

With its second business line launched in Indonesia, called "Commerce", SwipeRx generates revenue from pharmacies directly. The company has leveraged its market intelligence to build a unique supply offering compared to existing distributors and wholesalers: it enables pharmacies to (i) find reliable stock delivered same day or next day; (ii) get better price points and attractive credit terms (prices are in average 9-10% cheaper that alternative sources based on a 2022 survey, and passed on to patients in most cases); and (iii) order conveniently via an online platform offering an ecommerce-like experience. The more SwipeRx grows this business, the more it will be able to negotiate prices with suppliers. The company also keeps growing the number of SKUs it distributes.

DELIVERY MODEL

For its "Community" business, SwipeRx has built on the lessons from its first country (the Philippines) to produce a playbook that has supported successful market entry and created long-term competitive advantage in 6 additional countries in the region. They have been able to onboard over 20% of pharmacy professionals in each market in a matter of 6 months, with minimal investment.

At a high-level, the steps for market launch consist of hiring local specialist pharmacy teams, online marketing using its proprietary datasets and then partnering with pharmacy associations and the government. As a first mover in the online education space, SwipeRx had to support the definition of the policy frameworks. In Cambodia for example, they worked together with the local pharmacy association to propose relevant regulations for online accreditation.

For its "Commerce" business in Indonesia, SwipeRx initially started with a third-party model, in which they would aggregate demand from pharmacies but not own the inventory. However, SwipeRx realized that to scale efficiently and cost-effectively and delight their pharmacy customers they needed to control the process end to end. So, after Series B in 2022, SwipeRx decided to launch their own wholesale activity. The company is now negotiating with pharma companies and large distributors directly. Inventory is delivered to the company's warehouses and last mile delivery is then coordinated.

The brand equity, government and association partnerships and network effects of the social network has played a key role in enabling SwipeRx to build its Commerce business. Yet, it was not sufficient as an acquisition channel to grow the business at the speed that matches the company's ambitions. SwipeRx has built a team of sales reps on the ground, who sign in new pharmacies and monitor existing accounts (promoting new SKUs, pushing discounts, encouraging re-purchase, etc.). They typically focus on restricted geographic areas that they try to saturate, to optimize the logistics and service quality. To further maximize the efficiency of its operations, SwipeRx collects and analyses drug consumption data (using AI and machine learning) across pharmacies to predict demand and create a consistent supply of common products. It also invested significantly in its back-end technology (e.g., to process invoices, monitor payments, etc.). Finally, SwipeRx leverages data to evaluate the credit worthiness of outlets and has been able to maintain a very healthy loan portfolio.

SCALE, IMPACT & SUSTAINABILITY

- **Scale**: One in every three pharmacy professionals in South East Asia is on the social network. This critical mass is making it relevant from a public health perspective. On the Commerce business, over 20% of pharmacies in Indonesia are already buying from SwipeRx, yet the company is focused on growing its share of wallet among these outlets. Growth will require significant capital and focus, so the plan for the company is to continue building the capabilities to deliver impeccable service at all levels (customer service, great prices, great products, great credit terms, etc.)
- **Impact**: SwipeRx has been closely linking its business model and its impact agenda (to quote Farouk, "the better we do as a business, the better patients do"). It has also demonstrated the relevance of its interventions via several studies. For example, a SwipeRx study conducted as part of a USAID project in Cambodia, revealed how much pharmacies are changing their practices after online education. For the Commerce business, SwipeRx has been able to effectively reduce stockouts and lower price points. They also checked how much of the 9-10% savings to pharmacies are passed on to the patients, finding that 64% of outlets are passing on discounts.
- **Sustainability**: The Community business has been profitable in all 7 countries in South East Asia for several years. The Commerce business, which has a significantly larger growth potential (and justified most of the recent fundraising) is not yet breakeven as SwipeRx is still investing in growing the business, yet trajectories indicate a clear path to breakeven.

SOURCES & CONTACT

SwipeRx website and reports

Interviews with SwipeRx management team, and visit of operations in Jakarta, February 2023

CIIP, SMU, Accenture, Scaling Impact in Asia: Achieving Purpose and Profit, October 2022

US$1 = 15,000 IDR

Contact: Farouk Meralli, Founder and CEO, meralli@swiperxapp.com

Photo Credit: Healthy Entrepreneurs

CASE STUDY: HEALTHY ENTREPRENEURS

Healthy Entrepreneurs is a social business providing access to essential medicines (including NCDs treatments) to last-mile communities through digitized community health entrepreneurs. By the end of 2022, the company has trained 15,000+ CHEs reaching over 12 million people.

ORGANIZATION BACKGROUND

Healthy Entrepreneurs (HE) was founded in 2011 by Joost van Engen (CEO) and Maarten Neve, two Dutch entrepreneurs willing to "empower micro-entrepreneurs to deliver effective and affordable health products and services to rural and hard to reach areas".

Both founders were previously working in the drug distribution space, selling products to NGOs in emerging markets. Doing so, they observed that several organizations were not treating the final user as a customer, which led to many inefficiencies and unmet needs. Inspired by the success of large FMCG companies with last mile supply chains, they started HE. Their objective was to support traditional community health workers (CHWs) to become small business owners, selling essential medicines and health products to rural communities. They started in Haiti in 2012, in partnership with Fonkoze[141]. By the end of 2015, they had trained 1,800 community health entrepreneurs (CHEs).

141 ***Fonkoze*** is a family of organizations that work together to provide the financial and non-financial services to empower Haitians—primarily women—to lift their families out of poverty.

By the end of 2022, HE was operating in five countries (Uganda, Kenya, Burundi, Tanzania, and Burkina Faso) with a network of 15,000 CHEs reaching around 12 million people. HE is planning to continue growing and has ambitions to empower 90,000 CHEs by 2027 in 10 countries. HE has raised in 2022 a total of 10 million Euros to support this ambition (equity from Philips Impact Investment Fund and Madiro[142] and debt from the Dutch Government). To reach this target, 5 million Euros of grant money is needed to finance start-up cost of new countries and development of new services offered.

Disclaimer: This study focuses on HE's operations in Kenya, and more precisely in Homa Bay County.

VALUE PROPOSITION

CHEs provide convenient, sometimes unique, access to quality health and health-related products to low-income households at the last mile.

- In Kenya, the nearest facility is on average some 30-60 minutes walking distance (or costs ~US$1.5 with local transportation). Once they reach the facility, patients must deal with frequent stockouts, long waiting times, and lack of health personnel.)
- Selling at the customer doorstep, CHEs ensure greater availability of a large choice of medicines (e.g., paracetamol, malaria treatments) and hygiene products (e.g., diapers, sanitary pads, fortified food)[143]. In a context where most payments are done out-of-pocket anyway, CHE's convenient and market-competitive products not only help customers access the products they need but perhaps more importantly save time and money. This holds particularly true when it comes to medicines, where nearby facilities and drug shops suffer from regular stockouts.

CHEs offers complementary services to the iCCM[144] strategy, for which many CHWs have been trained– best performing CHEs are equipped and trained to diagnose, treat, and follow up with patient with NCDs:

- CHEs are digitally supported and have a smartphone containing several health and educational apps. They can conduct simple diagnosis (digital questionnaires to identify symptoms of 25 common diseases) for conditions such as malnutrition, malaria or NCDs, and educate customers on health and hygiene through the "health app". In addition, since 2019, HE has started developing solutions for patients suffering from diabetes and hypertension.
- In Homa Bay, Kenya, HE has trained and equipped ~100 CHEs with glucometers and blood pressure cuffs, so they can (i) ensure treatment adherence and follow-ups – CHEs run monthly Peer Support Groups with 10-15 patients with similar conditions, during which they discuss their coping strategies, and record vitals through the app. When needed, they follow-up with a HE Clinical Officer; (ii) deliver medicine – building on information collected during the Peer Support Groups, medicines are prescribed by the Clinical Officer and dispensed by HE's pharmacists. They are then packed and delivered during the sessions.
- Going one step further, HE is about to pilot a fully-fledged telehealth and e-dispensing system that should enable the safe availability of prescription medicines at the last mile while controlling the entire supply chain. CHEs will continue to collect vitals that are monitored by HE's Clinical Officer on a digital patient record. Based on these and regular in-person check-ups for complementary tests (e.g., checking lipid levels, running urine sampling and analysis), Clinical Officers will e-prescribe treatments that would be stored at CHEs' level. CHEs would then only have to scan both the patient and treatment QR codes to deliver treatments safely.

