



USAID
FROM THE AMERICAN PEOPLE

Digital Health for Overcoming Barriers to Ending Preventable Child and Maternal Deaths and Achieving Universal Health Coverage

Adam Slote
USAID/Washington

What have we learned?

More Subs per minute than babies



71



406

SITUAÇÃO ACTUAL DA TELEFONIA MÓVEL

13.3 milhões
ligações moveis

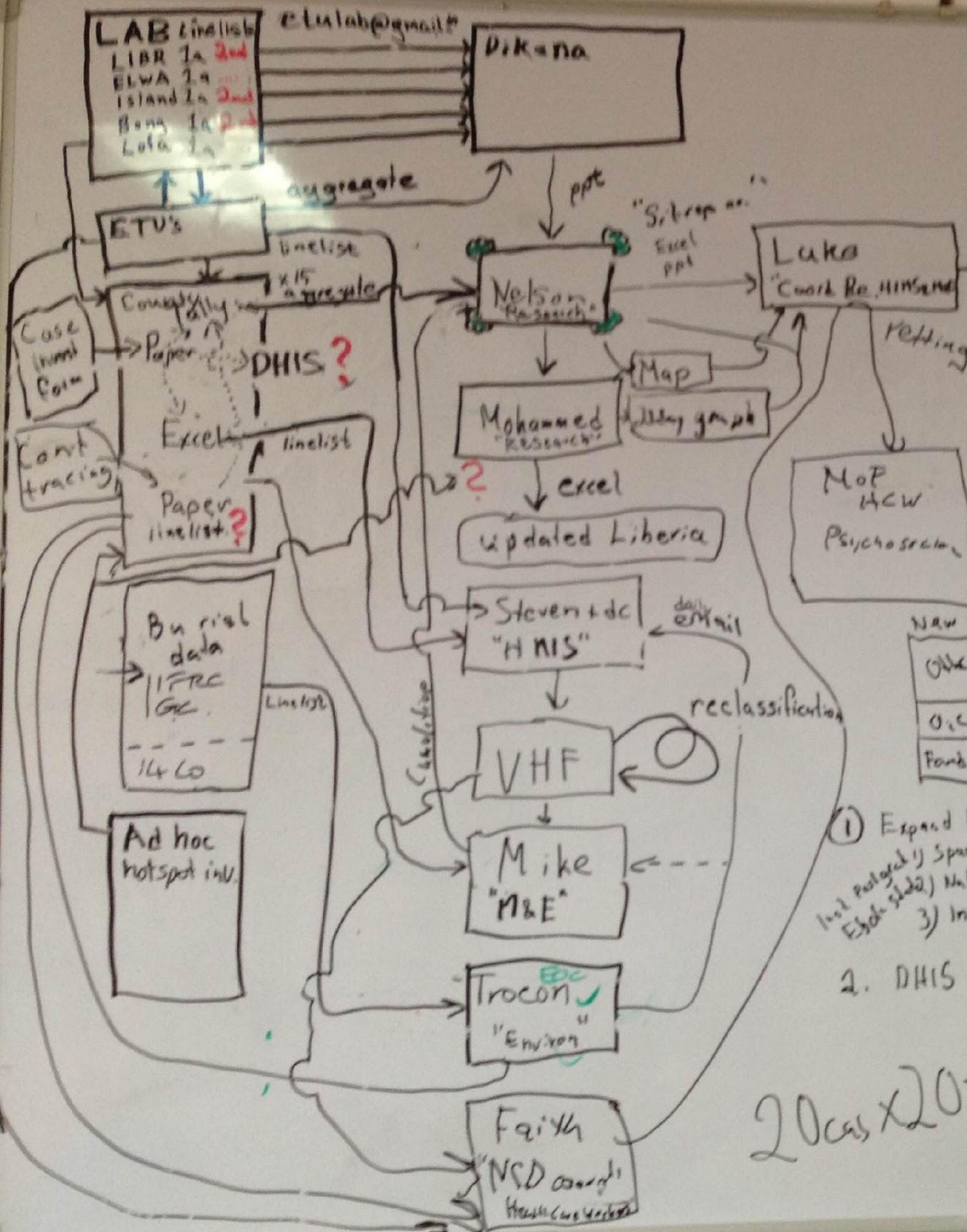
98% serviços
moveis prepagos

24 milhões de
população

91% das familias
urbanas com
acceso,
e 28% das rurais

1,600 milhões de
dólares de
investimento em
Telecomunicações
entre 2013 e 2017

61%
Penetração
SIM



PRIORITY

1 Nov →

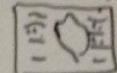
1. Assign pos. lab results to counties

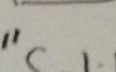
- 1 Line list Lab Done
- 2 " " ETU Not Done
- 3 " " County Case Finding Not Done
- 4 " " County burial team Not Done
- 5 Storage place, Google Drive!

2. Separate pos lab results by DEAD/ACTIVE

3. List and Map Hotspots/outbreak to Subcounty level

4. % new confirmed ^{cases} on contact monitoring lists

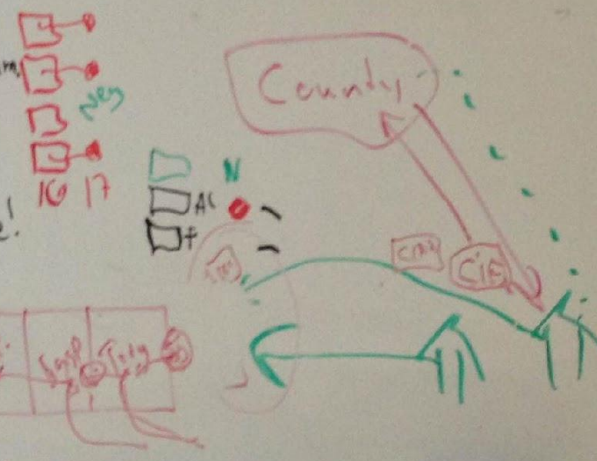
5A  Geo & time viz format aggregate

5B  Map each case!

6 "Split" Nelson? = Move data entry staff

- 1) Expand MoHSW Ebola Epi Sur team
 - 1) Nat. Pological Space
 - 2) National staff
 - 3) Int. supp. staff
2. DHIS and/or Excel + phone!

20 cases x 20 = 400 + 16 = 4000



eHEALTH STRATEGY & HEALTH SYSTEM



Health System

Mobile
Training
Apps

Data
Collect
ion

Mobile
money for
CCT

Mobil
e for
NHIS

Mobile for
RMNCH
demand
