Sharing in the Global Economy
Lessons from Digital Health Innovators

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The Center for Health Market Innovations is a global public good.

We enable **knowledge sharing** by providing a platform to host information, analysis, and connections to support innovative health programs in low- and middle-income countries.

Identify  
Analyze  
Connect
The Sharing Economy
Several LMICs have high percentages of cellular technology coverage.

Many LMICs have more than 90% 2G coverage.¹

Many LMICs have nearly 80% 3G network coverage.¹

70% of the world’s population will have access to mobile technology in 2020 – 100,000,000 more those with access to electricity.²

Access to a mobile device connects us to the global marketplace.

We are trusting others that we have never met person.

We are growing our social capital and introducing more people into the market.

We have more opportunities to obtain capital.
We are experiencing a new economic reality. Market shifts fostered by the digital revolution will change how health care is delivered and experienced.
Key Issues in emerging market healthcare landscapes:
Poor coverage, quality, and low digitization

1. Healthcare demand in emerging markets is growing, driven by a number of factors such as a growing and ageing population.

2. With the growing middle class and rising incomes, people are spending more on healthcare.

3. Chronic diseases such as diabetes are no longer ‘rich country’ diseases, and their prevalence is increasing in emerging markets.

4. In LMICs, most of the healthcare infrastructure is concentrated in urban areas, while more than 50% of the population lives in rural areas.
Digital health innovations disrupt health care at all levels

LEVEL 1: SYSTEMS
• Supply-chain management
• Integrated digital platform for booking and payment

LEVEL 2: CENTERS
• Remote patient monitoring
• Remote diagnostics

LEVEL 3: PROFESSIONALS
• Education and training
• Data collection and reporting

LEVEL 4: PATIENTS
• Health and wellness information
• Medical advice

Patients demand affordable, personalized health care in a shared economy

The shift from traditional to new digital health solutions in LMICs

**Paper based health solutions**
- All paper records

**Traditional digital health model**
- Digital version of patient information
- Coded
- Data-centered
- Siloed

**New digital health model**
- Cloud-based
- Open source
- Integrated
- Social
- Mobile

Digital health innovations uniquely address three persistent challenges in emerging markets:

**Access**
- Greater reach of healthcare delivery via technology-based solutions
- Greater and faster patient access to health and wellness information delivered via mobile phones

**Quality**
- Enables faster and secure communication and data sharing between healthcare centers, professionals, and patients

**Cost**
- Resource optimization: digital health can ensure that available health resources are used most effectively and where/when needed
Research Questions

1. In what ways are digital health technologies administered in emerging health markets that have made them successful?

2. How can health models that utilize digital health technologies be integrated into health markets?
To identify promising digital health innovations that are achieving scale in LMICs

1. Conduct search of CHMI programs database
2. Identify digital health technology
3. Innovator interviews

- Reviewed 366 innovative digital health programs in CHMI database
- 52 digital health programs had impact evaluations
Identify the digital technology solution

- What are the core components or attributes of the digital technology that is central to achieving the program’s outcomes?
To identify promising digital health innovations that are achieving scale in LMICs

1. Conduct search of CHMI programs database
2. Identify digital health technology innovator interviews
3. Synthesis of findings

Digital health technology innovations

Enabling Market Environment
Health care delivery innovation through digital health
Two factors that lead to the scale of digital health innovations

Digital health technology innovations + Enabling Market Environment
Four digital technology types were identified in our analysis.