HE provides CHWs with entrepreneurial opportunities to earn complementary revenue and strengthen their position within their communities:

- As in most Kenyan counties, CHWs are not compensated for the essential services they are bringing to their communities, which represents up to 50% of their time.

142 *Madiro* is a non-profit organization providing capacity building and resource mobilization to partners delivering transformative solutions driving better health outcomes
143 Healthy Entrepreneurs also distribute durable goods e.g., solar lamps and
144 Integrated Community Case Management (iCCM) is a strategy of the Kenyan health authorities to train, support, and supply community health workers (CHW) to provide diagnostic, treatment, and referral services for three common, treatable, and curable childhood illnesses: malaria, pneumonia, and diarrhea (source: *childhealthtaskforce*)

- HE activities come as a complement to CHW ones and can generate between US$5 and US$75 of additional monthly revenue[145]. All revenue is generated from patient out-of-pocket payments; most are coming from sales on which they can add an average 20-30% mark-up or from diagnostic services, e.g., US$0.25 for hypertension screening or US$0.40 for diabetes testing.
- All CHWs are still volunteering and report to the government and state to have improved the quality of care provided due to increased frequency of visits and health knowledge.

DELIVERY MODEL

HE leverages existing public networks of trained and engaged CHWs to recruit CHEs: they work with (sub-) Counties Community Health focal persons to select, and recruit interested and eligible CHWs, testing their initial health knowledge, entrepreneurial spirit, motivation, and ability to invest. The district officials and healthcare staff support the selection and training of the CHEs and co-signs the contract.

HE strengthens CHE's effectiveness, by providing them with convenient trainings, digital tools and supply services while requesting they invest their time and money.

- HE ensures frequent delivery of products through regular cluster meetings. Initially once a month, they were rescheduled to twice a month to limit working capital requirements from CHEs (minimum order size of US$7.5). CHEs can place orders and pay through a "product app", designed as a e-marketplace.
- HE organizes initial and continuous trainings. They organize a 5-day onboarding training to educate the CHWs on several health topics, use of smart phone, entrepreneurial skills, and the various health products in the basket. Then, they provide refresher or targeted trainings during the cluster meetings. They organize refresh trainings every two months to train on additional topics such as bookkeeping, patient care or Covid-19.
- HE ensures CHEs' commitment by requiring them to put skin in the game i.e., to invest time and money: they request an initial investment of US$15 prior the initial training and provide a starter kit health products worth US$32, to be repaid in instalments over 7 months. It is only when this first loan is repaid that they can ask for new credits for working capital financing or new tools (e.g., phones or glucometers).

Finally, HE is progressively building its own last mile supply and delivery chain to improve product basket affordability: for now, HE is ordering from local wholesalers or producers (mostly for food products), storing in their Homa Bay warehouse, and delivering through motorbikes. They aim at building a leaner hub and spoke model, having recently invested in a new warehouse in Nakuru city, from where they should be able to get supplied directly from distributors and manufacturers, progressively improving their price competitiveness.

What's next? HE is testing innovative approaches to continue improving access to quality and affordable care. More precisely they are about to test three key innovations:

- Roll out a tele-health and e-dispensing service whereby CHEs are supported by remote medical experts to conduct e-consultation and prescribe treatments, which are prepacked and barcoded. QR codes both on patient cards and medicines should enable CHEs to store and deliver medicines, especially NCDs, safely at the last mile.
- Include a NCDs workflow in the national Electronic Community Health Information System (eCHIS), so that CHWs can sensitize, pre-dignose, and refer on diabetes and hypertension conditions (as a starting point)
- Supply low-end health dispensaries in semi-urban areas, which are today suffering from major and regular stockouts of key medicines, and thereby build towards greater continuum of care
- Set up a mobile laboratory to carry out advanced tests to monitor chronic patients' status and medicine tolerance (e.g., urinalysis, HBa1C, RFT, LFT, lipogram, and Cardiac enzymes).

145 As a comparison point, they are theoretically supposed to be paid US$15 a month for their community health activities.

SCALE, IMPACT & SUSTAINABILITY

- **Scale:** HE today counts 15,000 CHEs in 5 countries (Uganda, Kenya, Tanzania, Burundi, Burkina Faso). HE targets 250,000 CHEs for 2030, operating in 20 countries, of which 60% of CHEs are managed by HE and 40% are managed through third parties replicating the model. Replication starts this year in Nigeria.
- **Impact:** HE has served 12 million underserved customers with 39 million products to date. The NCDs program is at its beginning, but it aims at reaching 5,000 CHEs and 100,000 clients by 2023. The impact of HE on communities has been evaluated by researchers, including recent evidence generated by the Erasmus University in Rotterdam and the Makerere University in Kampala. For instance, they showed that households reached by CHEs were twice as likely to use modern contraceptives as households reached by regular CHWs. In addition, CHEs substantially improve availability of essential medicines (+80%), are more motivated, refer twice as many patients, spend more (25%) time on health work, and double their total income compared to regular CHWs.
- **Sustainability:** HE has generated over US$2 million in revenue in 2022, coming from sales revenue and grants from specific programs.

SOURCES & CONTACT

Healthy Entrepreneurs annual report and internal documents

Visit of operations in Homa Bay, Kenya, January 2022

Interviews with Joost van Engen (CEO) and Kenya management team: Germaine van Teeffelen (Country Manager), Christos Nicolaou (HR & Project manager), Conslate Achieng (Finance Manager), Nicole Syprose (Clinical Officer)