generation

eHealth Strategy

Governance & Leadership | Infrastructure | Services &
Applications | Strategy & Investment | Standards &
Interoperability | Legislation, Compliance & Policy | Workforce

REPUBLIC OF KENYA



MINISTRY OF HEALTH

one2one Youth Hotline

Jamii Smart



Center For
Health Market Innovations
Identify. Analyze. Connect.



m4RH
Mobile 4 Reproductive Health



USAID APHIA Plus
FROM THE AMERICAN PEOPLE

MHMtaani



**Kenya
M-health
innovations**

Kenya



Successes since Addis Ababa (1II)

- Selected Developments in mHealth:
 - cStock – Scaled up to all Village Clinics in Mw
 - Chipatala Cha Pa Foni (Health Center by Phone)
 - mHealth Triage Intervention (ETAT)
 - CBMNH & CCM
 - Facility IMCI
 - Dial a Doctor
 - SMART
 - Mobile Order Entry Laboratory Information System
 - DHIS Mobile



Challenges



- Network reliability: SMS messages that run through third party aggregators generally get deprioritized against person-person messages. This can lead to long message queues and delays.
- Lack of centralised/regional support for repair of devices such as computers, modems that are distributed and used across the country
- Lack of clear understanding of human resource capacity gaps at different levels including community health workers
- Misuse by some malicious users of the anonymous hotline
- Data use by recipients/decision makers is still limited and this demotivated the data collectors.
- Limited investment in measuring impact on health outcomes over all.



