ACUMEN ACADEMY

The ROCKEFELLER FOUNDATION

SECTOR BRIEF

Health

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1. INTRODUCTION TO THE HEALTH SECTOR BRIEF

Supporting Student Innovators Around the Globe

Welcome! You've likely picked up this sector brief because you're curious about entrepreneurship and you want to learn how to build a business that can change the world for the better. The Rockefeller Foundation and Acumen want to support you.

We designed this sector brief for student innovators who want to create a social enterprise that provides access to quality and affordable healthcare for everyone, regardless of income or location. It will help you understand where business model innovation is needed to reach the goal of universal health coverage.

As funders and investors, The Rockefeller Foundation and Acumen have supported many social enterprises that provide quality, affordable health services to low-income patients. Along the way, we have seen social entrepreneurs learn important lessons and encounter common pitfalls. This sector brief is designed to package critical lessons so that you can build upon the work done by other entrepreneurs across geographies.

It features advice from a variety of experts across the health sector, including:

+ Radha Shalmali Karnad, Regional Program Advisor for East and Southern Africa, Jhpiego
+ Sara Khurram, Co-Founder and CEO, Sehat Kahani
+ Abner Mason, Founder and CEO, ConsejoSano
+ Faith Muigai, Former Chief Medical Officer, Jacaranda Health; Regional Director, PharmAccess Foundation
+ Naveen Rao, Managing Director and Senior Advisor to the President, Health Initiative, The Rockefeller Foundation
+ Shanoor Seervai, Author of "Listening to Low-Income Patients and Their Physicians," The Commonwealth Fund

Whether you have an idea for a business already or are just looking for inspiration, we hope the lessons contained in this brief help on your journey of entrepreneurship.

How to Use This Sector Brief

This sector brief will give you an overview of the key trends and opportunities in the health sector that we think can be most effectively tackled by social entrepreneurs. It is designed as a workbook so that, as you go through it, you can actively take notes and apply the information to the business model you're developing. Then, as you begin to create a pitch deck for your new enterprise, you may find it helpful to go back and reference some of the statistics and insights in this sector brief.

Here's what you can expect to walk away with after having gone through this sector brief and workbook:

+ Understand the global challenge of health and the types of customers who could most significantly benefit from innovative solutions
+ Identify the unique market opportunities where social enterprises can make a significant difference in accelerating access to quality and affordable healthcare
+ Gain best practices from innovative social enterprises in the health sector
+ Glean practical tips from experts about how to build impactful business models that provide health services to the lowest income patients

Do you have a pen and paper ready?

STOP + REFLECT

Take a minute to reflect on your own experiences with the health system. Whether you are just getting started or you have been working on health challenges for many years, it can be helpful to reflect on your passions and motivations for getting involved.

+ What is your understanding of the most urgent health challenges in your community? How about in the world? Have you observed these challenges firsthand?

+ How do you use or benefit from the healthcare system in your daily life? Have you ever had a particularly negative experience?

+ Why do you care about helping other people access affordable and quality healthcare? Is your motivation rooted in a specific memory or experience?

+ What other skills and knowledge can you apply to solving this challenge?

Write down any critical questions you hope to have answered by this sector brief to guide your reading.

2. UNDERSTANDING THE CHALLENGE OF UNIVERSAL HEALTH COVERAGE AND THE ROLE OF SOCIAL ENTREPRENEURS

As a social entrepreneur in the health sector, what kind of problems will you be trying to solve?

Public health specialists embrace the goal of **universal health coverage**—the idea that everyone should have access to the health services they need without enduring financial hardship.[1] These services include the prevention of illness, treatment, and end-of-life care.

Universal health coverage promotes equity by making sure the lowest income patients do not lose their lives to preventable diseases or become impoverished by seeking care. The World Health Organization declared health to be a fundamental human right.

Primary health care is the foundation of the healthcare system. It includes the essential clinical services—such as routine checkups, immunizations, and treatment of illnesses—that meet the majority of a community's health needs.[2]

[1] World Health Organization, Universal Health Coverage and Health Financing

[2] Primary Healthcare Initiative, Primary Health Care: The Path to Universal Health Coverage

2. UNDERSTANDING THE CHALLENGE OF UNIVERSAL HEALTH COVERAGE AND THE ROLE OF SOCIAL ENTREPRENEURS

The benefits of primary care include decreased child mortality, longer life expectancy, and the prevention of costly later-stage diseases and emergency department visits, among other benefits. However, an estimated 400 million people around the world do not have access to quality primary care.[3]

Additionally, many countries have a scarcity of providers who are trained in specialized services, such as surgery and anesthesia. For example, there are only 1.26 anesthesiologist for every 100,000 people in India, compared to 20.82 in the United States. As a result, many of the lowest income patients are unable to receive the life-saving interventions they need.[4]

If you would like to understand the most urgent health challenges facing the world, the Sustainable Development Goals and the World Health Organization's "Ten Threats to Global Health" are two places to start.

Although significant progress has been made over the past few decades, many problems remain to be solved:[5]

+ **Child mortality**: More than five million children die before their fifth birthday every year, with four-fifths of these deaths occurring in Africa and South Asia. The leading causes of death include diarrhea, pneumonia, and malaria, and malnourished children have a higher risk of dying from these diseases.[6]
+ **Maternal mortality**: The proportion of mothers who die during childbirth globally, known as the "maternal mortality ratio," was 216 for every 100,000 live births in 2015. The ratio was 18 in the United States. Many of these deaths are from preventable or treatable causes, including bleeding, high blood pressure, and complications from delivery.[7]
+ **Infectious diseases and pandemics**: AIDS, tuberculosis, and malaria continue to claim millions of lives annually with the vast majority of deaths occurring in developing

[3] World Health Organization and World Bank Group, Tracking Universal Health Coverage: First Global Monitoring Report

[4] NPR, Imagine: Facing Surgery Without An Anesthesiologist on Hand

[5] United Nations, Sustainable Development Goal 3

[6] World Health Organization, Children: Reducing Mortality

[7] World Health Organization, Maternal Mortality: Key Facts

2. UNDERSTANDING THE CHALLENGE OF UNIVERSAL HEALTH COVERAGE AND THE ROLE OF SOCIAL ENTREPRENEURS

countries. In 2017, 36.9 million people were living with HIV/AIDS[8], 1.6 million died from tuberculosis[9], and 219 million contracted malaria.[10] The rise of antibiotic resistance also threatens our ability to treat common diseases.

+ **Non-communicable diseases**: Diseases like diabetes, heart disease, and chronic respiratory illnesses are on the rise in lower income countries. These diseases are linked with diet, physical activity, and alcohol and tobacco use.[11] This means that many developing countries must reckon with a "double burden of disease," meaning both infectious and non-communicable diseases.[12]

+ **Environmental factors**: Beginning in 2030, climate change is expected to produce 250,000 additional deaths every year from related causes like malaria, malnutrition, heat stroke, and air pollution.[13]

[8] HIV.gov, Global Statistics
[9] World Health Organization, Tuberculosis: Key Facts
[10] World Health Organization, Malaria: Key Facts
[11] World Health Organization, Noncommunicable Diseases: The Slow Motion Disaster
[12] United Nations, Countries Facing Double Burden with Chronic and Infectious Diseases – UN Report
[13] World Health Organization, Ten Threats to Global Health in 2019

2. UNDERSTANDING THE CHALLENGE OF UNIVERSAL HEALTH COVERAGE AND THE ROLE OF SOCIAL ENTREPRENEURS

How can social enterprises contribute to these global health challenges?

The Rockefeller Foundation has identified two ideas that will shape future health systems, which will be the focus of this sector brief:[14]

+ **digital technologies** are key to enabling access to health services and empowering individuals to manage their own health
+ **community health systems** will play a critical role in extending primary health access to households around the world

These are areas where social entrepreneurs—through new technologies and delivery models—can significantly contribute to the access, affordability, and quality of health services.

Later in this brief, we will break down these two ideas into several opportunities for innovation, accompanied by examples and advice from Acumen Fellows, investees, and other social enterprises in the health sector.

WHAT IS A SOCIAL ENTERPRISE?

If you're thinking about starting a non-profit and are worried that the lessons in this brief won't apply to you, you should know that Acumen defines social enterprises as **any enterprise that prioritizes transformative social impact while striving for financial sustainability.** Note that this definition does not specify the type of governance structure that a social enterprise needs to have (non-profit, for-profit, hybrid). All of the companies Acumen invests in have a for-profit structure, but we believe that a social enterprise can be incorporated as a non-profit if it strives to be financially sustainable and support its own operating costs.