Contact: Joost van Engen, CEO, joost@healthyentrepreneurs.nl

US$1 = 130 KES

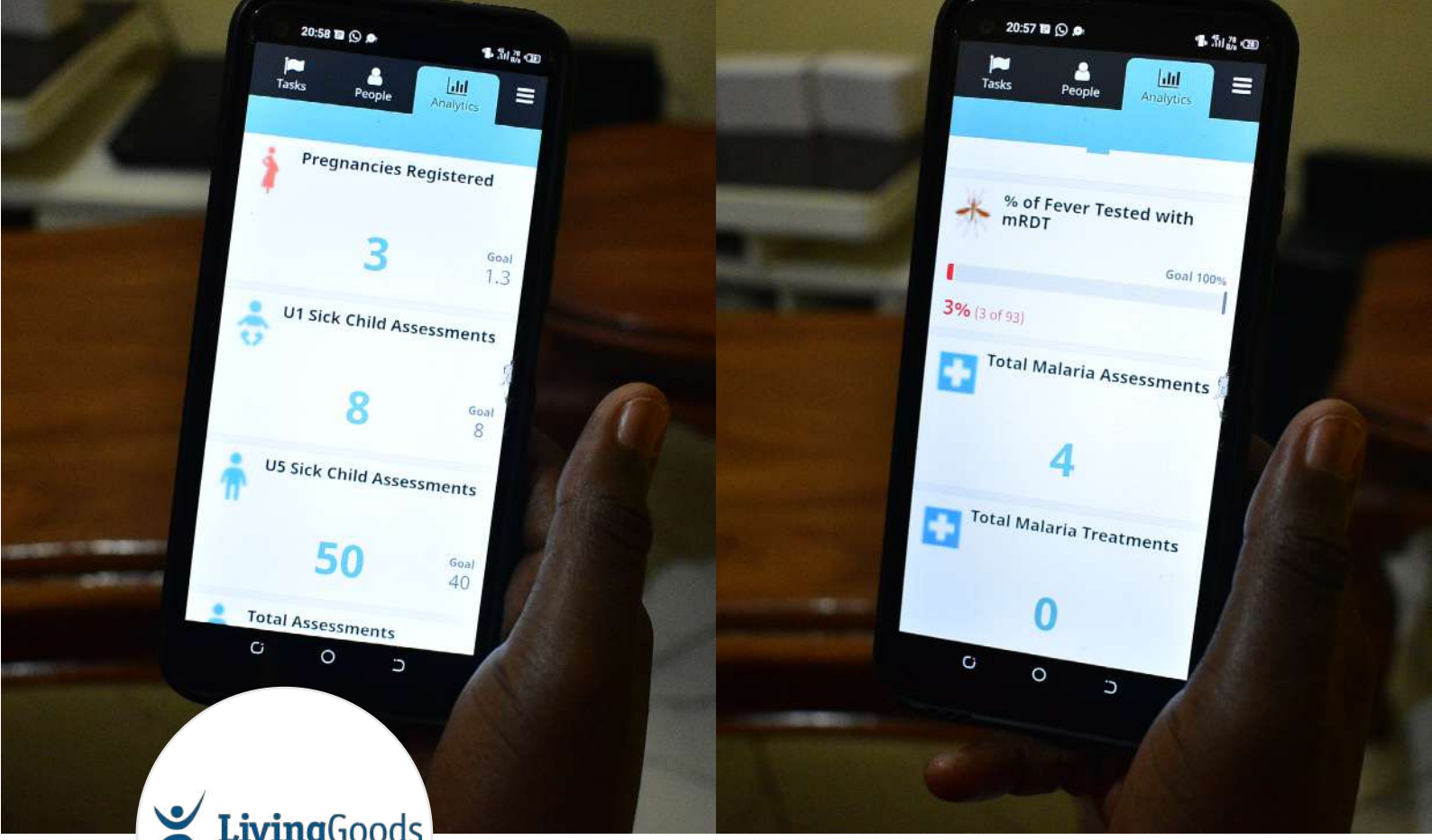

Photo Credit: Living Goods

CASE STUDY: LIVING GOODS

Living Goods saves lives at scale by supporting digitally equipped community health workers (CHWs) to deliver care on call, making it easier for families to get the healthcare they need. Working closely with governments and partners to strengthen national community health systems, they ensure that CHWs are effectively compensated, supervised, and equipped. They leverage smart mobile technology and near-real time data to optimize performance and health outcomes. Living Goods supported more than 12,000 CHWs, reaching nearly 7 million people across 3 countries in 2022.

ORGANIZATION BACKGROUND

Living Goods (LG) is a nonprofit organization created in 2007 by American entrepreneur Chuck Slaughter. The organization's mission is to "save lives at scale by supporting digitally empowered CHWs who deliver care on call - making it easy for families in need to get the care they need". As such, Living Goods endeavors to enable access to primary health care by low-income populations living in peri-urban and rural communities at the last mile. Living Goods especially targets children[146] and pregnant and lactating women (PLW) towards lowering child and delivery/post-natal mortality. Their approach leverages one integrated platform to address the most pressing health needs at the community level: malaria, diarrhea, pneumonia, pregnancy and newborn care, family planning, undernutrition and immunization. The first operations were launched in Uganda in 2007, then they expanded to Kenya in 2015 and Burkina Faso in 2020.

146 First 1000 days, children under 5 (U5), and children between 5 and 12 years old

To deliver on its mission, Living Goods' initial approach was to set up and manage networks of "micro health entrepreneurs" i.e., entrepreneurial CHWs assessing and diagnosing children and selling medicines (e.g., treatments for malaria, diarrhea and pneumonia, wound care, cough medicines) and health-related products as well as durable life-changing goods (e.g., water filters, solar lanterns, cook stoves). In 2014, researchers concluded a 3-year randomized controlled trial of Living Goods' work in Uganda. Results found a 27% reduction in under-five mortality. Infant and neonatal mortality were also significantly reduced by 33% and 27%, respectively. With this proof of impact in hand, they began to scale up the approach in Uganda and then expanded into Kenya. By 2018, Living Goods had expanded coverage by 45% supporting nearly 9,000 CHWs.

Living Goods embarked on its new 5-year strategic plan 2022-2026 with emphasis on supporting governments to improve the performance of their community health workers and strengthen their community health systems. Living Goods works through three core approaches to scale impact:

- **Operation of a limited number of "learning sites" within government structures:** direct implementation where they can test new innovations and produce evidence to demonstrate the impact of CHWs and influence policy and practice.
- **Government led scaling through co-implementation support** i.e., offering on-site support to national and sub-national governments to effectively strengthen and manage their own community health programs.
- **Shaping the enabling environment by working with national governments to create conducive environments and sustainable conditions that CHWs need to effectively operate.** This includes influencing the development of policies and guidelines that infuse DESC (digitally enabled, equipped, supervised, and compensate) and other best practices in community health, and mobilizing government funding for nationwide implementation.

Disclaimer: The following study focuses on Living Goods' operations in Kenya, and more specifically in Kisumu County where they are co-financing and co-implementing with the local government the DESC enabled Community Health approach since 2021.

VALUE PROPOSITION

Pioneering a first of its kind co-financing partnership with governments to ensure sustainable and durable health impact. Living Goods **are well positioned to advance lifesaving, cost-effective, community health services.** To do this work sustainably and at scale, they work in close partnership with governments at both national and sub-national levels. In Kisumu County, they are partnering with the government to co-finance and co-implement a DESC-enabled community health approach that equips their CHWs to provide high-quality comprehensive health services in their communities. Kisumu is the second county after Isiolo where they are implementing this approach, in which the government leads, and they support. They are building a case for government-led community health and hope to inspire other governments and funders to invest in effective community health approaches.

In Kisumu County, the government has seen improvements in health indicators and service delivery at the community level. Living Goods supports government supervisors-called Community Health Assistants (CHAs)-through a "trainer of trainers". For instance, they support them in leveraging best practices including setting clear targets for key performance indicators such as pregnancies registered, and sick children assessed and treated. The close collaboration through colocation at county and subcounty levels is essential. It ensures alignment and makes it possible to transfer skills and learnings, including coaching on how to use data to drive performance and make decisions. Since partnering with Living Goods in 2021, the local government has:

- Increased the number of active CHWs. By the end of 2022, they had trained 2,465 CHWs, serving 1.2 million people.
- Diagnosed, treated, and referred pneumonia, malaria, and diarrheal diseases which are among the leading causes of under-five (U5) mortality e.g., CHWs on average provided 7.3 under-5 sick child treatments a month in 2022, compared to 4.4 the year before.

- Sensitized and improved referrals on family planning and ensured pregnancy identification and follow-ups (indicators which have lagged over the past decade) e.g., they advocated for facility deliveries, ensuring on-time post-natal follow-ups for 50% of patients by September 2022.
- Built a stronger supply chain with in-stock rates of essential medicines rising from 34% at the end of 2021 to 63% by December 2022.

Subsequently, Kisumu County managed to decongest health facilities while maximising access to care with 96% of U5 referrals completed in September 2022. Interviewed CHWs were unanimous in their confidence in the approach and advocated for expansion of their scope of work e.g., to include management of non-communicable diseases.

DELIVERY MODEL

Building on the proven DESC[147] approach to deliver high quality services. In Kenya, CHWs are numerous - Kenya counts more than 95,000 CHWs and more specifically about 3,000 in Kisumu County - but operate inadequately: most of them are performing and reporting their activities through unreliable paper-based tools, lack training and management support, and are not compensated for their work.

To improve CHW effectiveness while leveraging existing public infrastructures, Living Goods has been implementing the DESC approach together with the county government:

- Digitized: Designing, implementing, and scaling context-appropriate digital solutions so that CHWs can provide consistent and accurate assessments, diagnosis, treatment, referral and follow up. Together with the Ministry of Health and the Kisumu County Government, Living Goods piloted Kenya's first electronic community health information system (eCHIS). Both the CHWs and supervisors in Kisumu are now actively using digital tools to deliver health services, with dashboard data informing monthly performance reviews and program planning.
- Equipped: Providing CHWs with the trainings, tools, and commodities.
    - CHWs follow an initial 13-day ICCM (Integrated Community Case Management) and digital tool training with Living Goods' support. They then receive monthly refreshers and some specific trainings to perform other tasks and campaigns (e.g., WASH, supported by UNICEF).
    - Once trained, CHWs receive a "CHW Kit" containing an initial batch of supplies including Amoxil, zinc, ORS, dewormers (Albendazole), Paracetamol, condoms, thermometer, MUAC tape, teaching aids. They then receive monthly replenishments at their link facility which receives commodities from KEMSA (Kenya Medical Supplies Authority). The county manages the supply and ensures stock up of essential medicines that CHWs prescribe.
- Supervised: Increasing quality and accountability of supervisors and managers. All CHWs are closely managed by CHAs who meet them twice a month and can follow up on their performance using the supervisor app. The CHAs supervise 10-20 CHWs each. Living Goods deploys a team of peer coaches who provide support to the government supervisors by coaching them on how to use data to drive performance and make decisions.
- Compensated: Motivating and empowering CHWs with financial and non-financial incentives e.g., CHWs in Kisumu receive a monthly stipend of 2,000 KES (approximately US$15) paid quarterly. The county passed community health legislation in 2022, which ringfences resources for community health.