- Telemedicine to extend access to care
- mHealth technologies to improve the care continuum
- Cloud-based and open source technology to enhance the effectiveness and efficiency of health workers
- Integrated data collection platforms to support decision-making and patient care management
Technology Type #1:

Telemedicine to extend access to care
doctHERs

- Digital healthcare platform connecting remotely located female doctors in Pakistan to underserved health consumers via nurse-assisted video-consultation

Asher Hasan, MD
Founder & Chief Executive Officer
doctHERs leverages digital technology to correct two market failures:

1. Access to quality healthcare for underserved communities
2. Inclusive employment for women
World Health Partners:

- India-based non-profit identifying informal health providers by live streaming to connect them to qualified specialist doctors based in urban centers

- SkyHealth telemedicine centers also offer point-of-care tele-diagnosis using a Remedi™ kit that transmit diagnosis results directly to the specialist physicians
WHP’s utilizes telemedicine to establish comprehensive, large-scale, and cost-effective service delivery platform

Technology Type #2:

mHealth technologies to improve the care continuum
iKure Techsoft

• Point-of-care technologies enable community-based health workers (CHWs) to provide healthcare monitoring and diagnostic support

• Meets Indian rural health care and prevention needs through health outreach initiative, skills development, and technology intervention
Wireless Health Incident Monitoring System (WHIMS) by iKure Techsoft de-fragments healthcare delivery in India

- Provides technology-enabled infrastructure for doctors-CHWs in rural areas
- Mobile data collection & real-time sharing of patient data
- Remote incidence tracking
- Accessible through tables & smart phones
Technology Type #3:

Cloud-based and open source technology to enhance the effectiveness and efficiency of health workers
MicroClinic Technologies

• Kenya-based corporation developing point-of-care technologies for bottom of the health pyramid

• ZiDi™ is an innovative enterprise health management application designed to improve efficiencies and revenues for clinics

Moka Lantum, MD, PhD, MS
Founder & Managing Partner
MicroClinic Technologies’ mHealth innovation offers patient-centered solutions that optimize accessibility and quality care

ZiDi™ is the integrated, one stop source enterprise solution that facilitates data-driven decisions, regardless of geographic location
Technology Type #4:

Integrated data collection platforms to support decision-making and patient care management
access.mobile International, Inc.

- International digital health company focused on mobile patient engagement in East Africa
- Deploys mobile and cloud-based technology to proactively connect with patients and drive healthy behaviors
- Advanced analytics and African health market expertise create a unique solution for engagement
access.mobile provides end-to-end engagement solutions that patients’ ownership of their healthcare

**Provider-side engagement through amHealth**

amHealth is an affordable, secure, and easy-to-use technology that simplifies practice management and improves patient engagement

- Group and individual messaging
- Appointment calendar
- Patient record management
- Practice administration

**Patient-side engagement through Gozee**

Gozee is a free web app that connects users with health facilities and pharmacies in the area
Key points: using digital health technologies to scale impact

- Integrate digital health technologies into existing health programs instead of creating standalone solutions
- View digital health technologies as enablers, not substitutes for people and processes
- Design digital technologies for and with end-users in mind

Telemedicine

mHealth

Cloud-based & open source

Integrated data collection platforms
Enabling Market Environment
Navigating the Market

- Consumer Insights
- Demand
- Relationships

Enabling Market Environment
Demand
You work in post-conflict Pakistan. How did those factors play into the founding of doctHERs?

There was an opportunity to reintegrate these women, and **there was an opportunity to leverage this underutilized capacity to empower women** both at home as well as in the office, on the frontlines.

- **Asher Hasan**, CEO and Founder of doctHERs
How did the vertical market play into the creation of World Health Partners?

To reach underserved markets through the marketplace, **if you go vertical, you are not able to then get the interest of the providers**, especially when you are trying to sell subsidized products and services.

- **Gopi Gopalakrishnan**, President of World Health Partners
Demand

Opportunities for new engagements for populations that the market has a tendency to exclude
Consumer Insights
In an emerging market, what challenges do you face driving demand?

We know we are adding value. We know that the providers and the patients want it, but value in this market is - similar to emerging markets – **value isn’t enough. People aren’t paying based on value.** It takes a while to get people to pay for the value that they’re seeing.

- **Sara Yelpaala** Director of Marketing and Strategy for access.mobile International, Inc.
How does the consumer inform the priorities in your model?