[14] The Rockefeller Foundation, All Roads Lead to Astana

3. UNDERSTANDING PATIENTS AND COMMUNITY HEALTH WORKERS

You can understand the challenge of global health from reports and statistics. Yet it is another matter to observe the challenges firsthand.

When you speak directly to low-income patients, you begin to understand the emotions and complicated trade-offs they make when deciding to engage with the health system.

The Commonwealth Fund, a foundation that supports research on healthcare in the United States, spoke with more than one hundred patients to learn about their experiences. Here is a sampling of what they heard:[15]

+ "Do you want your teeth or do you want your heart to continue beating? You've got to figure out which one and balance it out. Sometimes I've had to omit the eyes and the teeth."
+ "I had two weeks of vacation, so I said, I am going to get a checkup. I called and they gave me an appointment in a month-and-a-half to two months. I did not get it because I had to work."
+ "A consultation costs between $200 to $500. You don't have any money and you get very stressed if you have to pay for it. It is better to get used to the pains you have."

These challenges are elevated for individuals in developing countries, where quality healthcare is even more out of reach. For example, about 500 women die for every 100,000 live births in Kenya, compared to 18 in the United States.

"I don't think a lot of women can say they trust Kenya's healthcare system," said Faith Muigai, an Acumen Fellow and Regional Director of PharmAccess Foundation. "They don't know what quality healthcare is. They don't know what their rights are or what their experience at the hospital should be."[16]

There are distinct obstacles to universal health coverage in developing and emerging markets, including:

+ the lack of reliable population data
+ the limited availability of skilled physicians

[15] The Commonwealth Fund, Listening to Low-Income Patients and Their Physicians

[16] Acumen, A Test of Faith: One Mother's Mission to Transform Maternal Care in Kenya

3. UNDERSTANDING PATIENTS AND COMMUNITY HEALTH WORKERS

+ weak infrastructure, including electricity, roads, and internet access
+ the challenge of delivering medical supplies to remote communities, particularly in fragile and conflict settings

However, there are common themes in the barriers to healthcare faced by low-income patients regardless of their country: the affordability of care, the quality of care, and the accessibility of care due to geographic location and other constraints.

Before you develop a social enterprise model, you need to understand the unique patient segments you hope to serve. You can create a "user persona" or "customer profile" with the patient's age, income, daily habits, needs, and frustrations.

STOP + REFLECT

Think about the patients you would like to serve through your social enterprise. Reflect on these questions as the foundation for your customer profile.

+ How old are they?
+ What are their daily habits or responsibilities?
+ Where do they live? Do they have access to transportation? How do they reach the nearest hospital or clinic?
+ What is their annual income? Does it fluctuate throughout the year? How do they save money and make payments?
+ What electronic devices do they have access to? What is their technological literacy? What is their preferred means of communication?
+ What health conditions are they experiencing?
+ Have they engaged with the health system in the past? Was it a positive or negative experience?
+ What are their greatest frustrations when engaging with nurses or physicians?
+ Are there social norms that influence how they interact with the health system?
+ What is most important to them? What are their greatest fears?

3. UNDERSTANDING PATIENTS AND COMMUNITY HEALTH WORKERS

Community health workers

Community health workers are essential stakeholders for any social entrepreneur who hopes to advance universal health coverage for the lowest income patients. There are about one million community health workers in Africa[17] and 1.2 million in South Asia, with the majority in India.[18]

These trusted community members are not formally trained as physicians. Yet they play a significant role in providing care for hard-to-reach and underserved communities, particularly for challenges like maternal and child health or responding to disease outbreak.

There is no single profile of a community health worker: They range from unpaid volunteers to formal employees. However, many are offered small stipends by governments or NGOs and trained to identify risk factors for specific diseases.

"They are usually in charge of 100 to 200 houses and make rounds," said Naveen Rao, Managing Director for Health at The Rockefeller Foundation. "A lot of them

[17] UNAIDS, 2 Million African Community Health Workers

[18] Public Services International, Decent Work for Community Health Workers in South Asia: A Path to Gender Equality and Sustainable Development

3. UNDERSTANDING PATIENTS AND COMMUNITY HEALTH WORKERS

are paid for 'vertical programs'[19]—for example, malaria—so they may check for bed nets. If there is a donor who is interested in malnutrition, they will check the children's weight."

Although community health workers are not equipped to offer highly specialized medical services, they can provide many essential services—such as education on nutrition or disease prevention—to remote patients who have no access to doctors.

In Kenya, for example, 46% of physicians are located in or around Nairobi, yet only 19% of the country's population lives there.[20]

Furthermore, community health workers can inform patients when it is necessary to visit a formal health clinic, which may require a full day's journey.

A report developed for the World Health Organization found the potential of community health workers has not been fully achieved. Health workers tend to have narrowly focused training, poor supervision and quality control, and informal roles in the health system, which prevents them from distributing medicine or administering tests for diseases like HIV in some countries.[21]

However, community health workers could be better integrated into the health system through ongoing education and supervision, fairer wages, and clearly defined responsibilities.

The United Nations calls for two million community health workers to be recruited, trained, and deployed in Africa to improve health outcomes and provide employment opportunities.[22]

[19] "Vertical programs" are focused on a single intervention, such as for HIV or malaria. In comparison, a fully "integrated" approach is built on comprehensive primary care. There is debate in the public health sector around what combination of approaches is most effective. When do vertical (stand-alone) programmes have a place in health systems?, World Health Organization.

[20] UNAIDS, 2 Million African Community Health Workers

[21] Centre for Evidence and Implementation, Optimising Community Health Worker Programmes

[22] UNAIDS, 2 Million African Community Health Workers

4. Evaluating Opportunities for Innovation in the Health Sector

How can social enterprises contribute to the goal of universal health coverage?

In this section, we will introduce opportunities for innovation in global health. You might also think of these as "calls to action" for aspiring social entrepreneurs.

What do we mean by "business model"? A business model describes how an organization **creates, delivers,** and **captures value.**

+ A business **creates value** by solving the problems of customers and end users, including low-income patients.
+ It **delivers value** by improving the quality and accessibility of healthcare through new products, services, or platforms.
+ It **captures value** by generating revenue and managing costs.

Each "opportunity for innovation" that follows is accompanied by examples of social enterprises working in the United States and globally. As you read through this section, ask yourself how you might learn from and build upon their experience to reach new customers and geographies.

AFFORDABILITY

Make healthcare services more affordable for the lowest income patients.

EVALUATING OPPORTUNITIES FOR INNOVATION IN THE HEALTH SECTOR

About 100 million people are pushed into extreme poverty every year because they cannot afford healthcare, according to the World Bank and World Health Organization. Additionally, about 800 million spend at least 10 percent of their budget on health services.[23]

How can social enterprises decrease these financial barriers so that patients receive the care they need, regardless of their income?

[23] World Bank, Health Overview

EXAMPLES OF INNOVATIVE SOLUTIONS

For residents of rural villages in India, a relatively common condition like cataracts could result in permanent blindness and loss of income. But millions of people have received affordable surgical procedures through **Aravind Eye Care**, a hospital system with the mission of making eye care available for all.

Aravind Eye Care developed a business model that allows the social enterprise to serve the maximum number of

