Moving together towards better epidemic response using digital health solutions

Global Health Risk Framework Initiative: A workshop on resilient and sustainable health systems to respond to global infectious disease outbreaks
Accra, Ghana
August 5, 2015

PATH
A catalyst for global health
A resilient health system is

Aware

Diverse

Self-Regulating

Integrated

Adaptive

....and you need real-time data to make this happen
Health Informatics in Developing Countries: Going beyond Pilot Practices to Sustainable Implementations: A Review of the Current Challenges

Daniel Luna, MD, MSc, Alfredo Almerares, MD, John Charles Mayan III, MD, Fernán González Bernaldo de Quirós, MD, Carlos Otero, MD

Department of Health Informatics, Hospital Italiano de Buenos Aires, Buenos Aires, Argentina

From pilot to scale: Towards an mHealth typology for low-resource contexts

Terje Aksel Sanner*, Lars Kristian Roland, Kristin Braa

Global Health Dynamics Roundtables:
Scaling up eHealth projects to advance women’s health

May 22 – 8:30 – 1 pm
INTERCONTINENTAL HOTEL
Geneva, Switzerland
Digital health service launches have proliferated
728 services reportedly active today

But few, if any, have scaled

Note: Figures based only on mobile-enabled products and services in developing world tracked by GSMA (including those merged/closed). Excludes services in pipeline with an impending launch. Sources: Bill and Melinda Gates Foundation, based on GSMA Mobile for Development Intelligence data; GSMA Mobile for Development deployment tracker, accessed 4 October 2014.
The Problem...
Meet Lucy.
Heavy registries
Long wait times
Days of reporting
A user advisory group

Social media to connect with peers and problem solve

An electronic immunization registry
WHAT IF EVERY DIGITAL HEALTH INVESTMENT WERE...

- Triggered and selected according to the needs of the health system?
- Mandated and driven by the Ministry of Health?
- Enabled by committed, long-term funding and robust program management so solutions have time and support to iterate, evolve, and embed into existing systems and practices?
- Built around realistic, long-term funding models?
- Integrated into existing national platforms?
- Selected and designed to conform to agreed standards?
- Designed and implemented with the participation of the end users and long-term implementers?
Why does BID approach rely on OpenHIE?

- The OpenHIE approach relies on internationally recognized and tested standards. Custom APIs and peer to peer integration is not scalable and difficult to maintain.

- Information systems are rarely designed to handle high volumes of data exchange. The OpenHIE infrastructure is optimized for scale and increasing volumes of secure data traffic.

- The OpenHIE model prioritizes security, patient and provider privacy and the role of governance. Governance and security is enforced by the Interoperability layer whereby all data transactions pass through.

- There should be one information system architecture that can address MANY disease issues
Tanzania system

INTEROPERABILITY LAYER (ENSURES SECURE EXCHANGE OF DATA)

- CLIENT REGISTRY (CR)
- SHARED HEALTH RECORD (SHR)
- INTERLINKED REGISTRY (IR)
- HEALTH WORKER REGISTRY (HWR)
- HMIS (dhis2)

- TIIS MOBILE APP
- TIIS WEB APP
- Distribution Resource Planner
- RAPID PRO

REGISTRATION INTERFACE
MOBILE PHONE
A digital health intervention is at scale when its routine use is institutionalized by either governments or end users as an approach to delivering health impact.
THE CONCEPT OF INSTITUTIONALIZATION HAS POWER EVEN WHEN VIEWED FROM DIVERSE STAKEHOLDER LENSES

Most public and private health care providers have adopted a standards-based suite of digital tools

Digital health services play a strategic role in long-term value creation

Most of that donors' health-related investments leverage sustainable digital health tools

Infrastructure built to manage provider payments is integrated into national infrastructure

Most major programs leverage nationally endorsed digital health tools

Products and services become economically sustainable
Levers for institutionalization

Photo: Drew Arenth
WHAT DOES IT TAKE TO INSTITUTIONALIZE A PRODUCT OR SERVICE?

Typical Sequence

1. The right leader - Leadership
2. The right solution - Effective product, Viable economic model
3. The right approach - Supportive policy, regulation and standards, Effective program management
4. The right capacity - Human capacity
Collaborating for institutionalization

Photo: Uw/Carl Hartung
Three steps to accelerate our journey

1. Agree on the destination and develop a roadmap

2. Catalyze national digital health investments

3. Invest in cross-market levers for institutionalization
<table>
<thead>
<tr>
<th>CASE FOR ACTION</th>
<th>NEAR-TERM INVESTMENTS</th>
<th>LONGER-TERM INVESTMENTS</th>
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</thead>
<tbody>
<tr>
<td>CASE FOR ACTION</td>
<td>Develop rigorous total cost of ownership (TCO) models and collect consistent health impact data on each implementation</td>
<td>Sponsor national advocacy and education efforts on the impact seen from digital health investments</td>
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<td>Require government and donor coordination before allocating investments</td>
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<td>Direct investments toward making products inter-operable with existing infrastructure</td>
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<td>Identify the “gives” and “gets” for each product before rollout by stakeholder</td>
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<td>Support national development of eHealth architecture and implementation plans</td>
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<td>Require new investments to have dedicated program management staff through national rollout</td>
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<td>Sponsor greater local university and entrepreneurs’ participation from the outset</td>
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### POSSIBLE CROSS-MARKET INVESTMENTS
FOR SCALING DIGITAL HEALTH INTERVENTIONS

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<td>Call for a global action plan for digital health investments</td>
<td>Convene stakeholders to develop the action plan and oversee implementation</td>
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<td>EFFECTIVE PRODUCT</td>
<td>Direct investment toward a smaller pipeline of best-in-class cross-cutting platform</td>
<td>Cultivate private sector technology firms to invest in digital health platforms</td>
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<td>VIABLE ECONOMIC MODEL</td>
<td>Develop financial forecasting tools that any country can use to consider TCO and return on investment of new digital health tools.</td>
<td>Develop innovative financing mechanisms (e.g., demand aggregation)</td>
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<td>SUPPORTIVE POLICY, REGULATION AND STANDARDS</td>
<td>Continue more inclusive development of shared standards and best practice frameworks</td>
<td>Negotiate aggregated licenses for standards and agree on global standards for developing world (e.g., WHO/ITU for NCDs)</td>
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<td>EFFECTIVE PROGRAM MANAGEMENT</td>
<td>Capture and sharing of best practices in more digestible, practical forms</td>
<td>Investment directed toward most effective models for implementing digital health</td>
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<td>HUMAN CAPACITY</td>
<td>Sponsor regional peer networks and specialized capacity programs targeted towards practitioners</td>
<td>Develop the next cadre of eHealth leaders through university-level health informatics programs in emerging markets</td>
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*PATH*
Thank you