



# Mobilizing Standards:

Aligning eHealth Standards to Accelerate the Integration of Mobile Health Systems into Global Health Practice

Photo courtesy of Kiwanja

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Joint ITU-WHO Workshop on e-Health Standards & Interoperability, Geneva, Switzerland  
26-27 April 2012





# Definition of mHealth

**Mobile health**, or mHealth, can be defined as:

*Medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, tablets, personal digital assistants (PDAs), and other wireless devices.*



Photo: David Evans



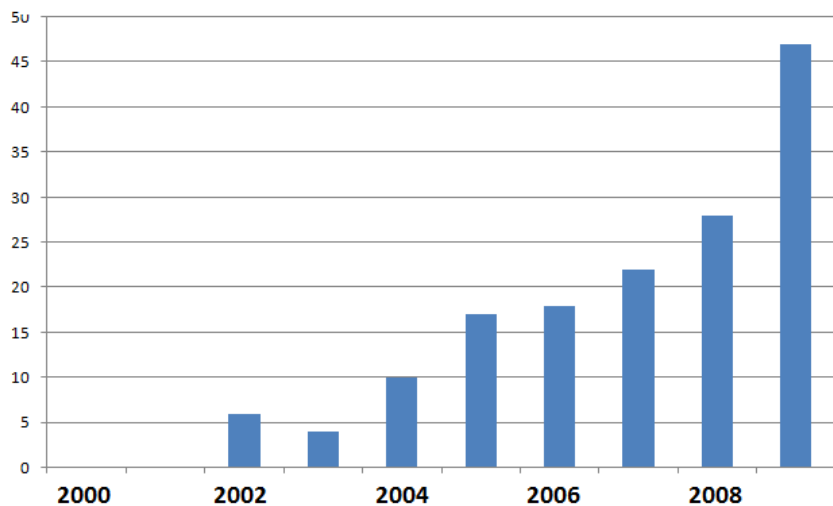
Photo: ebayink [www.flickr.com/photos/ebayink](http://www.flickr.com/photos/ebayink)



# Progression of mHealth

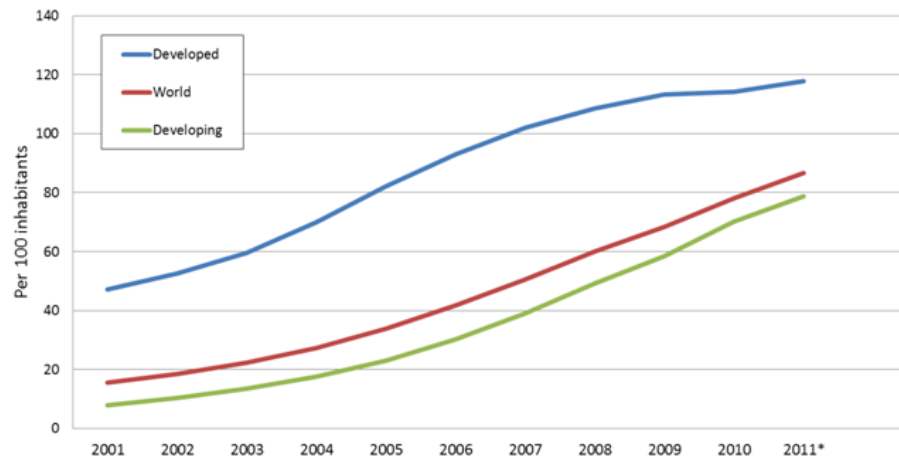
With the rise in mobile subscriptions worldwide....

Number of mHealth Articles Used in 2010 Literature Review



Source: Barriers and Gaps Affecting mHealth in Low and Middle Income Countries: Policy White Paper, mHealth Alliance, The Earth Institute, 2010.

Mobile Phone Subscriptions Worldwide, 2001 - 2011\*



\* Estimate.  
The developed/developing country classifications are based on the UN M49, see:  
<http://www.itu.int/ITU-D/ict/definitions/regions/index.html>  
Source: ITU World Telecommunication /ICT Indicators database

... comes a rise in mHealth initiatives in countries around the world.