Lessons Learnt



- Government leadership is key in the alignment, scale up and sustainability of ehealth/mhealth initiatives
- Strengthening existing processes is often less disruptive, and is an easier entry point when introducing new technologies. Avoid introducing new processes, workflows or data collection needs
- There should be careful assessment of implications for additional training support, system management, repair and maintenance of devices and power (either solar or grid).
- Surveillance data useful beyond just timely data. Example of CHW in Kotido - data showed increase in pneumonia cases. Surveillance team found VHTs were actually mis-diagnosing the disease. Organized a refresher training.

LESSONS LEARNT

- Government buy-in is essential
- Political will is required
- Multi-stakeholder involvement is critical
- ***Intra-governmental*** synergy is mandatory
- Leveraging on existing data is fundamental
- Human capital development is a



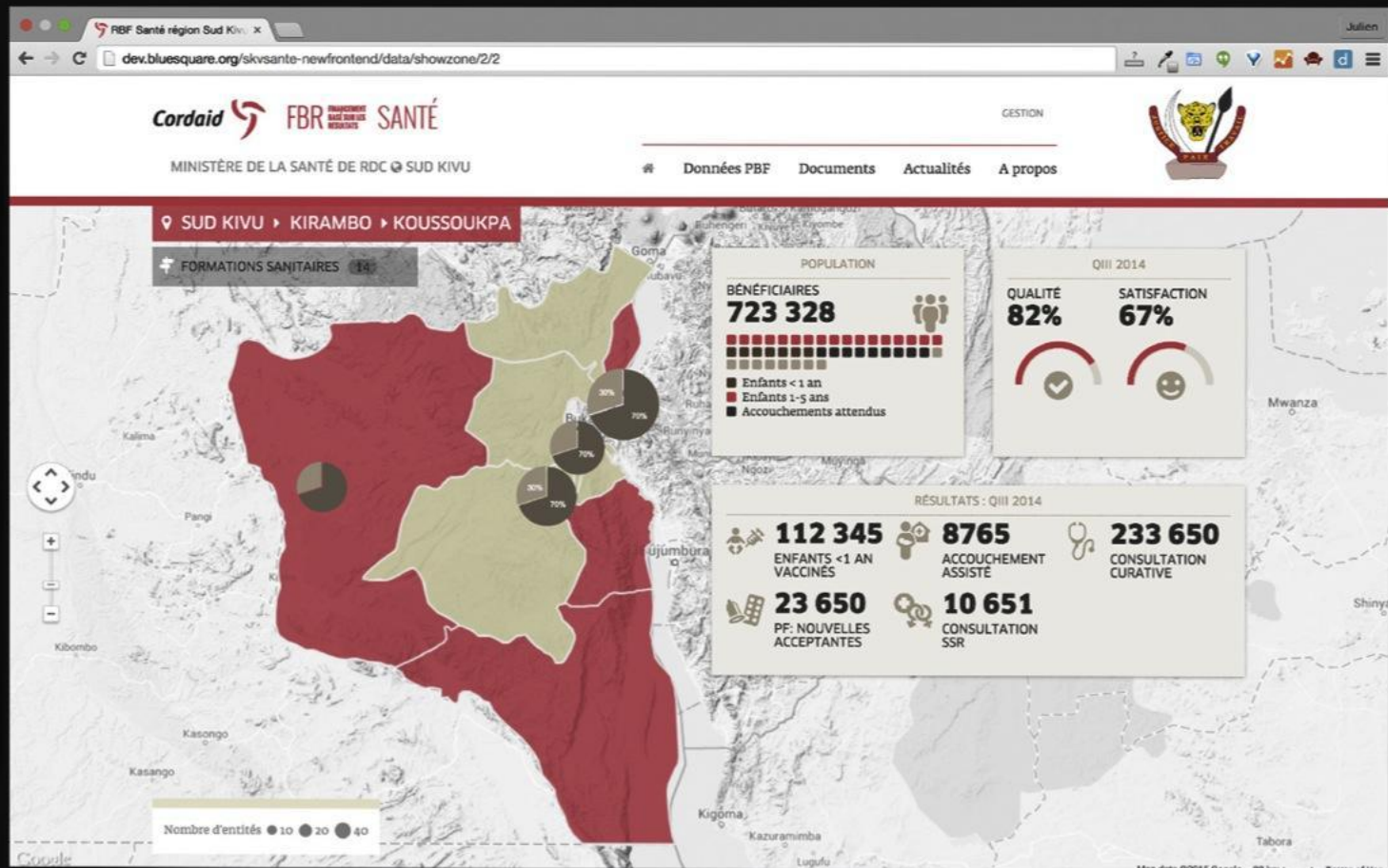
Demand generation /sms



THE SOLUTION: mTrain

The development of a mobile phone-based learning application is to address these challenges.