IMAGE CREDIT: ARAVIND EYECARE, INFINITE VISION

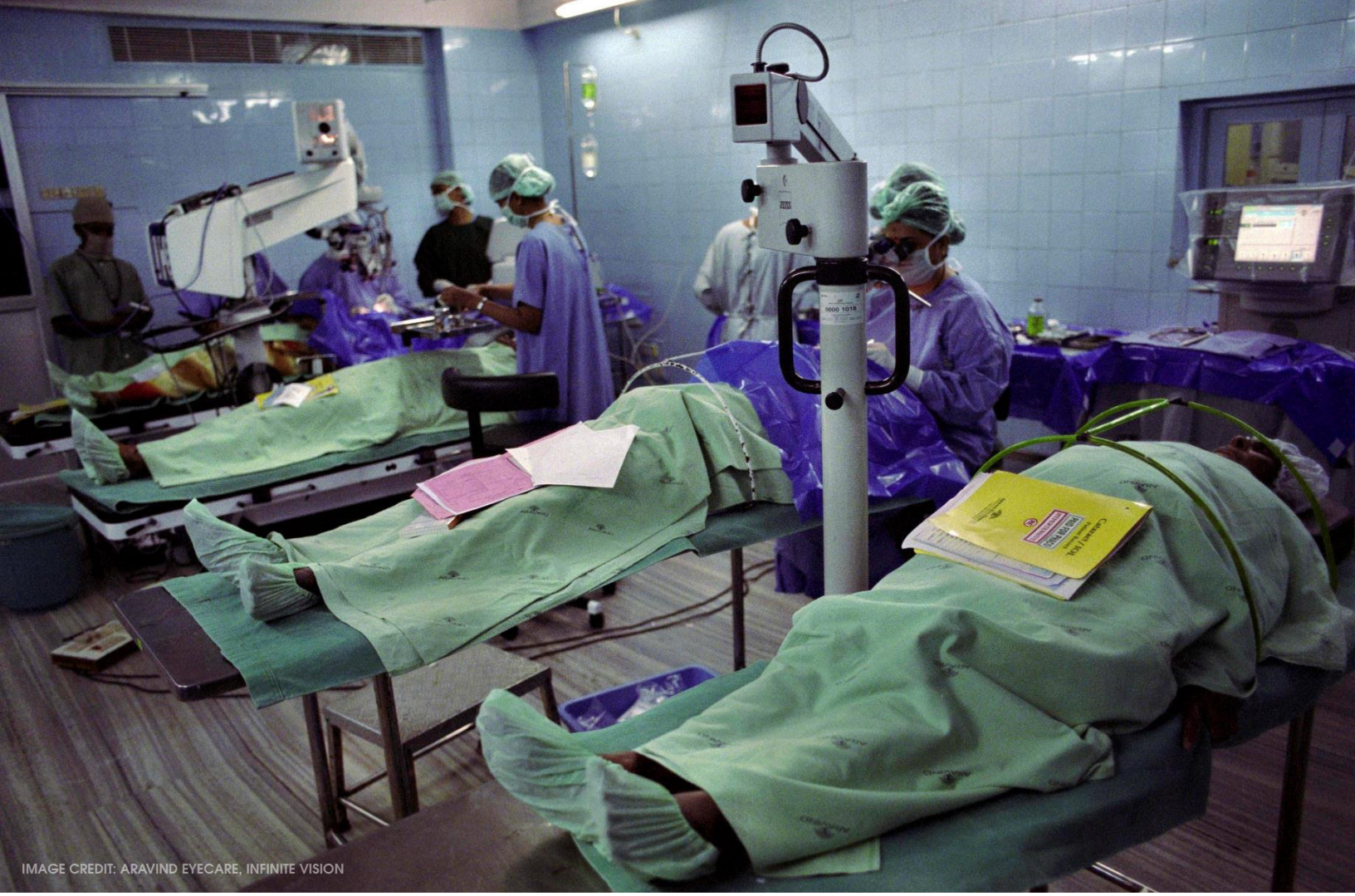

IMAGE CREDIT: ARAVIND EYECARE, INFINITE VISION

people without diminishing the patient's experience. Three-quarters of cataract surgeries are provided at a free or highly subsidized rate, yet the post-surgery infection rate is well below the national average.[24]

Surgeons perform the operations with assembly line-inspired efficiency—a doctor might perform 2,000 surgeries in a year. Wealthier patients who are able to pay market rates subsidize the care for lower income patients, a model known as "cross-subsidization."[25]

Through this model, Aravind Eye Care has operated without reliance on donor assistance for decades.

Another model for managing costs is the local or "decentralized" manufacturing of medical supplies. **Saral Designs** developed a machine to produce hygienic sanitary napkins directly in communities to decrease the costs related to last-mile distribution. Similarly, Aravind Eye Care manufactures its own low-cost intraocular lenses, pharmaceuticals, and sutures.

[24] Aravind Eye Care, Aravind Eye Hospitals

[25] McKinsey & Company, Driving Down the Cost of High-Quality Care: Lessons from the Aravind Eye Care System

Social enterprises can specialize in a narrow range of services to reduce costs, as well. Many women in Hyderabad, India, cannot afford to deliver in a private hospital, but free public hospitals are often poor quality or unavailable. **Life Spring** operates small maternity hospitals that provide the most common services, such as normal deliveries and cesarean sections. Through this model, Life Spring can standardize their processes and refrain from investing in rarely needed equipment, while charging prices that are up to 50% less than other hospitals.

Today, India is recognized as a leader in innovative models for affordable healthcare. Social enterprises like Aravind Eye Care are credited with pioneering and scaling these strategies for affordable care in hospitals:[26, 27]

+ cross-subsidization
+ a high volume of patients served at low cost
+ a narrow clinical focus, such as cataract surgery or normal deliveries
+ standardized and highly efficient processes
+ local manufacturing of medical supplies
+ telemedicine to serve remote patients and reduce the burden on hospitals

Outside the hospital setting, the growth of digital financial services has introduced new opportunities to improve the affordability of healthcare, including:

+ enabling more timely payments to community health workers
+ helping patients pay for health expenses
+ reducing transaction costs between patients, providers, insurers, and donors

For example, in Tanzania, the social enterprise **Comprehensive Community-Based Rehabilitation in Tanzania (CCBRT)** trains health workers to identify obstetric fistula, a condition that dramatically reduces the quality of life for women after childbirth. Through the mobile payment system M-PESA, CCBRT transfers money to health workers to cover a patient's transportation and care at a hospital, along with an incentive for the health worker. Fistula surgeries increased by more than 300% as a result of the program.[28]

About 75% of the world lacks adequate insurance, according to the International Labour Office. Many low-income patients are reluctant or unable to pay monthly premiums when faced with other pressing needs.[29] The **PharmAccess Foundation** has worked with governments and the private sector to develop microinsurance programs for patients who do not receive public health coverage.

[26] World Health Organization, Innovative health service delivery models in low and middle income countries: what can we learn from the private sector?

[27] Harvard Business Review, Delivering World-Class Health Care, Affordably

[28] CGAP, A Digital Finance Prescription for Universal Health Coverage

[29] CGAP, Bringing Health Microinsurance to Kenyans via Mobile Phone

The customers and benefits of microinsurance programs vary.[30] In Kenya, **M-TIBA** is working with health care providers to allow patients to save and pay for medical expenses and access financing products (such as subsidies or vouchers) with their phone. Providers benefit from efficient processing of payments, while insurance programs can collect data on diagnoses, treatments, and costs to price services more accurately.[31]

The ability to access this kind of data could help microinsurance enterprises avoid the outcome of First Microinsurance Agency, an Acumen investee in Pakistan that closed in 2011 as a result of low premium prices.[32]

Although M-TIBA has enrolled more than one million people, there has been slow adoption among the poorest patients, as many are reluctant to visit clinics and save their money in the platform. Therefore, there is an opportunity to ensure the most vulnerable people can benefit from these innovative financing mechanisms.

Another important aspect of affordability is preventative care and behavioral nudges. By preventing health conditions from occurring, patients can avoid costly interventions down the road.

For example, the design firm IDEO.org partnered with Population Services International (PSI) on **Smart Start**, a program to increase the use of contraceptives and reduce unwanted pregnancies in Nigeria, Ethiopia, and Tanzania. The team experimented with a variety of marketing messages to correct false impressions and increase demand for contraceptives. Eventually, the program introduced a "baby cost calculator" that associated the use of contraceptives with greater financial stability.[33]

Finally, affordability is closely related to *accessibility*. The lowest income patients often live in remote areas or have mobility constraints that make it more expensive and inefficient to deliver care.

In the following sections, you will learn about digital products (also known as "mHealth" or "telemedicine") and last-mile delivery models that help overcome geographic barriers and improve efficiencies while managing costs for patients, insurers, and care providers.

[30] Impact Insurance and International Labour Organization, Making Health Microinsurance Work: Ten Recommendations for Practitioners

[31] CGAP, A Digital Platform to Manage Out-of-Pocket Health Care Expenses

[32] Pioneers Post, Fail better: First microinsurance agency proves the point of 'failure'

[33] IDEO.org, Young Ethiopian Couples Get a Smart Start

QUALITY AND SAFETY

Provide quality reproductive, maternal, newborn, and early childhood care for the lowest income patients.

EVALUATING OPPORTUNITIES FOR INNOVATION IN THE HEALTH SECTOR

For the lowest income patients, delivering a baby can be a dangerous occasion. In fragile states, one in 54 women will die from pregnancy-related complications in her lifetime, compared to one in 4,900 in higher income countries.[34]

Most of these deaths could be prevented with regular check-ups and low-cost interventions. However, many women around the world—particularly in low-resource, rural, or conflict settings—do not receive quality care during pregnancy, childbirth, and the weeks following delivery.

According to the World Health Organization, safe childbirth is critical for a woman's health and strongly contributes to a healthy childhood.[35] How can social enterprises provide quality care during these essential stages of life?