# mHealth Around the World



*mHealth Alliance.*  
*From Rwanda to  
Sweden, many  
countries are  
building and  
implementing  
national mHealth  
strategies.*



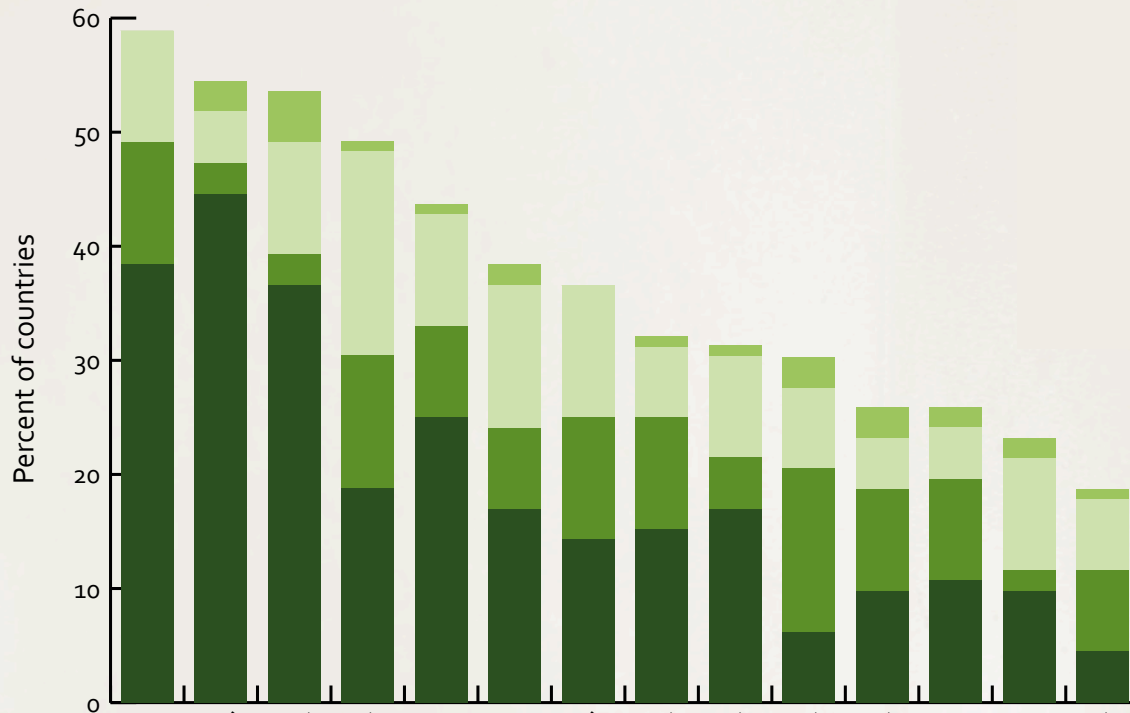
83% of WHO member countries reported having at least one mHealth initiative in their country.<sup>1</sup>

77% of responding low-income countries reported at least one mHealth initiative in their country, making them only ten percent behind high-income countries.<sup>1</sup>

<sup>1</sup>World Health Organization. mHealth: New horizons for health through mobile technologies: second global survey on eHealth.  
[http://www.who.int/goe/publications/goe\\_mhealth\\_web.pdf](http://www.who.int/goe/publications/goe_mhealth_web.pdf).



# Adoption of mHealth by Project Type



## mHealth Initiatives

(ordered by % of countries adopted)

- Health call centers
- Toll free emergency
- Emergencies
- Mobile telemedicine
- Appointment reminders
- Community mobilization
- Treatment compliance
- Patient records
- Information
- Patient monitoring
- Health surveys
- Awareness raising
- Decision support systems



# Barriers to Scale of mHealth

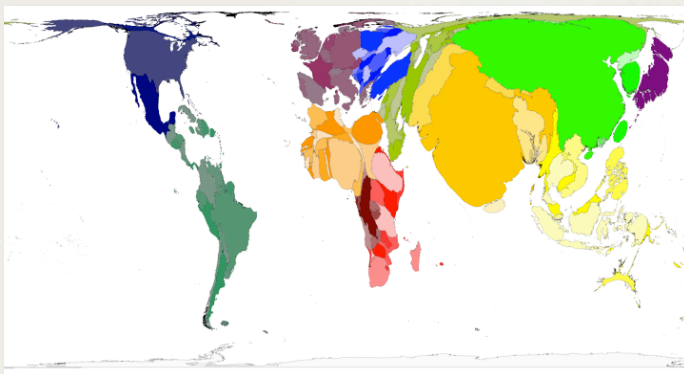
- (1) Lack of rigorous evidence linking mHealth solutions to improved health and demonstrated cost-effectiveness
- (2) Lack of sustainable sources of financing for mHealth
- (3) Lack of capacity throughout the health community to design and deploy mobile health
- (4) Lack of an enabling environment in which national or regional policies support the use of mobile for health
- (5) Lack of systematically applied technological standards and interoperability between systems**
  - Lack of alignment on standards
  - Limited opportunities for collaboration
  - Limited collaboration or communication across mServices
  - Limited guidance from donors and governments on which standards to use