*Health Information
Exchange*



*Interoperability
Layer*



*Point of Service
Applications*

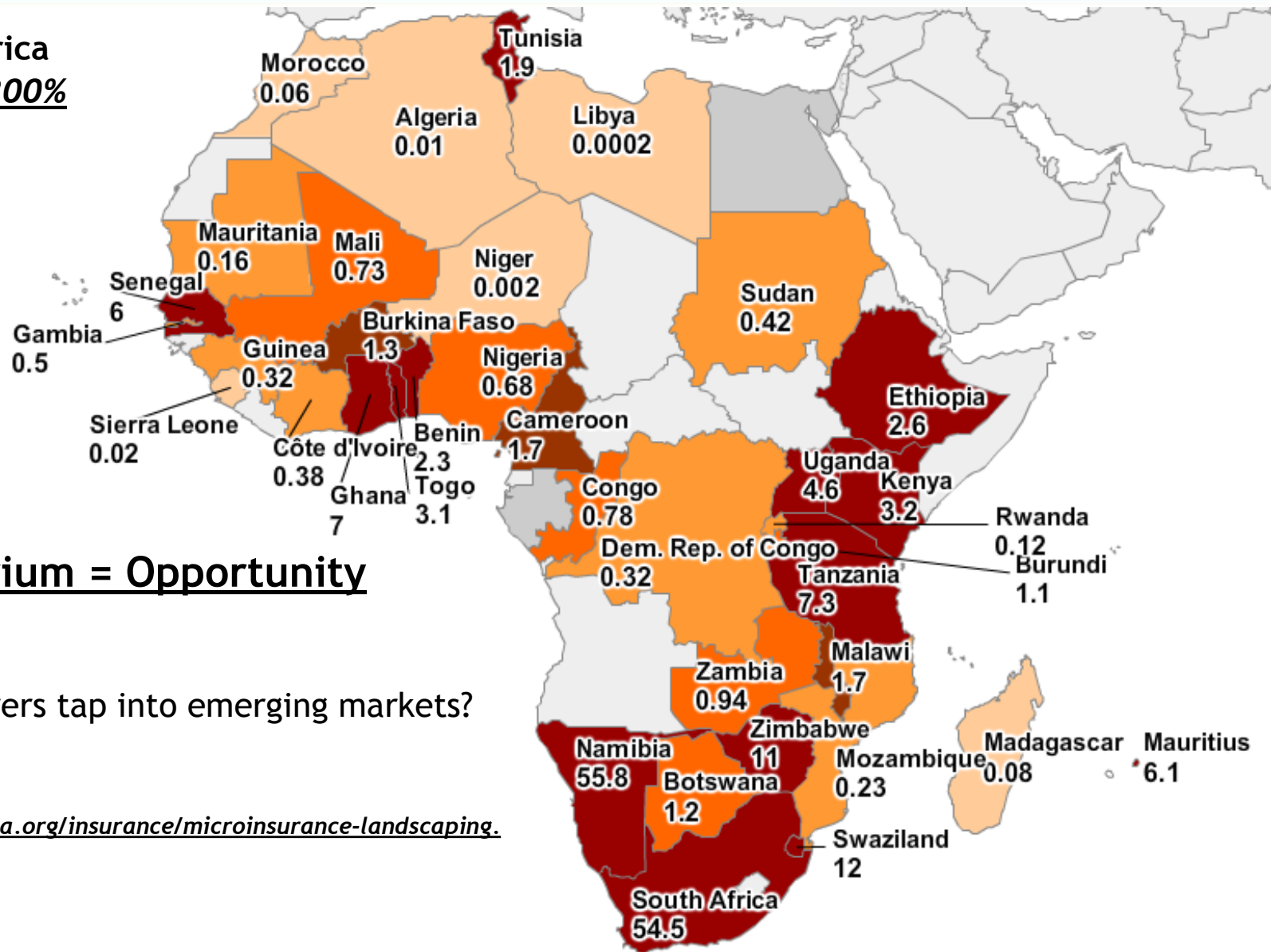


OpenHIE (www.ohie.org)