[34] World Health Organization, Fact Sheet: Maternal Mortality
[35] World Health Organization, PMNCH Fact Sheet: RMNCH Continuum of care

EXAMPLES OF INNOVATIVE SOLUTIONS

Many of the most common causes of maternal deaths have well-known treatments, for example:[36]

+ The risk of severe bleeding after birth can be reduced with an injection of oxytocin
+ Infections can be avoided with good hygiene practices
+ Eclampsia can be prevented with early detection and the administration of drugs like magnesium sulfate

Only 60% of Kenyan women give birth in the presence of skilled attendants who are able to address complications like these.[37] This percentage is significantly lower in the

[36] World Health Organization, Fact Sheet: Maternal Mortality
[37] UNICEF, Percentage of Births Assisted by a Skilled Birth Attendant, by Country, 2013-2018

IMAGE CREDIT: JACARANDA HEALTH

informal settlements and peri-urban areas where most of the country's population resides.

As a result, Kenya has one of the highest maternal mortality ratios in the world, reaching 510 deaths for every 100,000 live births in 2015.[38]

Founded in 2010, **Jacaranda Health** has become a laboratory for quality maternal care. The social enterprise serves its patient segments through two business models: (a) a low-cost, private maternity hospital, and (b) a partnership with government-funded hospitals, where the majority of women in Kenya give birth.

The private maternity hospital, known as Jacaranda Maternity, is operated as a for-profit social enterprise. The hospital charges a fraction of the rate of comparable hospitals, yet it still earned the highest score in an international assessment of quality standards.

According to Faith Muigai, former Chief Medical Officer, Jacaranda achieved this distinction by constantly evaluating its performance from both a clinical and business standpoint.

[38] World Bank, Maternal Mortality Ratio (Modeled Estimate, Per 100,000 Live Births)

"Many people don't look at healthcare as a business," said Faith. "And that's where they fail. One important variable is staffing. When obstetrics goes bad, it goes *very* bad, very quickly. If I don't have skilled professionals who are equipped to handle these emergencies, the outcome will be poor. Women will talk about their poor experience in their communities and then you don't get more patients through referrals. It has an effect on your bottom line."

Jacaranda learned that having the cheapest prices was not the key to quality and financial sustainability. Instead, the social enterprise focuses on offering their patients "value for money" and closely tracks every cost.

"We did exercises—if a woman is admitted from point A to B, what does it cost for us to provide these services?" said Faith. "We knew the costs of all our services—the supplies, the human resources, the administrative fees, the direct and indirect costs. Then we built a margin that was reasonable and not excessive or exorbitant. That way, we were still an affordable choice, but our services could align with higher level facilities and we could invest in our people and infrastructure."

Trained as a nurse in the United States, Faith had to figure out how to design Jacaranda's programs to be appropriate for the local context.

"In the beginning, we thought we could run a maternal facility that focused on deliveries and then we would refer mothers to a pediatrician for the baby's care," Faith said. "But in a community health setting, there is no time to see a pediatrician. Everything has to happen at the maternity facility. So we had to change our program design from a Western approach to an African approach, where the practitioner attends to the mother and the newborn in the same appointment."

"Similarly, although many mothers could not afford another child, they wouldn't show up for an appointment to discuss family planning," Faith added. "But they would attend an appointment for the baby. So we redesigned our follow-up family planning appointment, as well."

This approach is consistent with a model called the Continuum of Reproductive, Maternal, Newborn, and Child Healthcare (RMNCH). The model advocates for integrating prenatal, delivery, postnatal, and early childhood care, and it is widely considered an effective method for improving health outcomes in countries with high maternal and child mortality rates.

In addition to the private maternity hospital, Jacaranda Health is scaling research-backed, low-cost interventions in more than 60 public hospitals through its new nonprofit model. For example, Jacaranda Health provides classroom education and one-on-one mentorship programs for maternal health nurses, who often score poorly on assessments of emergency obstetric care and newborn care skills.

Jacaranda Health is introducing digital innovations to the public hospitals, as well. In response to studies that found group care

resulted in better outcomes for mothers and babies, the team created WhatsApp groups where patients can communicate with women who have similar due dates.

There is an additional opportunity to address the preventable deaths of newborns in lower income countries: the lack of appropriate products for developing market settings.

Newborn deaths can be significantly reduced with proven technologies, like those for treating infection, supporting breathing, and providing hydration. However, many African hospitals lack these technologies for several reasons:[39]

+ The equipment is not built to withstand the demands of hospitals in low-resource settings
+ There is a lack of systems for distributing the medical devices
+ Local talent are not trained to design or maintain these devices

A team from the London School of Hygiene & Tropical Medicine, University of Malawi, Northwestern University, and Rice University is collaborating on a project called **Newborn Essential Solutions and Technologies**. The team was awarded a $15 million grant to develop and distribute a package of 17 technologies that address the most common causes of newborn deaths.

As the team initially tests in Malawi, Tanzania, and Nigeria, they will be tasked with addressing questions of sustainability and scale:

+ Are the medical devices effective and durable? Who will maintain the devices?
+ Who will be the paying customer after the grant period is over? Hospitals? National healthcare systems? Patients?
+ What is the appropriate price for the devices?
+ How will the devices be delivered to the most remote and under-resourced hospitals?
+ How will care providers be trained to use the devices?
+ How can the devices be repaired or discarded appropriately?

IMAGE CREDIT: JACARANDA HEALTH

[39] MacArthur Foundation, Rice 360° Institute for Global Health (Rice University)

STOP + REFLECT

The maternal mortality ratio in the United States is much lower than the ratio in developing and emerging economies. However, there are troubling racial and economic disparities.

For example, between 2011 and 2015, the maternal mortality ratio was 42.8 deaths per 100,000 for black women, compared to 32.5 for American Indian women and 13.0 for white women.

Elaina Mulé, then a director at the nonprofit United Way, learned that women in Buffalo were 25% more likely to have a premature baby than women in the rest of New York. This led to nearly $60,000 more health costs on average in the first year after birth.

After interviewing women in local hospitals, Elaina learned that many women missed their prenatal appointments because they didn't have the money for a bus or taxi. Through an Acumen human-centered design course and grant funding, Elaina and her team piloted a ridesharing program and "transport counselor" to help reduce these transportation barriers.

What disparities in access to quality healthcare might exist in your community? What could account for these disparities? How can you learn more?

QUALITY AND SAFETY

Address the threat of counterfeit and substandard drugs in developing markets.

EVALUATING OPPORTUNITIES FOR INNOVATION IN THE HEALTH SECTOR

About one in ten medical products in low- and middle-income countries is counterfeit or substandard, according to the World Health Organization.

Counterfeit drugs often look identical to the real product, but contain no active ingredients. They might be made of chalk or starch. Or worse, they may contain bacteria, toxic chemicals, or fatal amounts of different drugs.[40]

These include essential drugs like vaccines, antimalarial pills, and birth control. Consequently, fake drugs are estimated to directly or indirectly contribute to hundreds of thousands of deaths every year.[41]

How can social enterprises prevent the distribution and use of counterfeit or substandard drugs?

EXAMPLES OF INNOVATIVE SOLUTIONS

Counterfeit medicines are a growing problem in African countries in part because of weak regulatory agencies and a lack of education among consumers on how to spot false drugs.

In 2011, Sproxil introduced a mobile-based service to help Nigerian consumers determine whether their medicine is real or counterfeit. After customers purchase a pharmaceutical product, they scratch a card to reveal a code. Then customers can text the code to a phone number to reveal whether the drug is real or fake.

Pharmaceutical companies pay for Sproxil's services to safeguard consumers, protect their brand from reputational damage, and trace the location of fake or stolen products.[42] Sproxil reached 80 million customer verifications in 2018.

[40] NPR, Fake Drugs Are A Major Global Problem, WHO Reports

[41] World Health Organization, Substandard and falsified medical products

[42] Sproxil, Sproxil Defender

Despite the existence of innovations like these, counterfeit drugs have continued to spread in the continent, suggesting the challenge needs to be addressed through the coordinated efforts of government regulators, pharmaceutical companies, and new technologies.

The startup RxAll, which was founded by students in the Yale School of Management, hopes to tackle the counterfeit drug challenge through a handheld scanner that uses AI and spectrometry to predict whether a drug is fake. The hardware is designed to be used with a mobile phone. By pricing the spectrometer at around $1,000, RxAll can pursue partnerships with regulatory bodies and rural pharmacies that were unable to afford existing equipment.[43]

[43] Yale School of Management, Startup Saves Lives by Ridding African Market of Counterfeit Drugs

ACCESSIBILITY

Build the capacity of community health workers.

EVALUATING OPPORTUNITIES FOR INNOVATION IN THE HEALTH SECTOR

In many African countries, there is less than one doctor for every 1,000 people. In India, there are about 8 doctors. In comparison, the United States and Canada have about 26.[44] According to the World Health Organization, countries need at least 23 health workers for every 10,000 people to meet the population's basic health needs.