Supporting sustainable government led community health systems for national impact. Since 2021, the County government has progressively increased financing of their community health from 30% to 60% by 2022 and provided overall leadership, systems, and human resources. Living Goods has tapered down its contribution from 70% in 2021 to 40% by end of 2022 through specific responsibilities (notably the distribution of phones and technical assistance through peer coaching at all levels). The objective is to create a durable and sustainable community health system where governments are in the lead - which ensures buy-in and ownership so that the gains are sustained even after Living Goods' departure.

Living Goods leverages innovation and research as a path for sustainable replication and scale-up to drive systemic change. In Kenya, Living Goods leverages innovations conducted in the learning site, located in Busia, to showcase "best in class" operations and to make a case for investing in community health. For instance,

147 Digital, Equipped, Supervised, Compensated

with funding from the Bill & Melinda Gates Foundation, and in partnership with Lwala Community Alliance and Population Council, Living Goods conducted implementation research in Busia County from November 2020 to August 2022 to support CHWs to actively identify and rapidly refer cases of sick young infants and provide adherence follow up for those on treatment for possible serious bacterial infection as outpatients. The endline evaluation showed over 50% increase in the number of infants screened by CHWs and Living Goods-trained CHWs saved 29 lives over the two-year experiment. There was also an improvement in the two-way referral systems between the community and facilities.

At the national level, Living Goods provides hands-on support to the MoH on its Community Health Digitalization Roadmap and provides technical assistance (inc. embedding staff into the MoH) to design digital tools and the underlying organizational and financial requirements. The government's digital health system (eCHIS) introduced a standardized platform that is scalable and interoperable with the broader health system. The government and Living Goods successfully piloted eCHIS in Kisumu County in 2022. Through this, the county and sub-counties management teams have requisite data to inform policies and actions. For instance, access to data on program indicators has enabled comparison with historical performance and made it possible to spot trends. Digital tools have also made it easy for CHWs to track and follow up their patients and offer the needed interventions promptly. Likewise, the supervisors can review the CHWs' work in near real-time and give tailored support, even remotely. eCHIS has now been approved for scale to all 95,000 CHWs across the country based on the learnings from Kisumu County.

SCALE, IMPACT & SUSTAINABILITY

- **Scale:** In 2022, Living Goods served nearly 7 million people through 12,000 CHWs in 3 countries.
- **Impact:** A randomized controlled trial in Uganda showed that CHWs supported by Living Goods reduced mortality by 27% and stunting by 7%[148] for children under 5 years of age.
- **Sustainability:** Living Goods is delivering its mission with an overall budget of US$26 million, financed by donors such as CIFF, USAID DIV, Skoll and ELMA in close partnership with national and sub-national governments. The community health approach they use is ideal for investment because of the return on investment in terms of lives saved and improved economic productivity.

SOURCES & CONTACT

US$1 = 135 KES

Sources: Hystra field visit to Kenya Living Goods, Interviews with Living Goods Kenya team (Thomas Opiyo Onyango (Country Director- Kenya), Dr. David Oluoch (Director Partnerships Advocacy & Communications), Peter Kamonde, (Director Infrastructure), David Watila (Kisumu Programme Manager), Kisumu County government (Maureen Opiyo –, Community Health Focal Point Person Kisumu County), Living Goods 2022-2023 reports, Living Goods quarterly and yearly reports 2018-2022, Living Goods research papers on Kisumu and Busia activities, Hystra Marketing Innovative Devices for the BoP study, Kenya 2020-2030 Community Health Policy

Contact: Ruth Chitwa, Communication Manager in Kenya, rchitwa@livinggoods.org

148 Living Goods. (2023). Proof of Concept RCT. Retrieved from *https://livinggoods.org/what-we-do/results-evidence-and-research/research-initiatives/*

Photo credit: reach52

CASE STUDY: reach52

reach52 implements health campaigns in underserved rural areas of Asia and Africa, with 13,500+ digitally equipped community health workers supported through outcomes-based income, and partnerships with pharmaceutical and consumer goods companies

ORGANIZATION BACKGROUND

Edward Booty launched the health-tech social enterprise reach52 in 2016 in the Philippines, with the vision to bring essential health products and services to the "52% of the world population who are missing them[149]". Edward had started to conceptualize a business model several years before, while he was working in the Novartis Social Business team.

The initial model of reach52 was centered around the creation of digital health kiosks in underserved rural areas, offering a suite of services including health advice, teleconsultation, ordering of medicine, all available from a tablet located in retail outlets, schools, and places of worship. While this model revealed the potential of digitizing health services, the selected channels faced many challenges.

Edward pivoted the model in 2017, to refocus on the opportunity to leverage the vast existing networks of community health workers (CHWs) across Asia and Sub-Saharan Africa. Indeed, millions of CHWs have been certified by governments and work from time to time on health assignments with NGOs, but they frequently lack the financial incentives, capacity building, and tools to deliver continuous, efficient, and quality health services

149 *WHO, World Bank data*

in their communities. reach52 has developed a unique approach and tech platform to implement campaigns with CHWs, and a value proposition for pharmaceutical and consumer goods companies to pay for social and commercial outcomes.

Today, reach52 is recognized as one of the pioneers that innovates to expand the impact potential of CHWs and has received several awards. The company operates in 6 countries (the Philippines, Indonesia, India, Cambodia, Kenya, and South Africa) with plans to scale throughout Asia and Africa.

VALUE PROPOSITION

The primary focus of reach52 is to design and implement health campaigns for underserved rural communities. These campaigns are delivered by reach52 "Agents", whom the organization recruits from the existing pool of government certified CHWs in the area, equips with a digital tool (a mHealth platform which can be used offline), and trains on specific activities. Each campaign is typically focused on a given health topic (e.g., chronic diseases, maternal health, malnutrition, handwashing) and runs for several months in multiple phases, including community screening, onboarding of residents, and delivery of health services (e.g., health status monitoring, behavior change activities). reach52 now also ensures that the relevant medicines and consumer health products are available to residents locally, in local stores and pharmacies (or sometimes delivered to residents directly). All health activities performed by Agents are free for residents, who however pay for medicines and consumer health products (in some campaigns, they may get discounts or incentives). reach52 can run several campaigns in parallel in a single community and aims to keep launching new campaigns in the same areas, to ensure a continuity of interaction between Agents and residents. For example, in 2022, Agents in Western Visayas, Philippines simultaneously implemented multiple campaigns focusing on upskilling and resident engagements across a range of health areas, in partnership with Johnson & Johnson, Biocon, the Pfizer Foundation, and others. Results showed that Agents were more engaged and motivated, due to the increased financial incentives.

To fund these campaigns, reach52 relies on B2B clients including pharmaceutical, consumer health and FMCG companies. reach52 offers them a seamless, targeted, and cost-efficient way to meet their health and sustainability targets, build their commercial presence in frontier markets, and generate data and insights. Of note, reach52 campaigns are non-branded and residents are always free to buy the medicines and consumer health products of their choice. reach52 either charges a fixed budget per campaign or payment per outcomes (e.g., US$5-10 per Agent trained, then US$1-2 per health engagement performed).

Through these campaigns, reach52 has developed an attractive value proposition for agents, to whom it offers attractive revenue opportunities. Most Agents are women with other sources of income. reach52 pays them a fee per task, increasing their income by US$30-120 per month. Agents report feeling more confident and trusted to deliver health community services due to upskilling and support from reach52.

Example: reach52 in Cambodia

In Cambodia, people have a 25% chance of dying prematurely between the ages of 30 and 70 from a non-communicable disease[150]. In 2022, reach52 launched the SAKAM project (which means "keep progressing" in Khmer), a fully integrated health campaign for low-income communities living in the rural districts of Siem Reap, providing screening, health education, regular testing (HbA1C, blood pressure and random blood sugar) and affordable medicines delivered directly to residents with hypertension and/or diabetes. reach52 trained and equipped 84 Agents with its digital tools to enroll and follow up with residents. It also hired public health nurses to run behavior change activities (on healthy diets, physical activity, treatment adherence). Over 90% of the residents who were initially enrolled participated in the activities throughout the 9-months campaign. Preliminary analysis indicates a 65% reduction in the number of participants with stage 2 hypertension after three months of enrollment, compared to baseline. Additional results to follow. This program has been supported by Sanofi and Medtronic Labs.