Improving health for the underserved

The Micro Insurance Boom in Africa

Growth in Africa
2010-2012: 200%



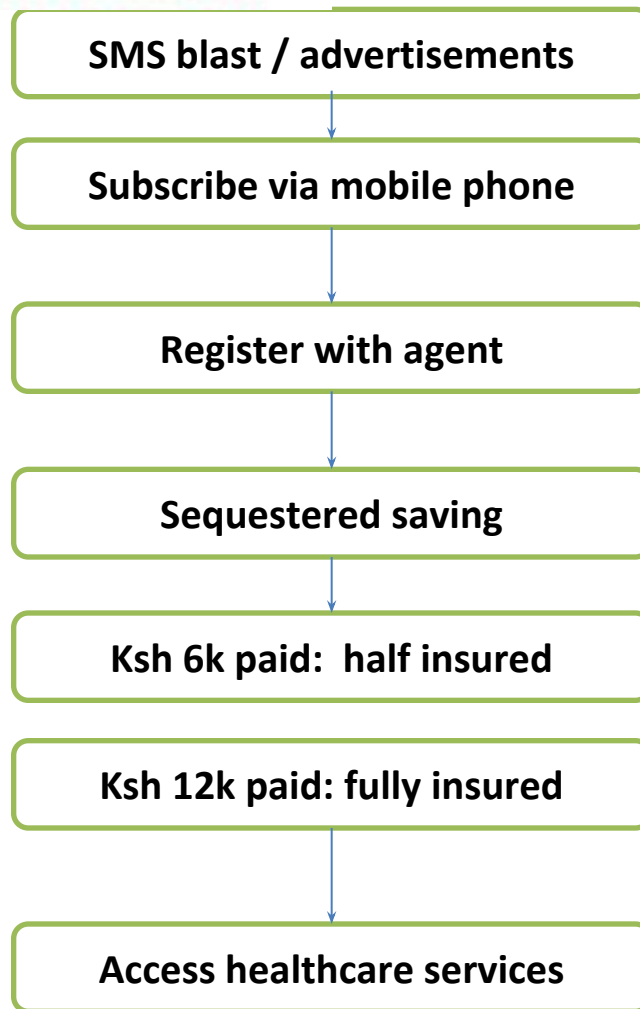
Disequilibrium = Opportunity

How can insurers tap into emerging markets?

Source: www.mfw4a.org/insurance/microinsurance-landscaping.html



Savings for insurance: mobile phone based MicroInsurance



Linda jamii leverages extensive mobile phone penetration in Kenya to make registration convenient & accessible

Fast, convenient registration thorough distribution networks located at easily accessible areas

Sequestered savings allows for crash shortfall

Linda jamii allows client enjoy half insurance status as they save towards full insurance

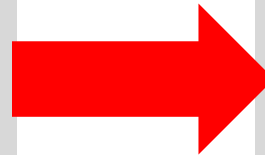
Clients access quality healthcare from health provider close

Mobile Health Wallet: risk-sharing for health via the transfer of conditional mobile money

1

\$ in

- Private contribution
 - Subscriber (e.g. health savings)
 - (inter)national remittance
 - “Harambee” (fundraiser)
 - Private insurance
- Donor-funded benefits
- Government-funded benefits