As trusted members of their communities, community health workers deliver services to the hardest to reach patients, who may be miles—or rivers and conflict zones—away from the nearest skilled physician. However, health workers are not often equipped to meet the demand in their communities.

How can social enterprises build the capacity of community health workers to advance universal health coverage?

[44] World Health Organization, Density of physicians (total number per 1000 population, latest available year)

EXAMPLES OF INNOVATIVE SOLUTIONS

"I think the greatest opportunity is about taking services as close to the community as possible," said Radha Karnad, Regional Program Advisor for East and Southern Africa at Jhpiego. "For a long time we've been quite self-centered as a healthcare system, saying that patients should come to us. But this is a service that everyone should have a right to."

With the right education and resources, health workers can provide essential services to the community, including screening for health conditions, collecting patient data, scheduling follow-up visits, and reporting drug stocks.

In Uganda and Kenya, **Living Goods** works with a carefully selected group of community health workers who receive three weeks of training. They each receive a uniform and tools: a thermometer, a tape measure for assessing malnutrition, medications for basic illnesses and family planning, and a visual teaching tool for patients.

IMAGE CREDIT: LIVING GOODS

Additionally, each health worker receives an Android smartphone with the Smart Health app, developed in partnership with Medic Mobile. The app is designed to standardize the data collection process and guide health workers through common tasks, such as diagnosing malnutrition and identifying women at risk of complicated pregnancies.

When Living Goods was founded in 2007, the social enterprise intended to reach financial sustainability through an income-generating model. In this model, health workers purchased products like nutritious foods, solar lamps, contraceptives, and medication for malaria and diarrhea from Living Goods. Then health workers sold the products at customers' homes for a small profit, saving their neighbors the trouble of traveling to health centers that might be out of stock.

Then in 2013, a randomized control trial found a 27% reduction in child mortality in the communities where Living Goods was operating. Based on the strength of these results, Living Goods decided to pivot from its income-generating model and focus its efforts on developing and executing community health strategies.

Today, Living Goods collaborates with philanthropic foundations and governments to scale its mobile health tools and performance management systems. The social enterprise has worked with 10,000 community health workers and is partnering with the Kenyan and Ugandan ministries of health to create a dashboard of community health data.

ACCESSIBILITY

Apply new technologies to deliver care to the "last mile."

EVALUATING OPPORTUNITIES FOR INNOVATION IN THE HEALTH SECTOR

"Last-mile delivery" is one of the hardest challenges for social entrepreneurs across sectors. In healthcare, this refers to the delivery of medical supplies or healthcare services directly to patients, particularly in locations that are isolated by conflict, flooding, or untraversable roads.

How can social enterprises apply new technologies to deliver care and medical supplies to the hardest-to-reach patients?

EXAMPLES OF INNOVATIVE SOLUTIONS

"Health care is a taboo in most of Pakistan's rural communities," said Sara Saeed Khurram, Cofounder and CEO of **Sehat Kahani** and an Acumen Fellow. "Women can't even travel to a healthcare facility on their own; they have to be dropped off by a husband or mother-in-law. They're expected to deliver and raise children, but their health is neglected."[45]

Sehat Kahani runs a network of small clinics for women in remote communities. Women visit the clinic in person, where nurses are available to perform examinations and record their medical histories. To ensure patients receive the quality care they need, female doctors—who typically drop out of the workforce—are present at the appointments through a video conference.

The social enterprise subsidizes its core work by serving a second segment of customers: corporations that manage their employees' healthcare through an app developed by Sehat Kahani. As of 2019, the social enterprise has provided more than 95,000 online consultations to rural women through its 25 clinics.[46]

In the previous section, you learned that Living Goods is working with philanthropic foundations and governments to scale digital tools for community health workers.

[45] Acumen, This Acumen Fellow lost her job when she got pregnant. Here's how she responded.

[46] Sehat Kahani, Impact

Medic Mobile and **Dimagi** are responsible for building this software for customers like Last Mile Health, Living Goods, United Nations Population Fund, USAID, and Village Health Works.

By recording patient data digitally—rather than by hand on paper, as it was done for decades—health workers can schedule follow-up appointments and keep stock of medicines. They can transfer information to district health offices to increase the speed of response to disease outbreaks and other health emergencies. They can also make decisions about diagnoses and medications with more confidence.

Medic Mobile open sources their technology and design resources through the Community Health Toolkit.

VillageReach works with governments to solve last-mile delivery problems. In response to the days or weeks long wait times for delivering lab samples from health clinics to central hospitals, VillageReach partnered with the Mozambique Ministry of Health to develop the SampleTaxi model.

Drivers are available on demand to pick up time-sensitive tests—including tests for HIV and tuberculosis—and deliver them to the nearest health facility. In a pilot program, Sample Taxi delivered viral load tests in 4.5 days compared to 36 days in the traditional system.[47]

[47] VillageReach, SampleTaxi: Lab Samples Share a Ride for Better Health

There is also an opportunity to manage infectious diseases by bringing diagnostic devices to low-resource communities. Portable screening devices, used in combination with a smartphone, could equip individuals with minimal training to diagnose infectious diseases and identify the next steps for treatment.

"Point-of-care" diagnostics refers to screening tools that can be used in a patient's home or a rural clinic, rather than a laboratory setting. The World Health Organization developed the ASSURED standards to assess point-of-care technology: Devices should be affordable, sensitive, specific, user-friendly, rapid and robust, equipment-free, and deliverable to users.

Mobile diagnostic tools are being piloted to screen for diseases like HIV and syphilis, which carry a stigma that prevents some patients from seeking care. However, these tools are not yet in wide use as a result of challenges related to affordability, product delivery and last mile distribution, and the incorporation of screening into a health worker's routine.[48, 49]

Finally, the company **Zipline** is pursuing another potential model to address the insufficient supply of medical commodities in remote communities: drone delivery.

[48] Sello Lebohang Manoto, Masixole Lugongolo, Ureshnie Govender, and Patience Mthunzi-Kufa, Point of Care Diagnostics for HIV in Resource Limited Settings: An Overview

[49] Juliet Katoba, Desmond Kuupiel, and Tivani P. Mashamba-Thompson, Toward Improving Accessibility of Point-of-Care Diagnostic Services for Maternal and Child Health in Low- and Middle-Income Countries

IMAGE CREDIT: ZIPLINE

In Rwanda and Ghana, Zipline operates drones and distribution centers to overcome the "last-mile problem." When drug stocks are running low, a health worker can place an order with a mobile app. Then the battery-powered drone is flown to the recipient and the medical supplies—such as vaccines or rare blood types for transfusions—are dropped by parachute.[50]

Zipline hires local teams to operate the drones, and funds this work through venture capital and government partnerships. Although the company has attracted headlines, the evidence base for drone delivery is still being developed.

[50] Zipline, How Zipline Increases Access

ACCESSIBILITY

Decrease the transportation barriers to accessing healthcare.

EVALUATING OPPORTUNITIES FOR INNOVATION IN THE HEALTH SECTOR

Even in regions with stronger infrastructure, transportation can be a significant barrier to accessing healthcare.

Some patients live in communities with few options for reaching hospitals by public transportation. Some have health conditions that make travel difficult. Others cannot travel to appointments because they are unable to arrange child care or request leave from work.

How can social enterprises overcome these barriers of transportation so that people can receive care exactly when they need it?

EXAMPLES OF INNOVATIVE SOLUTIONS

In India in the early 2000s, few cities had reliable ambulances or emergency medical response services. Many people traveled to the hospital in private cars or rickshaws without trained technicians or medical equipment—and some patients never made it to the hospital alive.

Ziqitza Health Care Limited was founded to address the need for 24-7 call centers and ambulances with trained personnel. The social enterprise introduced a cross-subsidization pricing strategy that charged customers based on their ability to pay—depending on their choice of a government or private hospital—and all accident and disaster victims were transported for free.

To reach new geographies and lower income customers, Ziqitza then partnered with several state governments to manage their help lines and operate their ambulances at a government-subsidized rate. Since 2005, Ziqitza has grown from 10 ambulances to 3,300.[51]

Similarly, in Addis Ababa, Ethiopia, government-operated ambulances can rarely be trusted to reach an accident scene on time. According to Acumen Fellow Kibret

[51] Inventiva How a medical emergency led to the launch of India's second largest ambulance response service; Ziqitza Health Care Ltd

Abebe, "Only four percent of victims come to the hospital with ambulances. They arrive without any life-saving measures."[52]

This inspired Kibret to found **Tebita**, Ethiopia's first private ambulance company. Like Ziqitza, the model is sustained through cross-subsidization: The income from Tebita's work with wealthier diplomatic missions and multinational companies in Addis Ababa helps subsidize the cost of the ambulance service for the public.[53]

Another approach to overcome the transportation barrier is to bring physicians directly to patients. In the United States, **Ready Responders** is a mobile urgent care solution that brings care providers to neighborhoods with limited access to care.