150 reach52. (2023). reach52 and Medtronic Labs partner with Sanofi to combat Non-Communicable Diseases in Cambodia. Retrieved from *https://reach52.com/reach52-and-medtronic-labs-partner-with-sanofi-to-combat-non-communicable-diseases-in-cambodia/*

DELIVERY MODEL

reach52 had historically been running the design and implementation of health campaigns in-house. A typical campaign would start with the signing of an MoU with the local government authorities, followed by the deployment of reach52 area managers (typically 1 per 25-50 Agents) who oversee the recruitment, training, and supervision of Agents over the duration of the campaign. One Agent can cover up to 200 households. The tech solution of reach52 allows Agents to easily collect and access individual-level health and demographic data on beneficiaries in their catchment area, and is connected to a platform which enables reach52 to monitor the campaign, evaluate impact, and generate insights. Through the collection of baseline data, the solution also supports the delivery of targeted engagements, based on the creation of resident cohorts.

Since the Covid-19 pandemic, reach52 also started to implement campaigns through "Growth Partners", i.e., established community-based organizations who were already working with large networks of Agents in targeted communities. reach52 designs the campaigns and remunerates its partners for the activities implemented. This partnership model has enabled reach52 to scale more rapidly, in a win-win model: growth partners bring their experience and trusted relationships locally, while reach52 brings funding for the campaigns from its B2B clients, a tech solution to digitize CHWs, and campaign design and materials.

Finally, reach52 is exploring several trade marketing models to ensure that relevant health and hygiene products are available in communities during and after campaigns. Indeed, campaigns are creating demand for specific goods. reach52 has for example ensured the supply of soaps and nutritious foods to local shops in conjunction with handwashing and nutrition campaigns. reach52 aims to expand this business line and become a key partner to its B2B clients in driving product adoption in local shops and pharmacies.

SCALE, IMPACT & SUSTAINABILITY

- **Scale**: reach52 has trained over 13,500 Agents and onboarded 1.4 million residents to their digital platform. The partnership model with community-based organizations has proven effective to drive rapid scale. reach52 is currently focusing on building its trade business line.
- **Impact**: reach52's impact has been measured differently across geographies and partners, focusing on SDGs 3, 5, and 8. An external country-specific evaluation found an Social Return On Investment (SROI) of 2.1, indicating US$2.10 of impact for each US$1 invested in the solution[151].
- **Sustainability**: Today, reach52 has demonstrated the ability of its core business model to generate positive gross margins (which vary across geographies as costs per Agent task is harmonized while the costs are very different). The pathway to economic sustainability will require growth and successful development of complementary revenue models.

SOURCES & CONTACT

Interviews with management team Oct 5th, 2022, and Jan 27th, 2023

reach52 internal documentation

Field visit in Cambodia, "SAKAM project", Jan 25th and 26th, 2023

Contact: Edward Booty <edward@reach52.com>, Founder and CEO

151 *https://give2asia.org/*

Photo Credit: Hystra

CASE STUDY: BIMA MILVIK

BIMA MILVIK offers digital health subscriptions – starting from <US$2 per month– including microinsurance, health wallets and m-health services. It serves10 million customers in 10 countries, including 150,000 in Bangladesh

Disclaimer: This study focuses on BIMA MILVIK's operations in Bangladesh.

ORGANIZATION BACKGROUND

BIMA MILVIK is a global provider of digital health services for the emerging middle class. It was launched in 2010 in Ghana under the BIMA brand and has since expanded operations across South Asia, Southeast Asia, and Africa. It expanded to Bangladesh in 2012 as MILVIK Bangladesh.

The Bangladesh market has a reputation for being challenging for insurance players, with national coverage of less than 2% and mistrust from the population due to historic scams from rogue industry players.

Initially, MILVIK Bangladesh partnered with Robi, a leading mobile network operator (telco), to offer life and health microinsurance to Robi's customers. Payments were deducted from customers' mobile plans, with higher benefits to reward those with higher airtime balances. In 2014, MILVIK started offering telemedicine as an add-on service, which it later decided to systematically bundle with insurance, the two services being mutually reinforcing of each other.

Since 2019, MILVIK Bangladesh pivoted from airtime plan deductions to mobile money wallets as a payment channel, with a first-of-its-kind partnership with bKash, Bangladesh's largest mobile financial services provider (MFS) with 55 million active clients. Doing so, it also pivoted part of its customer acquisition focus from tele-sales to on-field sales agents. In 2021, MILVIK Bangladesh added outpatient insurance as an option and introduced a health wallet in 2022 for medicine purchase.

At the global level, BIMA MILVIK has been recognized as a pioneer in microinsurance and mobile health services. It has raised US$200 million and received over 25 awards including GSMA's best mobile innovation for health and biotech 2019 and Wall Street Journal's financial inclusion award. MILVIK Bangladesh is showing that digital health services can be turned into an attractive value proposition that underserved customers are ready to pay for, even in a highly challenging environment.

VALUE PROPOSITION

MILVIK's health subscription covers a comprehensive set of services, including microinsurance, telemedicine, savings wallet, discounts at partner facilities, and health tips via SMS. Compared to standalone microinsurance, the comprehensive set of services is providing tangible value to customers, which is key to acquisition and retention:

- Subscriptions range from US$1.40 to US$20 per month, depending on the number of persons and amounts covered.
- Health microinsurance are "hospital cash" products, which offer a lump sum payment for each night spent at the hospital. With premium packages, customers are also covered for outpatient expenses including physical consultations and diagnostic tests.
- All customers have 24/7 access to MILVIK Bangladesh's tele-doctors. Most consultations are conducted over voice calls, but customers can also use video conferencing. The service also includes access to specialist consultations with gynecologists, pediatricians, nutritionists, and psychologists.
- 50% of subscription payments are also converted into "health points" which can be redeemed against medicines, health supplements, medical and fitness devices.
- MILVIK partnered with 400+ healthcare facilities in Bangladesh (pharmacies, hospitals, labs) where their customers can get 10-40% discounts.
- Finally, clients receive health tips on SMS on a program of their choice (e.g., general health, hypertension, diabetes, women's health, etc.).

MILVIK Bangladesh keeps improving its offering over time, to best fit the local demand and improve customers' willingness to pay and retention. It recently developed special proactive services for patients with chronic diseases to best address their needs, as these are excluded from insurance benefits relative to their conditions for a given period (which is common to any insurance policy). After signing up, all customers are contacted for an interactive voice response (IVR) phone survey or via direct calls from paramedics. Respondents with chronic conditions are contacted by MILVIK doctors to establish a baseline, receive advice on how to manage their diseases through small but consistent lifestyle changes, then benefit from monthly follow-ups with the doctor to monitor progress. According to an internal survey, 76% of diabetes patients reported improvement in blood glucose readings thanks to the program. For patients with hypertension, MILVIK Bangladesh also piloted offering blood pressure cuffs to patients without one, followed by regular check-ups with the doctor. The program has shown promising results, yet the economic model with upfront cost of the blood pressure device covered by MILVIK still needs to be determined. A similar proactive program is being launched in December 2022 for pregnant women and childcare as part of a broader value offering dedicated to women, including insurance, access to female doctors, gynecologists, and pediatricians.

DELIVERY MODEL

MILVIK Bangladesh has developed an efficient delivery model for acquisition, service delivery and payment. It is now looking to accelerate client acquisition and retention.

When a customer signs up with MILVIK Bangladesh, they get automatically debited every month from their bKash mobile wallet. Claims payment are operated through the same wallet. This new channel, implemented since 2019, had structural consequences on its operating model:

- The decision to pivot from telco to bKash has been essentially motivated by two factors: the general trend that telco customers gradually moved from prepaid/postpaid plans towards airtime/data bundles (which could be not used for payment deductions anymore) and difficulties in finding an economically sustainable model for MILVIK Bangladesh and the telco partner.
- The partnership with bKash is of a different nature than the telco model. bKash enables MILVIK Bangladesh to deduct payments from customers' wallets at a low transaction fee but does not operate any sales effort or customer service. MILVIK Bangladesh is now required to sell under its own brand (while it was previously leveraging telco's brand).
- MILVIK Bangladesh had to revisit (i) its offering, as it realized that the claims ratio was much higher with MFS than telcos, due to higher awareness and utilization of microinsurance and services; (ii) its distribution strategy, since it does not have leads for tele sales anymore, and (iii) its customer engagement and retention tactics, since many bKash users only use mobile money for transactions and do not keep any balance on their accounts (hence need to be reminded of charging their accounts before monthly payments). For that reason, MILVIK Bangladesh is exploring complementary payment channels such as deduction from bank accounts, which have proven to be more reliable yet are less widespread than mobile wallets.