*Source:* mHealth Alliance Strategy. Created by the mHealth Alliance and Dalberg Global Development Advisors. January 2012.



# Need for Standards Development

## 1. Standardization gap



Source: [www.WorldMapper.org](http://www.WorldMapper.org). Accessed 23 Apr 2012.

## 2. Massive shift to communities



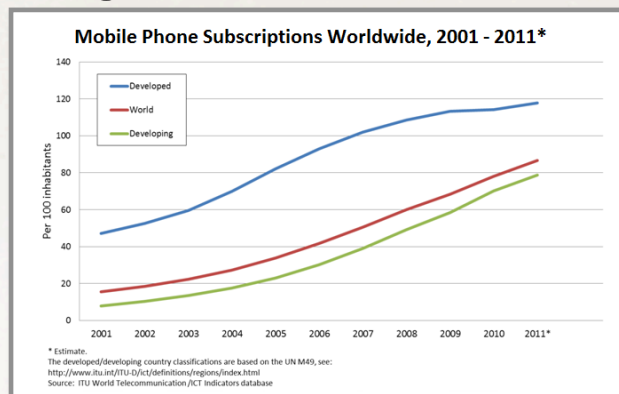
Source: DataDyne

## 3. Remote diagnostics, telemedicine



Source: CellScope

## 4. Integration at scale





# Declaration to Improve Health Outcomes with ICTs

## 2010 Greentree Principles

1. Coordinating, Harmonizing and Sharing
2. Country Leadership and Ownership
3. Capacity Development
4. Openness
5. Strategic Reuse
6. Research and Evaluation





# meHealth Architecture

## meHealth Enterprise Architecture

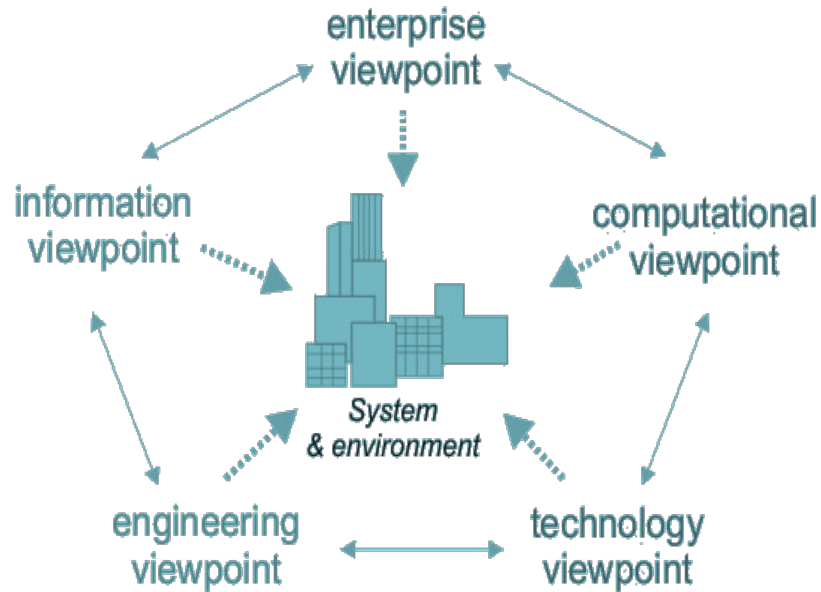
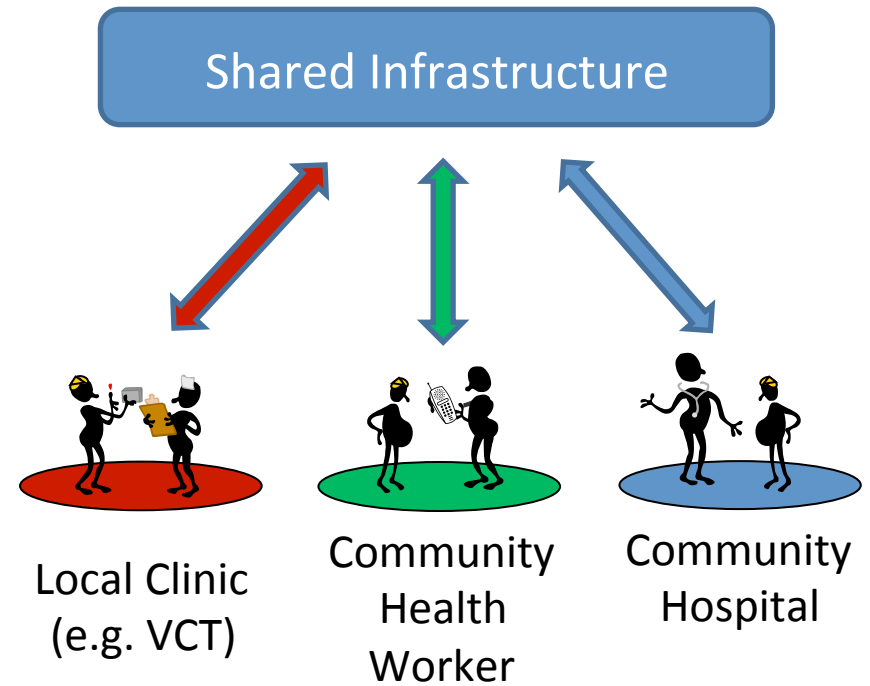