The service provides an alternative to unnecessary emergency room visits, which contribute to high costs to the health care system, overcrowded facilities, and a diminished patient experience. The service is provided free to patients through a partnership with health insurance and Medicaid plans.

[52] Acumen, This Entrepreneur Gave Up His Home to Build Ethiopia's First Ambulance Company

[53] ANDE, Award-Winning Ethiopian Social Enterprise Saves Lives and Wins Minds

For patients with mobility challenges, some healthcare providers and insurance plans already offer transportation services. However, the scheduling processes are often inefficient and a frustrating experience for both providers and patients. **Kaizen Health** developed a logistics platform to streamline the scheduling of medical transportation.

When an appointment is scheduled, providers can select a vehicle and pick-up time. Patients receive an alert by text or call before their ride arrives. Kaizen Health works with Lyft and other medical transportation companies to transport patients.[54]

Through this model, Kaizen Health is responding to the $3 billion market for non-medical emergency transportation spending. Their customers include healthcare systems, insurers, and assisted living centers.

[54] Built in Chi, Your Ride is Here: Kaizen Health Helps People Stop Worrying About How They'll Get to the Doctor

PATIENT ENGAGEMENT

Educate patients on how to engage with the healthcare system.

EVALUATING OPPORTUNITIES FOR INNOVATION IN THE HEALTH SECTOR

Navigating a complex healthcare system is overwhelming or intimidating for many people. The challenge is even greater for patients with the burdens of poverty, language barriers, chronic diseases, or mental illness and addiction.

For many low-income patients, this results in avoidance and a lack of trust in physicians. But by delaying treatment, patients may experience more severe and expensive illnesses in the long term.

How can social enterprises educate patients on why, how, and when to access health services and provide support systems so they can confidently manage their own care?

EXAMPLES OF INNOVATIVE SOLUTIONS

More than 40 million Americans speak Spanish at home, according to a 2017 survey by the U.S. Census Bureau.[55] Yet only 5% of physicians in the United States speak Spanish.

"I saw an opportunity to serve the country's largest underserved segment," said Abner Mason, founder of **ConsejoSano**. "They have poorer outcomes because they feel disconnected from the healthcare system and don't know how to use it efficiently."

ConsejoSano shares information about health services through text message with patients in more than 22 languages, including Spanish, English, Arabic, Farsi, Mandarin, and Cantonese. In addition to these text notifications, patients are connected with a "navigator" who can help them find in-network care providers or understand preventative care.

[55] U.S. Census Bureau, Language Spoken at Home: 2017 American Community Survey 1-Year Estimates

For example, a parent might receive text messages to explain the importance of regular checkups and immunizations for a child's health. A recent campaign targeting low-income residents of California carried out by ConsejoSano for the health plan Blue Shield of California resulted in 1,400 visits to a physician.[56]

ConsejoSano customizes the content of the messages by identifying cultural nuances, social determinants of health, and other details that are unique to each patient segment.

These digital engagements result in better outcomes for patients and address the challenge of "no-shows" for health plans, care providers, and government programs like Medicaid, which are the customers of ConsejoSano's services. In the United States, missed appointments cost the healthcare industry around $150 billion every year and language barriers are a leading cause.[57]

According to the Center for Care Innovation, text messaging has proven to be a promising and inexpensive engagement tool for several use cases, including:[58]

+ reminding patients about upcoming appointments
+ providing young people with information about health insurance and enrollment assistance
+ helping patients self-manage their chronic diseases, such as diabetes or hypertension
+ creating touchpoints with patients in alcohol and substance abuse recovery programs to encourage adherence

The Texting for Better Care Toolkit assessed the results of pilot programs for text messaging in public hospitals and community clinics in California. They found a few common pain points with these pilots:[59]

+ Many of the texting services were one-sided and could not respond to questions sent by patients.
+ Obtaining patient consent and securely storing data were significant barriers for many of the institutions participating in the study.

[56] State of Reform, Platform Engages Medi-Cal Members Through Culturally Relevant Texts

[57] Healthcare Dive, How Providers Are Working to Stem Missed Appointments

[58] Zero Divide, Texting for Better Care Project Final Report

[59] Center for Care Innovations, Texting for Better Care Toolkit

PATIENT ENGAGEMENT

Enable the coordination of physicians, social and clinical services, and benefits providers.

EVALUATING OPPORTUNITIES FOR INNOVATION IN THE HEALTH SECTOR

Healthcare systems are fragmented and complex in many countries across the world. Information about a patient's history might be contained in multiple systems and institutions, making it difficult to coordinate referrals and manage the patient's care over time.

How can social enterprises enable the coordination of the many actors in the healthcare system—including physicians, community services, and benefits providers—to improve the patient's experience of care?

EXAMPLES OF INNOVATIVE SOLUTIONS

In the United States, patients who are managing an addiction often circulate in and out of emergency rooms, detox centers, or prison. With no records or continuity of care, it becomes all but impossible to treat their disease.

For those who do receive treatment, U.S. regulations often require more than 100 visits to pharmacies, clinics, and counseling sessions a year. Under these stringent requirements, many patients have difficulty adhering to treatment and are at risk of relapse.[60]

Boulder Care is a digital platform for patients who are seeking treatment for opioid use. Patients are prescribed proven medications. They are also connected with a multidisciplinary team of health professionals—including a board-certified addiction doctor, nurse, care coordinator, and peer coach—who can be reached privately through a mobile app.

[60] Aequitas Partners, An Interview with Stephanie Papes and Dr. Amanda Wilson

Historically, this type of multidisciplinary support would not have been covered by treatment programs. But Boulder Care is proving to its health plan and integrated health care system customers that their model is a superior and cost-effective solution to help patients adhere to treatment.

Pregnancy is another period of time where patients benefit from access to a diverse team of care professionals, such as lactation specialists or nutritionists. However, healthcare providers are typically disconnected from these non-physicians.

Mahmee is a digital platform that allows new mothers to book appointments with professionals from nurses to massage therapists and sleep trainers. Women also have access to advice from specialists on discussion forums.

The platform was developed in recognition that most women in the United States do not engage with the healthcare system for six weeks after delivery. For their hospitals and health system customers, Mahmee makes it easier to refer patients to specialists and collaborate on the patient's care.

PATIENT ENGAGEMENT

Integrate the social determinants of health into an individual's care.

EVALUATING OPPORTUNITIES FOR INNOVATION IN THE HEALTH SECTOR

Just as we can use disparate data sources to predict an outbreak of disease, we know that many factors contribute to the health outcomes of individual patients. For example, socioeconomic status, education level, the physical environment, employment status, and social support networks all contribute to an individual's health.

How can social enterprises integrate these social determinants into an individual's healthcare?

EXAMPLES OF INNOVATIVE SOLUTIONS

Community-based organizations extend access to essential services, such as food, child care, or housing, to vulnerable community members. Services like these are traditionally outside the scope of healthcare providers and many physicians may be unaware they exist.

Healthify addresses this challenge by providing a database of community organizations and helping providers "close the loop" on referrals—that is, ensuring that patients follow up on the appointments.

The customers of Healthify are health plans and health systems across the United States who recognize the impact of these social determinants on an individual's health, as well as the reduction in costs related to chronic illnesses and emergency room visits.

For social entrepreneurs who want to develop an enterprise that addresses these systemic barriers to health, **Health Leads** provides a collection of resources. The nonprofit publishes case studies and educational briefs to help scale best practices for challenges such as making referrals, supporting community health workers, and overcoming language barriers.

DATA SCIENCE + PREDICTIVE ANALYTICS

Predict public health emergencies and provide better preventative care through data science.

EVALUATING OPPORTUNITIES FOR INNOVATION IN THE HEALTH SECTOR

What if we could predict the earliest signs of a disease outbreak and intervene before it escalates to a public health crisis? What if we could pinpoint to the kilometer where children are most likely to experience malnutrition?

Using data science and predictive analytics, public health specialists are learning how to deploy their scarce resources exactly when and where they are needed, and provide better and more timely preventative care.

EXAMPLES OF INNOVATIVE SOLUTIONS

Following the destruction of sewer systems during the ongoing civil war, Yemen has been battling a cholera outbreak with thousands of cases reported every week. More than 2,500 people have died from the disease since 2017. Yet the waterborne disease can be prevented or treated if caught early.