MILVIK Bangladesh is now generating 90% of its sales via ~500 sales associates in the field. Sales associates are equipped with branded t-shirts and POS materials and deployed in groups of 10-12 in high footfall areas across Dhaka and Chittagong. They engage people passing by and, with the support of a salesforce app, deliver a structured pitch and register new customers. The associates can also use this app to track their achievements, incentives earned, and register potential leads. Tele-sales agents are converting the remaining 10%, working on leads from the field as well as social media campaigns or direct requests on the company website. Tele-sales agents also help in customer lifecycle management and up-selling to existing clients. MILVIK Bangladesh has piloted distribution via 20 mid-sized registered pharmacies which has shown potential to increase its reach to an affluent clientele. Finally, some B2B partnerships are being piloted, to provide health subscriptions to corporates' distributors among others.

MILVIK Bangladesh has internalized most critical functions and made extensive use of digital to control its costs. While it relies on licensed insurance companies to underwrite hospital cash offerings, it operates claims evaluation and processing in-house. It has also internalized and streamlined customer acquisition, delivery of m-health services, and after-sales. Digitalization of customer onboarding and use of IVR has enabled it to reduce costs. Hospital cash products are the simplest and most cost-efficient health insurance offerings. Finally, it maintains out-patient claims under a closed-loop system whereby patients need a referral from a MILVIK tele-doctor for physical consultations and tests.

SCALE, IMPACT & SUSTAINABILITY

- **Scale**: MILVIK Bangladesh has 150,000+ active subscribers in Bangladesh. At the global level, BIMA MILVIK operates in 10 markets across South Asia, Southeast Asia, and Africa with 10 million customers.
- **Impact**: Almost all MILVIK Bangladesh's customers were previously uninsured — an estimated 75% for BIMA MILVIK at the global level. MILVIK Bangladesh's doctors have conducted 200,000+ consultations and over 22,000 claims have been settled.
- **Sustainability**: MILVIK Bangladesh is not profitable yet and has taken several actions to reduce its acquisition costs and attrition, which will be key to reaching profitability. At a global level, BIMA MILVIK has shown that the model can be financially sustainable, as the company is EBITDA positive in several countries in Asia and Africa.

SOURCES & CONTACT

MILVIK website and reports

Interviews with MILVIK Bangladesh management team, and visit of operations, December 2022

Damien Gueroult, Managing Director, MILVIK Bangladesh, damien.gueroult@milvik.se

US$1 = 102 BDT

Photo Credit: Hystra

CASE STUDY: CarePay

CarePay operates a digital health benefits platform for 4.5 million users in Kenya and Nigeria and enables medical insurance coverage to be affordable, thanks to digital claims monitoring and a network of hospitals and pharmacies offering preferential prices

ORGANIZATION BACKGROUND

CarePay was launched in Kenya in 2015, as a joint venture between the M-PESA Foundation and IFHA (Investment Fund for Health in Africa), with the vision to remove inefficiencies in the healthcare market, and increase trust by connecting providers, payers, and end-users. In partnership with the PharmAccess Foundation and Safaricom, it developed the M-TIBA platform, which originally consisted of a savings wallet that can be used by end-users in selected hospitals and pharmacies. In 2018/2019, CarePay transformed M-TIBA into a comprehensive health payments platform.

The holding company, CarePay International, was launched in 2018 to facilitate international expansion. It raised US$45 million in a Series A round in 2019, to support growth in Kenya, expansion to Nigeria since 2020, and new geographies in 2023 and beyond. In 2020, CarePay has been listed in the top 10 of the Fortune's Change the World list for the development of the platform M-TIBA in Kenya, alongside Zoom, Alibaba, and PayPal.

VALUE PROPOSITION

Through its core product, M-TIBA, CarePay developed a value proposition that is addressing the challenges of all players on the value chain.

For end-users, M-TIBA is a digital platform that people can access through mobile phone (USSD or app) to pay for healthcare from selected providers, monitor their insurance benefits, and save funds. People can check their balance anytime, with full transparency on their transactions. A major difference made by CarePay has been to enable highly affordable packages that cover both inpatient and outpatient medical costs. M-TIBA has a high level of satisfaction, with Net Promoter Score consistently around 50, about 2 times higher than the sector benchmark in Kenya. Finally, CarePay developed a segmented offering that best matches the demand and willingness to pay of different income segments:

- The savings wallet is highly relevant to lower-income groups, as CarePay launched programs with several donor organizations and pharmaceutical companies to "top up" savings from end-users with targeted subsidies (e.g., Sanofi and Boehringer Ingelheim have developed programs specifically for patients with NCDs; Bayer for eye conditions). CarePay also works with some local governments (e.g., county of Kisumu) to accelerate deployment of public insurance-based schemes in Kenya (NHIF), a highly affordable plan for accessing care in public healthcare facilities, which people can also access via M-TIBA in this county.
- CarePay has leveraged the digital infrastructure it had developed for the savings wallet, and a network of 4,500 healthcare providers across the country, to enable highly affordable solutions for private insurers. The leading insurers of Kenya have historically focused on the upper class (i.e., the top 3% of the population, whose premiums are often paid by employers and typically cost over US$500 per year): CarePay worked with some companies such as Britam and Jubilee to develop plans for less than US$100 per year that can cover both inpatient and outpatient, including consultation and treatment, which are marketed to the middle-income segment.

For insurers, CarePay makes administration of benefits cost efficient and helps grow their business. It developed several (non-exclusive) service lines:

- Platform as a service: public and private insurers can use the M-TIBA platform for benefit administration and e-claims processing with their healthcare providers and end-users, against a license fee.
- Administration services: CarePay administers schemes on behalf of insurers for a share of premiums (this includes provider contracting and payments, negotiation of prices, answering consumer enquiries, adjudicating claims).
- Outpatient claims outsourcing: CarePay provides financial guarantees that outpatient claims costs are locked in at an agreed amount, hence making outpatient a profitable business for any insurer. This service has been piloted since 2022 and is under regulatory approval before rollout.
- Distribution: CarePay offers sales services to insurers with agents on the ground (focused on corporate accounts), tele-sales (focused on individual clients) and a digital marketplace.

Finally, for healthcare providers (hospitals and pharmacies), CarePay makes payments easier and faster, and provides access to affordable financing sources:

- Healthcare providers can get almost real time payment from insurers (possibly less than 48 hours compared to up to 6 months previously), which reduces their costs of capital and enables them to invest in relevant infrastructure and services for patients.
- CarePay also developed a loan product for hospitals and pharmacies in partnership with the Medical Credit Fund: as a licensed M-PESA aggregator, it handles administration of their mobile money account for a minimum to 3 months, after which it can offer loans equivalent to one month of revenue. No further collateral is required. Repayment is made automatically over 1.5 to 3 months, deducted from incoming mobile payments. Interest rate is based on a reducing balance, with an effective rate typically approaching 1% per month (depending on repayment rate).

DELIVERY MODEL

CarePay is not an insurer itself; rather, it works as an "enabler" to existing insurance companies. To deliver its services, it relies on a team of 170 employees across Kenya, Nigeria, and the Netherlands, including management, sales, engineering, product development, call center, etc. CarePay also leverages the infrastructure of Safaricom for its operations (e.g., the M-Pesa marketplace for distribution).