[...] the simple interfaces [and] swipe of the screens in a smart phone [...] was not so simple for the village woman working as community health workers. So, we literally had to spend our time in giving them enough confidence to use the systems, and we had to really ensure that the symbols were very simple and intuitive in nature. There were several other factors, for example, the problems of heat, sweat, dust, and in those settings how the whole hardware software behaves.

- Sujay Santra, Founder and CEO of iKure Techsoft
What characteristics of an open market should a social enterprise consider?

When you go into the open market, they are not looking for efficiency. They are looking for premium experience.

- **Moka Lantum**, Founder and Managing partner of MicroClinic Technologies Limited
What is key when selling your value to various entities?

Offering a free version of our cloud based solution. That then allows non-profit organizations other social organizations even governments to think about taking this on and trying the system and seeing the benefits and lowering the cost to enter.

- Kaakpema “KP” Yelpala Founder and CEO of access.mobile International, Inc.
Offer varied experiences of your model to allow different entities to experience the value of your services.

Consider how value can be leveraged when willingness to pay is not present.
Key Partnerships
What alternatives exist for models that are not economically viable?

Either we make it economically viable, which often cannot happen, or the only other choice is to lock in with the government. Somehow integrate or somehow forge a relationship with the public sector.

- Gopi Gopalakrishnan, President of World Health Partners
What is key when selling your value to various entities?

Interoperability with other systems. To the extent that we can partner with other complementary systems, then that is going to multiply impact for everybody. Without interoperability and sharing of data, and connecting systems, it’s makes it hard on organizations and ultimately it doesn’t benefit patients.

- Kaakpema “KP” Yelpaala Founder and CEO of access.mobile International, Inc.
As a social enterprise, how were you able to survive until you integrated into the public sector?

We are an enterprise, while that work is going on, at the end of the day, you have a business to run, and that’s really where the private sector comes in. We need to figure out how we can tailor our services to the private sector.

- Moka Lantum, Founder and Managing partner of MicroClinic Technologies Limited
What partnerships are key to maintain as your impact grows?

As we grow and as we impact population health in different ways, we want to make sure that we’re aligned with national goals and also that public sector sees opportunity in the things we are doing.

- Kaakpema “KP” Yelpaala Founder and CEO of access.mobile International, Inc.
Pakistan is considered a frontier market with fairly high risk perception. A lot of donors and impact investors shy away from the country. **Without that support, it’s going to be very challenging for us to continue to attract the kind of human talent, human capital that we need to enable us to continue to grow.** A lot of that talent gets vacuumed up by the multinational corporate sector.

- **Asher Hasan**, CEO and Founder of doctHERs
Key partnerships

Public sector officials should be key partners in this effort, but integration takes time.

Businesses can be sustained with side projects that are more “market-ready” in the meantime.

Interoperability cannot be overlooked in emerging markets.
Criticisms
What would you say to those skeptical of using digital health to enhance patient experience?

We see health technology as an enabler, a way to ease pain points and improve quality and access issues. As an enabler, technology can expedite the process, help shortcut extraneous steps and facilitate informed decisions. Technology does not replace the decision making process, it helps simplify and inform it.

- access.mobile International, Inc.
What would you say to those skeptical of using digital health to enhance patient experience?

We realize our way is not the best way to provide healthcare. At an ideological level, we would like even the poor to get health services that compare with the way better-off urban classes get—where the doctor and the patient are under the same roof, where there is eye contact and body language necessary for empathy and better medical judgment, and where there is a comforting reassurance of personal connect.

- World Health Partners
Digital Health Technologies in the Future
Digital Health Tech in the Future

Questions to Consider

- How do we keep digital health technologies cost effective?
- How do we ensure digital health technologies remain unbiased towards certain end-users?
- How do we prevent digital health technologies from disadvantaging service providers in the future?
- Once a digital health solution is integrated into the market, what needs to be established in order to enable sustainability?
Scaling Digital Health in the Sharing Economy

Integrating technologies into the market

- Telemedicine
- mHealth technologies
- Cloud-based and open source technology
- Integrated data collection platforms

Increased social capital

Trust

Opportunities to obtain capital
References


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Thank you!