The UK Department of International Development developed a computer model to monitor rainfall and forecast where sewer systems might overflow and spread the infection. With this knowledge, aid workers can prepare to intervene weeks ahead of time.[61]

In Nigeria, researchers have identified regional clusters of 5x5 kilometers where children are more likely to be underweight or have stunted growth, which are risk factors for child mortality. By identifying areas like this, the government and international health organizations can allocate resources where they are needed most.[62]

[61] BBC News, Yemen Cholera Epidemic "Controlled" by Computer Predictions

[62] Catherine Cheney, These New Maps Point to the Power of "Precision Public Health"

Similarly, the world's mosquito-related infectious disease burden is spread over 50 million square kilometers—a daunting range of territory to intervene. By focusing on just 7 million square kilometers where mosquitoes are more likely to spread the infection, public health specialists found they could address 90% of the world's disease burden.[63]

The work of marrying data science with public health interventions is known as precision public health.

According to Naveen Rao, "Precision public health has the potential to help overcome some of the biggest barriers to achieving universal health coverage by ensuring that the right care gets to the right people at the right time."[64]

One barrier to precision public health is the absence of reliable data and data systems in countries with the most vulnerable populations. For example, about 29 million deaths are recorded without a cause and nearly 50 million newborns are not officially registered every year.[65] The increasing use of mobile devices—rather than paper forms—for collecting and reporting public health data is a step in the right direction.

Additionally, more work is needed to share disease surveillance data between countries and coordinate the global response to disease outbreaks.

[63] Scott F. Dowell, David Blazes and Susan Desmond-Hellmann, Four Steps to Precision Public Health

[64] Naveen Rao, Achieving Health for All: The Power of Precision Public Health

[65] Bloomberg Philanthropies, Data for Health

STOP + REFLECT

After reading this section, you have a better understanding of the challenges and opportunities for innovation in the health sector. Now, which of these opportunities are you most inspired and prepared to address?

- ☐ Make healthcare more affordable
- ☐ Provide quality reproductive, maternal, newborn, and early childhood care
- ☐ Address the threat of counterfeit and substandard drugs
- ☐ Build the capacity of community health workers
- ☐ Deliver care to the "last mile" through new technologies
- ☐ Decrease the transportation barriers to accessing healthcare
- ☐ Educate patients on how to engage with the healthcare system
- ☐ Enable the coordination of physicians, social and clinical services, and benefits providers
- ☐ Integrate the social determinants of health into an individual's care
- ☐ Predict public health emergencies and provide better preventative care through data science

Reflect on these questions:

+ Why are you excited to address this challenge?
+ Why do you believe this challenge is still unresolved?
+ What unique skills and experiences do you bring to this challenge? What skills do you need to develop?
+ What social enterprises and experts are leaders in this field? How can you build off their experience and iterate on their approach?
+ What are the gaps in your knowledge? What are your next steps to fill those gaps?

5. BUILDING PARTNERSHIPS IN THE HEALTH SECTOR

In addition to patients and community health workers, there are a number of actors who contribute to the healthcare system and face challenges of their own. They may become paying customers, end users, or partners of the solutions you develop.

Governments
Governments are potential customers for social enterprises in the health sector, given the political and economic benefits of a healthy population and the government's ability to drive adoption of innovations.

"Unless you have the government involved, there is no scalability and no sustainability, especially if you're thinking about the developing world," said Naveen Rao.

In countries where health systems are underfunded, social enterprises can partner with governments to deliver services. This is often called a "public-private partnership." These partnerships are meant to offer higher quality services to the public and operating profits to the private company.

For example, to expand their geographic reach and serve lower income customers, **Ziqitza** entered an agreement with a state health ministry to operate their ambulances at a government-subsidized rate. Today, Ziqitza operates the "108 National Ambulance Service" in partnership with five states.[66]

Government policies may also determine the pricing of your product or service. In 2013, the Kenyan government introduced

[66] Ziqitza Healthcare Limited, Ambulance Services

a subsidy to ensure all pregnant women had access to free deliveries in a hospital. **Jacaranda Health** set the prices in its maternity hospital to align with the subsidy.

In South Africa, the National Department of Health is demonstrating the government's ability to rapidly scale health innovations. Founded in 2014, the free program **MomConnect** has connected with nearly 2 million mothers through SMS, and more recently, WhatsApp.

MomConnect has three primary features: twice-weekly text messages based on the stage of an expecting or new mother, a help desk, and a national pregnancy registry. Women receive messages about nutrition, antenatal care, breast feeding, and immunization. With the backing of the government, MomConnect has been able to reach 95% of public health facilities in the country.[67]

Hospitals

Hospitals have a responsibility to deliver strong health outcomes to patients, yet they must also remain financially sustainable.

Social enterprises can work with hospitals to improve the accessibility of care and help manage costs.

For example, patients who miss appointments (also called "no-shows") present a significant cost to the health system. In the United States, missed appointments cost the healthcare industry around $150 billion every year.[68] The reasons for these missed appointments include transportation challenges, language barriers, unfamiliarity with the health system, long wait times, and the high cost of services.

In this brief, you learned how social enterprises like **ConsejoSano** and **Kaizen Health** are developing strategies to reduce no-shows, including text message-based appointment reminders and coordination of transportation logistics.

Additionally, social enterprises like **Jacaranda Health** are building the capacity of nurses through training programs and reducing the burden on hospitals by connecting with patients digitally.

[67] Peter Barron, Joanne Peter, Amnesty E LeFevre, Jane Sebidi, Marcha Bekker, Robert Allen, Annie Neo Parsons, Peter Benjamin, Yogan Pillay, Mobile health messaging service and helpdesk for South African mothers (MomConnect): history, successes and challenges

[68] Healthcare Dive, How Providers Are Working to Stem Missed Appointments

5. BUILDING PARTNERSHIPS IN THE HEALTH SECTOR

Global health institutions and nonprofit foundations

Global health institutions and nonprofit foundations, such as the World Health Organization, United Nations, and Jhpiego, have been engaged as designers or funders of health innovations.

For example, for many years, community health workers in Uganda were responsible for physically delivering surveillance reports on incidents of disease or drug stocks to district offices as much as 100 kilometers away. This process significantly delayed the country's ability to manage malaria and respond to disease outbreaks.[69]

In partnership with UNICEF, the government of Uganda introduced an SMS-based data reporting program, called **mTrac**, in 2011. The government scaled mTrac to health facilities in most of the country over four years. More than 50,000 health workers have

[69] Thematic Research Network on Data and Statistics, Data Sharing via SMS Strengthens Uganda's Health System

used mTrac and the program is credited with reducing the response time to disease outbreak by half. The program also offers a hotline that allows community members to report on the quality of health facilities.

Additionally, the Maternity Foundation supported the development of the **Safe Delivery App**, a mobile app that shares clinical guidelines on emergency obstetric and neonatal care for birth attendants (also known as "midwives") in the most remote regions. The app shares instructional videos and medication glossaries to guide midwives through complicated births in low resource environments, such as refugee camps.

The challenge of donor-funded innovations like these is the transition to local ownership and long-term financial sustainability.

Insurance providers and health plans

Insurers (or "payors") are often the subject of criticism, given their rising costs, non-transparent pricing, and denied claims. But they are a potential partner for social enterprises who hope to improve health outcomes.

Insurance companies lose money when they underestimate the amount of claims that will be made by patients, notably for expensive conditions like diabetes or heart disease. Therefore, insurers have an interest in preventing health risks and maintaining healthier populations.

Insurance programs and nonprofit health plans designed for low-income patients, such as Medicaid, are especially focused on improving the patient's experience of care while managing costs.

Additionally, insurers are an important stakeholder for social enterprises who want to help patients navigate the complex health system in their country.

STOP + REFLECT

You can't solve a complex challenge like healthcare alone.

How can you begin building powerful partnerships in the health sector? For each of these stakeholders, identify an opportunity to reach out and learn more:

+ Governments
+ Hospital administrators
+ Doctors and nurses
+ Global health institutions and nonprofits
+ Insurance providers and health plans

Through these relationships, you can gain unexpected insights and confirm that your social venture idea is on the right track.

FINAL ADVICE *from* EXPERTS *in the* HEALTH SECTOR

FAITH MUIGAI
Former Chief Medical Officer,
Jacaranda Health

Measure both clinical and business metrics.

"No one likes to say 'profit' in healthcare, but you need profit to invest back in your business."

"I believe that is what made Jacaranda successful. We were always looking at metrics, and not only clinical metrics, but also business indicators. That included human resources indicators like employee retention, as well as patient wait times, because dissatisfaction can result in lost customers."