CarePay has managed to disrupt the healthcare benefits market by slashing costs at every level:

- Reducing administration costs, by automating payments and fraud monitoring thanks to a digital system that is highly automated, replacing tedious pen and paper processes. CarePay is using artificial intelligence, so the more it grows its client base and the more transactions that flow through the system, the more accurately it can detect fraudulent claims (e.g., overbilling, over prescription, claims duplication). In addition, by ensuring transparency for patients, the latter also play a role in controlling any misuse of their own insurance plans.
- Controlling costs of claims, by directing patients to selected panels of affordable hospitals and pharmacies. Some facilities provide quality care at significantly more affordable price points for consultations and treatment (e.g., Penda Health, Equity Afia). In addition, CarePay can negotiate better price points with these providers against a reduction in payment lead times (most providers were charging higher prices to insured vs cash paying patients). Some schemes are only available in selected locations or with a limited number of providers: for example, the Britam and Penda Health scheme at US$70 per year is only available in Nairobi; and a new scheme with Jubilee with unlimited outpatient for US$67 per year will be available in the Meru region from 5 healthcare providers. Other affordable schemes have nationwide access (e.g. the Jubilee micro-cover at US$120 per year and the Britam IP only cover at US$40-50 per year).
- Increasing efficiency of distribution, by leveraging the Safaricom network and platform, and now by now starting to target other "aggregators", who make insurance mandatory or offer it in a bundle with other trusted services. Such aggregators include professional associations (e.g., federation of boda boda drivers), SACCOs, Chamas, etc. This approach is more effective as it allows convincing several clients at once, and limits adverse selection from an actuarial standpoint.

SCALE, IMPACT & SUSTAINABILITY

- **Scale:** 4.5M+ clients have an M-TIBA account, and CarePay handles 2,000 transactions per day. M-TIBA is used by 4,500 healthcare providers in Kenya. There will be a snowball effect on the path to scale: the further CarePay grows its network of partner healthcare providers, the more convincing is the case for insurers, and vice versa.
- **Impact:** CarePay is improving transparency and affordability of healthcare for the Kenyan population across all income groups: 300k clients can access health insurance (private insurance with a push towards the previously uninsured middle class and public insurance with government-sponsored groups), 2.5 million low-income clients are signed up to the savings wallet, and 2 million low-income people have been registered on the platform as part of a public initiative towards UHC. Across the board, CarePay has reduced claims costs by 11%-15% by using its platform. Finally, CarePay has disbursed over US$75 million+ in affordable loans to hospitals/pharmacies (550+ active clients) for working capital and expansion purposes.
- **Sustainability:** As part of the shift towards insurance-based models from 2019, CarePay has grown its recurring revenue, expecting to reach break-even in 2024.

SOURCES & CONTACT

CarePay website and reports

Interviews with CarePay Global and Kenya management team, and visit of operations, October 2022

Moses Kuria, Managing Director CarePay Kenya, m.kuria@carepay.com

US$1 = 120 KSH

Photo Credit: MIC Global

CASE STUDY: MIC GLOBAL

MicroEnsure, now part of MIC Global, is a global insurance provider that has developed innovative products used by over 65m low-income people in 17 African and Asian countries

ORGANIZATION BACKGROUND

MicroEnsure is a pioneer organisation in microinsurance, founded in 2002 by Richard Leftley to develop insurance solutions for low-income customers who could not afford traditional health coverage products. MicroEnsure has developed innovative products (low-cost health insurance products, parametric insurance for weather and climate risks, etc.) as well as novel distribution approaches leveraging partner networks of telco operators and financial institutions. It has served over 65 million people across Africa and Asia.

In 2020, MicroEnsure merged with STP Group[152] and TonkaBI[153] to become MIC Global. MIC Global aims to provide insurance to internet platforms, micro and small businesses as well as to low-income populations. MIC Global has activities across 17 countries, including Ghana, Nigeria, and Kenya.

Disclaimer: the following case study is based on a visit of MicroEnsure Ghana, and focuses on the products, model, and innovations developed by this subsidiary.

152 STP Group provides risk management services and insurance to businesses

153 *TonkaBI* is a software development company that specializes in applying data-driven business intelligence to the insurance market. It builds software focusing on AI, computer vision and robotic process automation that helps its partners transform their businesses into digital platforms

VALUE PROPOSITION

MicroEnsure develops insurance solutions for previously uninsured low-income people. A major lesson from MicroEnsure's 20+ years of experimentation is that retail approaches (convincing individuals one by one) are too costly for microinsurance products with small premiums.

Instead, MicroEnsure distributes insurance through partnerships with finance institutions (MFIs[154] and tier-2 banks) and telecom operators (telcos).

For clients of finance institutions, MicroEnsure will step up to pay loan instalments in case they suffer from hospitalization, disability, and death. This insurance is mandatory, included in loan instalments, and costs approximately 1% of the loan amount. The majority of clients had never been enrolled in an insurance scheme before (e.g., 64% in case of Advans Ghana clients[155]).

For clients of telcos, MicroEnsure offers several types of health and non-health insurance, usually offered as "opt-out" bundles with airtime. Premiums are deducted from airtime payments (and more recently via mobile money wallet). The flagship health insurance product is "hospicash", which provides a lump sum amount daily in case of hospitalization for small premiums of usually less than US$3 per month. MicroEnsure has partnered with several of the leading telcos such as Airtel, Tigo, or Vodafone. The bundle incentivizes clients to spend additional airtime, as the level of insurance increases as people spend more airtime. In addition, the telco captures 30% of the distribution margin on premiums.

While these products reduce risks for low-income consumers, they can also benefit finance institutions by de-risking their portfolio, and telcos by increasing loyalty and ARPU[156].

Although these two models are different, they both cover low-occurrence risks. MicroEnsure is now working to address a higher frequency risk by covering health problems that do not require hospitalization i.e., outpatients' costs. The paramount issue in covering outpatient care is the cost of assessing and controlling small claims. To resolve this, MicroEnsure is now working in close partnership with healthcare providers to create a new insurance product.

DELIVERY MODEL

To deliver its solutions, MicroEnsure acts as a broker between local insurers and distribution partners. It is usually in charge of the back-office, including designing products, collecting premiums, validating and operating claims payments as their value to the Insurers, while supporting distribution partners with marketing designs/ messages, product evaluations and product enhancements as their value to these partners.

The delivery model of MicroEnsure relies on several innovations that have enabled it to significantly cut the costs of insurance delivery, and cut premiums with a sustainable model:

- Highly simplified product design: hospicash is a good example of a product with drastically simple terms and conditions. Its simplicity makes it easier to understand for users and enables MicroEnsure to control claims ratios, monitor fraud more efficiently, and automate claims disbursement.
- Use of digital to optimize claims management, administration, and payments: MicroEnsure simplifies claims documentation and accepts claims through mobile apps, including WhatsApp. Claims payments are also mainly digital, through mobile money or wallets.
- Leverage of distribution partners' brands and capabilities:
    - MicroEnsure reduces its acquisition costs by (i) leveraging its partners' brand and customer bases, (ii) leveraging its partners' capabilities to run active push marketing campaigns (via sms in case of Telco partnerships), and by (iii) selling its product only as mandatory plans or "opt out" bundles with services that are already used and trusted.
    - MicroEnsure reduces its administrative costs by leveraging its partners' capabilities for operations: e.g., MFI loan officers help raise claims on behalf of the clients, which improves usage rate and reduces fraud; Telco can easily collect insurance premium as part of their infrastructure.

154 Micro-Finance Institutions
155 MIC Global. (2017). Internal survey
156 ARPU: Average Revenue Per User

SCALE, IMPACT & SUSTAINABILITY

- Scale:
  - Operations in 17 countries, reaching over 65m clients.
  - In Ghana, it acts as a broker between 14 banks and 1 telco and 4 local insurers. One of their first partnerships in Ghana was with the Telco Tigo that enabled 1million lives insured through mobile phone over 2 years.
- Sustainability:
  - In 2021, MIC Global wrote US$12 million in gross written premiums (GWP)[157]
  - Revenue of US$3.24M (27% of the GWP)

SOURCES & CONTACT

MicroEnsure website and reports

Interviews with MicroEnsure Ghanaian management team, and Richard Leftley, founder, in addition to visit of operations, on November 2022

Leona Abban, Vice-President and Country Manager for Ghana, Kenya, Nigeria, leona.abban@micglobal.com

US$1 = 14.58 GHS as of 21st of November 2022

157 Total premiums an insurer writes during a specific period before deductions for expenses such as ceding and commissions

Photo Credit: doctHERs

CASE STUDY: NAYA JEEVAN

Naya Jeevan and its partner DoctHERs deliver health packages – including prevention, outpatient, and inpatient care – to 60,000+ previously uncovered people in Pakistan. Premiums are co-paid by corporates, in a model that is profitable to all parties

ORGANIZATION BACKGROUND

Dr Asher Hasan, the founder of Naya Jeevan, grew up in the UK. As a child, he would regularly visit his grandparents in Pakistan, where he was sensitized to the issues of accessibility, affordability, and quality of care. In 2007, after a medical education in the US, an MBA at NYU, and an early career in biotech, Asher decided to move to Pakistan and build Naya Jeevan. His intent was to solve healthcare ecosystem challenges with a sustainable, scalable, replicable model.