2

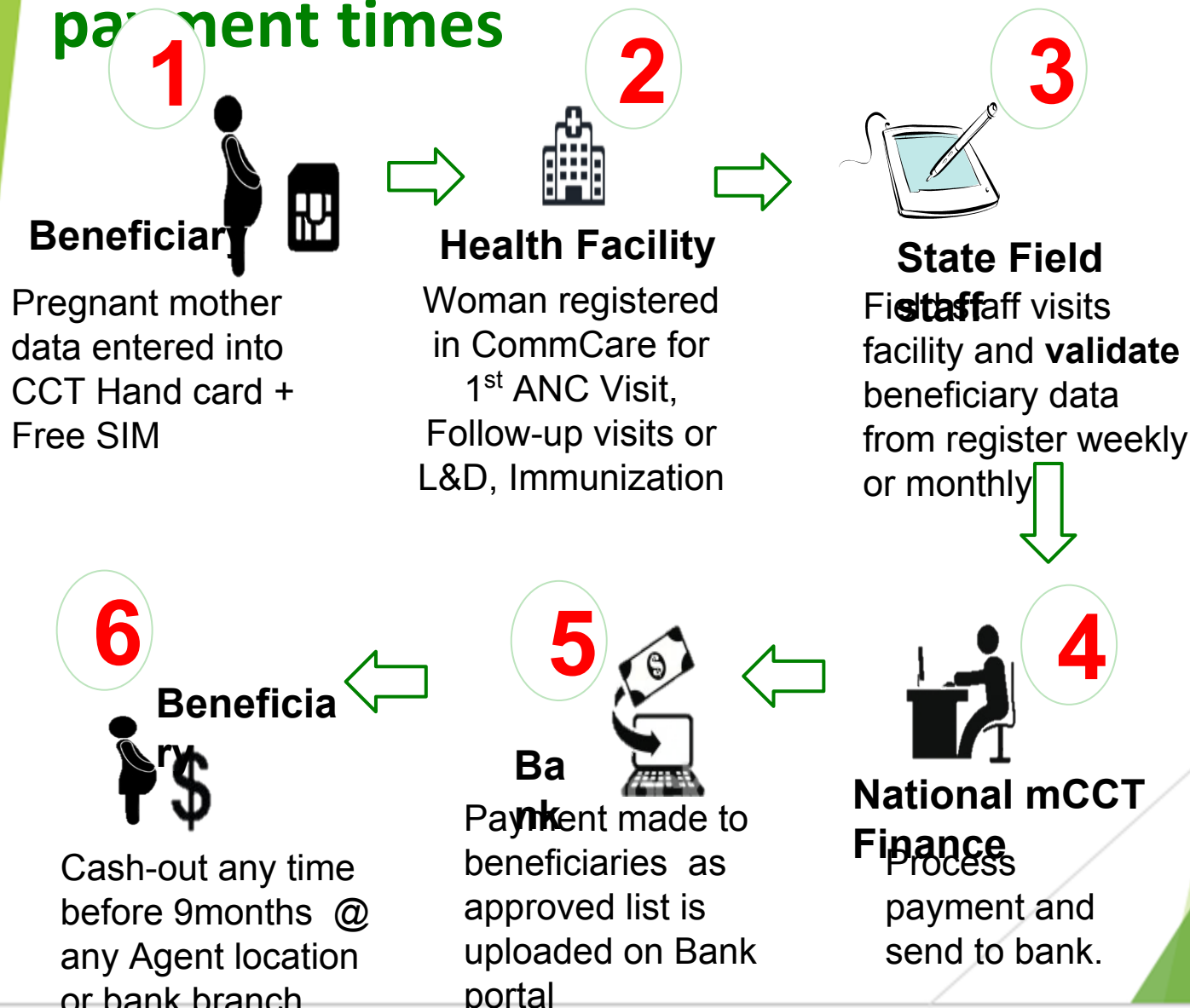
\$ out

- Restricted money transfer, e.g:
 - disease-specific
 - income group-specific
 - location-specific
- Contracted healthcare providers
- Quality assurance included
- Medical data collected with every transaction



Empowering the patient to make her own choices

The mCCT pilot was successful in reducing reporting, verification and payment times



How we use mobile money



- Transfer funds from D-tree to Community Health Worker (CHW) accounts
- CHW organizes transportation and pays drivers from account using mobile money
- CHW withdraws their incentive at end of month
- Audit transactions using application records, mobile money accounts and sign-in books at health facilities