Image Source: Wikipedia. <http://en.wikipedia.org/wiki/RM-ODP>



meHealth MNCH Architecture document on HUB

<http://www.healthunbound.org/content/mehealth-framework-documents-link>

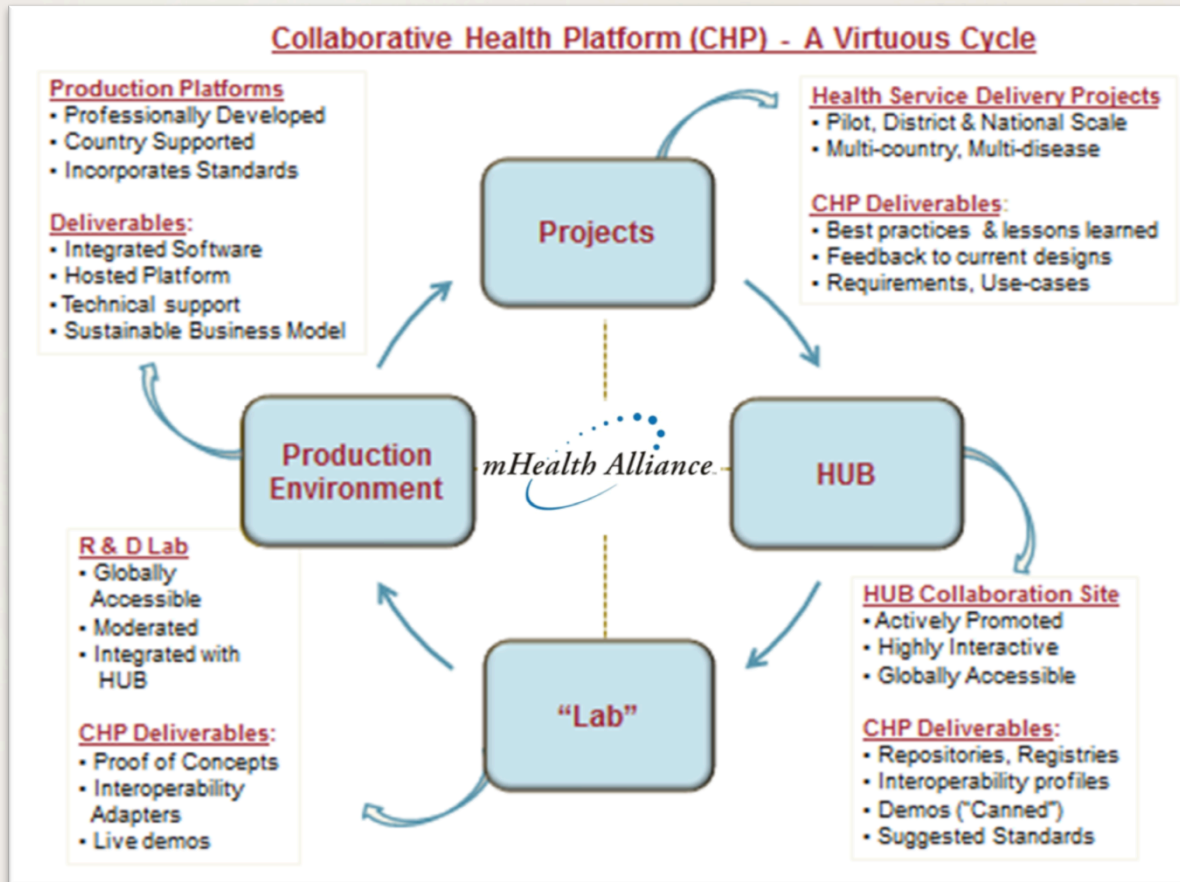


## Proposed 2-year indicators:

- # countries adopted standards-based, national electronic registries
- # implementing organizations adopted open standards at district level or greater
- # strategic mHealth standards gaps targeted with catalytic funding
- # countries adopted at least 1 open standard into National eHealth Strategy or similar declaration



# Health UnBound - HUB

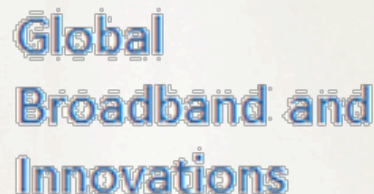


[www.HealthUnBound.org](http://www.HealthUnBound.org)



# FRED

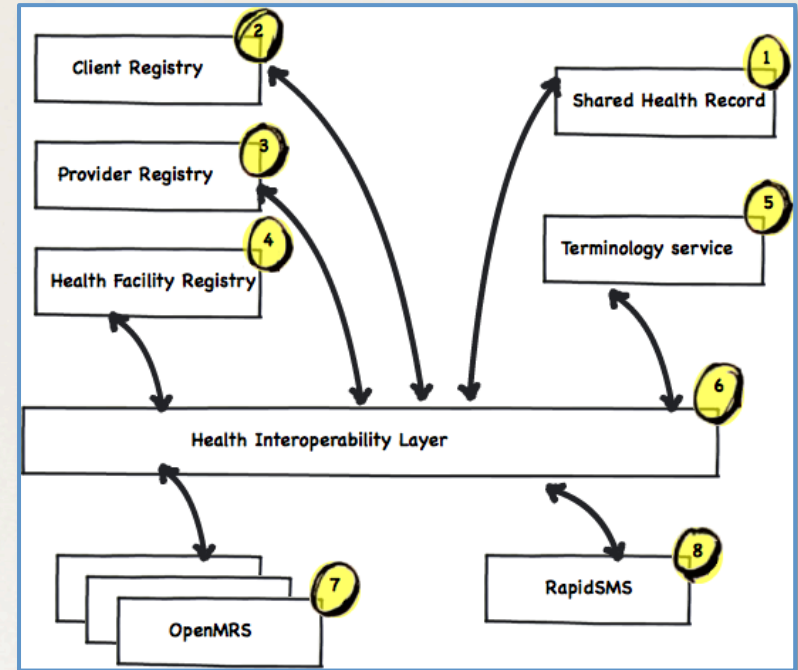
- Open **F**acility **R**egistry **E**xpansion **D**evelopment Project
- Deployed in 5 countries in 2 years
- Launching point for an open National Health Information System (NHIS)





# RHEA

- **Rwanda Health Enterprise Architecture**
- Shared electronic record for all maternal health patients
- Information standards, transport layer, software specifications, use requirements



Source: rhea.Jembi.org. Accessed 23 Apr 2012.



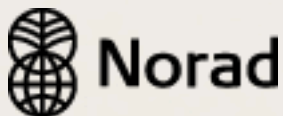
**PEPFAR**  
U.S. President's Emergency Plan for AIDS Relief





# IWG + MCL

- Innovation Working Group (IWG) grant to scale mobile health projects
- Maternal Concept Lab working with 3 grantees to develop open standards for data capture, reporting of indicators, common interfaces, adoption of standardized terminology
- Generalizing best practices for other contexts & health domains





Thank you!

**Thank you!**

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The mHealth Alliance is hosted by the United Nations  
Foundation: [www.unfoundation.org](http://www.unfoundation.org)