Naya Jeevan was initially started as a nonprofit. The first years were dedicated to "R&D", using human centered design to better understand: (i) the needs of low- and middle-income patients, and ii) the role of various payors, providers, prescribers, pharmacies, and other ecosystem participants in both public and private health systems in Pakistan. This R&D phase led to the following insights:

1. It is extremely challenging to convince low-income people with little disposable income to self-pay for insurance as a standalone product. This insight was gained over a 4-year study Naya Jeevan conducted in collaboration with the ILO's Impact Insurance Facility. Based on the key learnings from this study, Naya Jeevan sought an alternative model of health financing with an "economically viable source of cross-subsidies", in contrast to the 'push' models of microinsurance.

2. Approximately 90 million people in Pakistan (~40% of the population) are formally or informally connected to corporate value chains, and multinational corporations (MNCs) have a strategic interest in paying for the healthcare of workers linked to value chains, structured in the form of loyalty rewards or market-based trade incentive programs: the target population includes farmers that corporates source from, retailers and sales agents who distribute FMCG products, factory workers in textile and other industries, and many informal workers who work as 3rd party contractors for MNCs and/or their suppliers. Most of these people cannot afford private health coverage, yet do not qualify for government benefit programs.
3. The main 'blue ocean' opportunities for entrepreneurs to reduce cost and increase value for both employers, payors, insurance companies and health systems occur before hospitalization. Relevant health coverage that creates tangible value for beneficiaries needs to include a proactive approach to prevention and provision of outpatient services. Naya Jeevan decided to create unique value compared to the many microinsurance providers who focus on inpatient hospital coverage. This focus on primary and secondary prevention would help to prevent the progression of chronic diseases that can end up in costly complications.

Since 2012, Naya Jeevan has operated as an impact-focused, for-profit company and has won several international awards such as the Rockefeller Foundation Centennial Innovation Challenge. The company has expanded to 50+ full-time employees who service the needs of 60,000+ annual paying customers. Naya Jeevan has also been cash flow positive since 2017. In 2015, in response to customer feedback, Asher co-founded a health technology impact venture called doctHERs which operates tele-enabled consultations, tele-pharmacy, along with a network of hybrid healthcare clinics (online and in-person), all of which are equipped with retail pharmacies and several of which include lab and diagnostics services (e.g., ultrasound) The digital health services of doctHERs have been fully embedded within the value proposition of Naya Jeevan.

VALUE PROPOSITION

Naya Jeevan has developed a model where insurance premiums are co-paid by corporates as part of trade channel incentives or market-based loyalty rewards to sales agents linked to their value chains. These agents are employed by suppliers or distributors of corporates, with whom they have no formal or legal relationship. Participation is mandatory and agents only pay token contributions (less than 5% of the premium) which is automatically deducted from their payroll.

The first flagship program of Naya Jeevan was launched with Unilever, with the aim to increase retention rates and productivity of sales agents. The benefits package includes life and inpatient insurance which can be utilized across a nationwide network of 300+ private sector hospitals for sales agents and family members, consultations with nurses, unlimited teleconsultations, medicine delivery (within a certain credit limit), and co-payment of school fees. Consultations are cashless or reimbursed within 7 days. Unilever has evaluated the program and determined that it has resulted in significantly increased salesforce retention and positive returns. Naya Jeevan has now enrolled 5,200+ Unilever sales reps and is scaling the program to tens of thousands of retailers.

In its early days, Naya Jeevan received consumer feedback from multiple sources about the challenges for members in traveling to points of care. In addition, several female users wanted to access female physicians which is more culturally appropriate for Pakistan. Subsequently, Asher and his co-founder Sabeen Fatima Haque, launched a network of telehealth-enabled clinics (called SMART) across multiple locations in Karachi (there will be 34 of these clinics operational by July 2023). Naya Jeevan has partnered with doctHERs to deliver comprehensive health coverage including regular checkups and unlimited access to primary care under a single subscription fee model. doctHERs recruits, equips, and trains female frontline workers, deploys them in factories, corporate offices, and retail clinics; these trusted intermediaries use technology to liaise between patients and doctors. By including outpatient services, Naya Jeevan has made its benefits package more tangible to patients and their payors while simultaneously increasing customer satisfaction rates from an NPS of 54% (pre-integration) to 72% (post-integration).

For lowest-income communities in rural areas, Naya Jeevan co-developed a non-commercial rural market access model called Guddi Baji, funded by the marketing budget of MNCs. They deployed this program in collaboration with RSPN and with the financial and in-kind support of Unilever, FCDO and GSK, and with a special focus on anemia, post-partum depression, NCDs, and infectious diseases such as hepatitis. The model aimed to focus

on primary prevention, raise community disease awareness with appropriate activations, conduct diagnostic screenings, deliver outpatient treatment via telemedicine, and provide secondary prevention (but not hospital care). Most telehealth services were delivered via home health visits conducted by female frontline health workers. Frontline health workers were paid per service performed: digital diagnostics, telehealth services, sales of medicine, provision of digital financial services, etc.

DELIVERY MODEL

Naya Jeevan charges corporates between US$10-15 per month per sales agent, to cover a 5-person family with health benefits (this figure does not include the tuition assistance program which is separately financed). These revenue are divided into two main buckets: (i) 40-50% for inpatient coverage, which is operated by incumbent insurers (e.g., Jubilee or Pak-Qatar Takaful) and (ii) 50-60% for outpatient allowances. doctHERs delivers all outpatient consultations via its nurse care coordinators and online/hybrid doctors. For treatment, beneficiaries are entitled to spend their allowance in partner pharmacy chains. This model enables Naya Jeevan to control the economics of outpatient care. Another innovation enabling Naya Jeevan to manage its costs is to recruit from a very large female healthcare workforce in Pakistan which is not fully employed (this includes trained doctors from the Pakistani diaspora residing in Europe, Middle East, and US).

Following the success of the program with Unilever, Naya Jeevan has replicated similar programs with other corporates including multinational corporations (e.g., Mondelez, Friesland Campina, Reckitt) and regional leaders (e.g., Daraz, Bazaar, Rose Petal). They are also exploring opportunities to deploy models focused on smallholder farmers, especially for the extensive dairy agri-value chains in Pakistan (43% of Pakistan's labor force is affiliated with agri-value chains)

One key learning from Naya Jeevan is that companies' direct sales forces need to be highly engaged in promoting these trade channel programs: since participation is mandatory, people need to be reminded frequently on how to optimize the use of their benefits, otherwise there is a risk of underutilization. Low claims ratios are not desirable by Naya Jeevan as this translates to low-value perception by customers and a less robust business case for companies.

Finally, Naya Jeevan is currently building a new business line, called Nuskhaa (which means "prescription" in Urdu), that will become the pharmacy vertical and will aim to improve the availability of quality and traceable medicines across South Asia and Sub-Saharan Africa. The model is currently being tested with 120 retail pharmacies in 9 cities of Pakistan. It includes (i) a B2B e-commerce platform focused on pharmacy fulfillment in urban centers, delivered by e-commerce logistics partners, and (ii) a B2C model to upgrade existing brick-and-mortar outlets (e.g., provide them with online access to licensed remotely-located female pharmacists, in compliance with the national pharmacy regulator).

SCALE, IMPACT & SUSTAINABILITY

- **Scale**: Naya Jeevan has replicated the Unilever model with 950 SMEs and corporate accounts, mainly targeting sales and retail agents. While the company has grown organically to date (without external capital), it is now looking to accelerate its growth via external investments which will enable it to strengthen its provider network, expand its B2B sales force and grow the number of tele-enabled doctHERs' clinics.
- **Impact**: All 58,000 annual health plan subscribers of Naya Jeevan were previously uninsured. Impact reports on flagship programs such as Unilever's or FrieslandCampina's show high awareness and utilization rates amongst end-users (over 90%).
- **Sustainability**: Naya Jeevan generates approx. US$2.5M in revenue annually and has been cashflow positive since 2017.

SOURCES & CONTACT

Naya Jeevan website and reports

Interviews with Naya Jeevan and doctHERs leadership and visit of operations, November 2022

Dr. Asher Hasan, founder and CEO of Naya Jeevan and co-founder of doctHERs

US$1 = 220 PKR