VILLAGE REACH®

Starting at the Last Mile



MEDIC MOBILE™

MAMA

Mobile Alliance for Maternal Action

mHub



Baobab Health



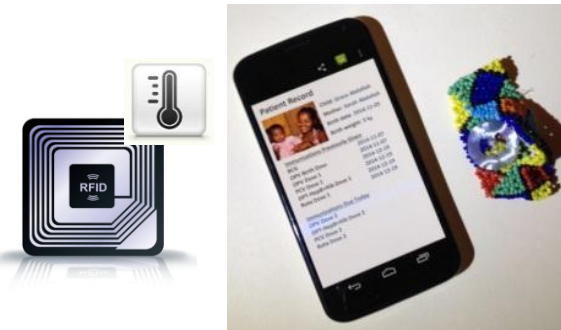
Enabling Technologies

Technologies

1. Unmanned aerial vehicles



2. Smart RFID



3. Smart delivery devices



Enabling:

Transformation of the supply chain

- UAV-based transport to hard-to-access locations
- Wireless ID and temperature history

Robust data collection

- Inventory management system tied in to point of care in real time
- Identify patients
- Record treatment type and capture administration

Faster transfer of patient samples

- UAV-based transport to higher-level testing facilities

CliniPAK COUNTRY IMPLEMENTATION - an effective demonstration of Public Private Partnership



**NPHCDA MSS/SURE P
MCH**

- Project Owner



Developer



Connectivity



Management

In partnership with



The GSMA Mobile for Development mHealth programme currently operates the mNutrition Initiative in Sub-Saharan Africa

Supporting Millennium Development Goals 4, 5 and 6 and is closely aligned to the UN's Every Woman Every Child Initiative, Scaling Up Nutrition (SUN) and the Global Nutrition for Growth Compact

Funders



Norad

Research Partners



JOHNS HOPKINS
BLOOMBERG SCHOOL
of PUBLIC HEALTH

Content Consortium



Committed Partners



Provide customized solutions based on the cultural and environmental trends

Solution
Generation

Using **our know-how** to provide the best solutions

Our experience basket

Quiz

SMS Quiz

Voice Quiz

Data Quiz

IVR

Data
Collection

Push
Messaging

USSD

Orange
Money

Virtual Call
Center



Generating a solution using our professional experience and personalizing it to the country's characteristics

Benefiting also from the support of the multiple work groups we belong to, like M-education and informal group AFD, UNESCO, AUF





Critical outcomes of the partnership model



- Improved access to and use of information for better planning, resource allocation and policy development
- Standardization of applications
- Avoidance of duplication
- Enhanced service delivery
- Readily available local technical support

Improved health outcomes

Where
do we go from here?

Work together to strengthen country ownership and governance for Digital Health

Policies, strategies and regulatory frameworks

Strengthen basic building blocks

Enterprise architecture and data standards

Ensure interoperability of solutions

Human resources development

Strengthen human capacity for effectively managing Digital Health solutions at the country level

Work together to achieve economies of scale

Hardware

As digital devices become essential pieces of medical equipment, MOHs should be able to procure them through global channels

Software

Open-source software provides a leveraged return on investment, but requires support for the core

Services

By working with MNOs and other partners, services can be more rapidly scaled up within a country and scaled out to additional countries

Work together to strengthen knowledge-sharing and collaboration

Global Digital Health commons

Sites like [mHealthKnowledge.org](https://mhealthknowledge.org) and [mHealthEvidence.org](https://mhevidence.org)

Country-level communities of practice

Digital Health working groups led by the MOH

Regional communities of practice

Regional networks like ANDH, HealthE Africa, Acfee

Work together to develop and implement a Digital Health learning agenda

Effectiveness at scale

Impact on access, quality and efficiency at scale

Cost-effectiveness

Compared to traditional approaches

Vertical health interventions

PMTCT, skilled birth attendance, etc.

Cross-cutting health systems interventions

Health finance, training and supervision, etc.

Working together isn't always easy



***Common* Gives and Gets**

Gives Gets

Passion Scale

Expertise Quality

IMPACT



**KEEP
CALM
AND
WORK
TOGETHER**

Digital Health Africa Summit

Digital Health Africa Summit

More: countries
donors
implementers
innovation hubs
universities
private partners



MERCI! OBRIGADO!
THANK YOU!