"One important variable is staffing. When obstetrics goes bad, it goes very bad, very quickly. If I don't have skilled professionals who are equipped to handle these emergencies, the outcome will be poor. Women will talk about their poor experience in their communities, and then you don't get more patients through referrals. It has a trickle down effect to your bottom line."

Build low-cost solutions that are suitable for the local context.

"When you're looking at solutions, focus on realistic and low-cost solutions. Let's say you don't have sophisticated computers or software, but you need a dashboard. You need to see information related to your business—where you're in the red, where you're in the green. Guess what? Excel spreadsheets will do that for you."

"I went to a conference that was all about artificial intelligence and blockchain. I told them, don't talk to me about artificial intelligence and blockchain when I'm still trying to figure out how a patient can reach the nurse at the nurse's station!"

SARA KHURRAM
Co-Founder and CEO, Sehat Kahani

Iterate on your business model and be open to hybrid business structures.

"When we started [Sehat Kahani], we knew that we wanted to be a sustainable enterprise. We didn't want to depend on grant funding and have our clinics shut down after five years because the donor

moved out. We iterated on our business model five to six times before we had a model that was acceptable to the community and made money for us."

"We carry out a needs assessment before opening a clinic. We see if the payability power is a minimum of 50 PKR [Pakistani rupees]. We see if there is internet connectivity and education available, at least a primary level, so that people will be open to new ideas and not too conservative. We see if there is a female nurse available or an absence of female doctors. We assess how much people are paying right now for services. Then we devise a business model according to this payability power."

"Through this model, the clinic breaks even, but the company does not. To make sure salaries and other costs are covered, we had to introduce different verticals of revenue. For example, one vertical for us is health education through telemedicine. We partner with corporations and pharmaceutical companies that pay us for social messaging campaigns."

"In this way, we have a cross-subsidization or hybrid structure, where our greatest impact is at the clinical level, but more revenue is made through our app and corporate partnerships."

ABNER MASON
Founder and CEO, ConsejoSano

Know that it's not about the coolness of the technology.

"The most important thing is to accept that you've got to reach out to people in a way that is comfortable for them. It's not about the beauty or coolness of the tech; a lot of times we get caught up in that. We're proving tech is a tool that can build trust and connect people to the healthcare system in a way that will result in better outcomes for them and lower costs for providers. We're doing both, and that's what's exciting."

Embrace opportunities even if you don't feel ready.

"My advice to students is to do big things—even if you don't feel qualified. When I was in my civil service career, the White House told me I was going to be appointed to the Presidential Advisory Council on HIV and AIDS. I didn't consider myself an expert on health issues and I politely declined the appointment. About one minute later, I received a call from my boss who told me to call the White House back and tell them I accepted the appointment."

"My life changed in ways that I never could have imagined. It ultimately led me to start ConsejoSano. You're not always going to know what to do or feel ready for everything in your career. No matter how experienced you are or what stage you are in your career—if an opportunity knocks or a door opens, take it."

NAVEEN RAO
Managing Director and Senior Advisor to the President, Health Initiative, The Rockefeller Foundation

Bring data to public health and ensure the vulnerable are not left behind.

"The most urgent challenge for me is to bring the power of data and data science to public health. Traditionally, the way medicine is practiced today in communities and primary healthcare centers is no different from how it was practiced for the last 50 to 100 years."

"So the urgency is, how do we bring data to public health? And how can we make sure there is equity in this data sharing?"

"I believe the class divide of the future, the haves and the have-nots, is not going to be money. It's going to be data. Those who have access to data will have good health and those who do not will have poor health."

RADHA KARNAD
Regional Program Advisor for East and Southern Africa, Jhpiego

Understand that access is not enough if the care is not high quality and patient-centered.

"Technology is part of taking healthcare to people, but I'm hesitant about technology being all of it. It is so duplicative right now. There are four or five people in Nairobi trying to create the same apps with the same purposes with different funding. It's a wasted opportunity to be collaborative and efficient in the way we spend our money."

"There are more [apps and technologies] at your fingertips than there were even 10 years ago. Unfortunately, I don't think quality has improved in the same way. Is it ethical to start with access, if the healthcare is not respectful or patient-centered or technically accurate? Would patients be better off not accessing it at all?"

SHANOOR SEERVAI
Author of "Listening to Low-Income Patients and Their Physicians," The Commonwealth Fund

Listen to patients and respect their past experiences.

"There aren't enough people who work in healthcare who are listening to patients. That's the rationale for why the Commonwealth Fund started our focus groups with patients. Too often, the people wielding power are not the people impacted by the systems or obstacles that low-income patients face."

"I advise students to keep in mind that we need to engage the people using the healthcare system as stakeholders and not as beneficiaries. If you do, you'll see that patients are facing structural violence or don't have access to housing—and that becomes the primary obstacle, not whether or not their doctor prescribes x or y medication."

"There is an incredibly innovative movement around trauma-informed care.The philosophy behind trauma-informed care is that you acknowledge that patients are coming to a healthcare setting with trauma that could be intergenerational. You need to be sensitive to that trauma and make patients feel safe. For example, you could be speaking to someone who is a survior of sexual abuse and just handing them a gown that is open on the back could be traumatic."

STOP + REFLECT

Congratulations! By finishing this sector brief, you have gained a strong foundation in the health sector.

So, what are your next steps? Here are a few questions to get started:

+ How would you summarize the problem you want to solve in one sentence?
+ Who is your target customer? What is your value proposition for them? How might you calculate the size of this market?
+ Where can you learn more about the business models featured in this sector brief? How do they earn revenue and strive to become financially sustainable, while maximizing their social impact?
+ How can you start building relationships with partners in the field?
+ What important lessons and advice from experts do you want to take forward?

To address these questions and develop your social venture idea, we recommend that you explore two more resources from Acumen: "Lean Startup" and "Business Models for Social Enterprise."

Good luck—we're excited to see what you build!

Reading List

RESOURCE	ORGANIZATION	DESCRIPTION
Listening to Low-Income Patients and Their Physicians	The Commonwealth Fund	The Commonwealth Fund interviewed 100 patients and 30 physicians to understand the numerous obstacles that impact the health of low-income patients in the United States.
This Acumen Fellow lost her job when she got pregnant. Here's how she responded.	Acumen	In Pakistan, many women spend years training to be a doctor, only to see their careers end when they become pregnant. Acumen Fellow Sara Khurram founded Sehat Kahani to provide care to rural Pakistan and open new career opportunities for female doctors.
A Test of Faith: One Mother's Mission to Transform Maternal Care in Kenya	Acumen	Faith Muigai, an Acumen Fellow and former Chief Medical Officer of Jacaranda Health, describes her journey to Kenya's highest quality affordable maternal hospital.
This Entrepreneur Gave Up His Home to Build Ethiopia's First Ambulance Company	Acumen	Car crashes are common in Ethiopia and government ambulances often don't reach the accident on time. Acumen Fellow Kibret Abebe founded Tebita, Ethiopia's first private ambulance company.
Texting for Better Care Toolkit	Center for Care Innovations	There is increased interest in using texting to connect with patients in between office visits: sending reminders for upcoming appointments, assisting with chronic disease self-management support, and educating young patients about insurance options. This toolkit shares the results of pilot programs in hospitals.
2 Million African Community Health Workers	UNAIDS	This report makes the case for a major new initiative: to rapidly recruit, train, and deploy two million community health workers in Africa. Drawing on a vast body of evidence and regional experience, the report shows how community health workers save lives and improve quality of life.
Community Health Toolkit	Medic Mobile	Leading organizations serving the hardest-to-reach communities came together to create the Community Health Toolkit (CHT). The CHT is a collection of open source technologies and design, technical, and implementer resources to advance universal health coverage.

This sector brief was prepared for participants in ***The Rockefeller Foundation-Acumen Student Social Innovation Challenge.***

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About Acumen

www.acumen.org

Acumen is changing the way the world tackles poverty by investing in companies, leaders and ideas. We invest patient capital in businesses whose products and services are enabling the poor to transform their lives. Founded by Jacqueline Novogratz in 2001, Acumen has invested more than $120 million in 119 companies across Africa, Latin America, South Asia and the United States. We are also developing a global community of emerging leaders with the knowledge, skills and determination to create a more inclusive world.

About The Rockefeller Foundation

www.rockefellerfoundation.org

The Rockefeller Foundation advances new frontiers of science, data, policy, and innovation to solve global challenges related to health, food, power and the expansion of US economic opportunities. As a science-driven philanthropy focused on building collaborative relationships with partners and grantees, the Foundation seeks to inspire and foster large-scale human impact that promotes the well-being of humanity throughout the world by identifying and accelerating breakthrough solutions, ideas and conversations.

Author

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