MHWG LMIC Sub-Group

Scope and Use Cases

November 2012

**SCOPE:**

The Scope of mHealth for Low and Middle Income Countries should envision:

* The use of digital devices (i.e. tablets, mobile phones, netbooks etc) to deliver or facilitate the delivery of health care information and or data via non-traditional healthcare workers/settings.
* Consumers who desire to exchange healthcare information regarding themselves or their communities (to other consumers or to traditional or non-traditional healthcare workers).

LMIC Stakeholders:

* LMIC Governments and Ministries of Health - decision makers, departments, technical staff
* Public/Private Donors - PEPFAR, USAID, NORAD, Gates, Rockefeller, IDRC, Multi-lateral Agencies & Foundations
* Implementers - Pathfinder, World Vision, Save the Children, Catholic Relief Services, ...
* SDOs
* Donor Agencies, NGOs, MFIs
* Telcos
* Software/Solution Vendors
* Educational Institutes
* Healthcare Providers (Hospitals, Clinics, Labs, Clinicians etc etc)
* Patients (!)

**Use Cases for LMIC:**

How to use mobile technology to increase mobile health workers effectiveness? Mobile healthcare workers require special tool to assist in assessment and reporting capabilities depending on workload and expertise.

* Need Decision support, alerting, real-time communications with the expert and the field worker. Associate module component with tele-health to provide better healthcare at the point of care and to transmit healthcare information.
* Need more communication to provide more information to the patient in real time

Use case:

* Doctor visits a village with 1000 patients and is unable to see all patients.
* One community care worker taking care of 100-200 women
  + 1. Challenge: Try to assess risk of pregnancy, send alert message to ambulance and hospital.

**Scenario:** Coordinate care between clinic midwife, mobile midwife, and community health worker (CHW).

CHW identifies and registers pregnancies in the community. Standard care plan consists of iron tablets during entire pregnancy (dispensed by midwife or CHW) and 4 antenatal visits by a midwife.

Recommended delivery location is at a clinic with a midwife, although mobile midwives or trained birth attendants (TBAs) may also assist a birth in the community. CHW will visit mother 4+ times during pregnancy to provide counseling and to assist mother in maintaining her care plan. The CHW may also record pregnancy history and identify potential risk factors. Urgent risk factors (esp. in the 3rd trimester) may be cause for urgent referral, in which case the CHW may help arrange transportation through an ambulance or local car owners. Prior consent for emergency transport from families can be recorded on phones to expedite the transition of care. Midwives will follow up during antenatal visits on risk factors identified by the CHW (or by a mobile midwife, if additional examination facilities are required). CHWs may also be prompted to follow up on potential issues identified by a midwife. CHWs play an important role in educating mothers on care options, birth preparedness, and family planning counseling. These services may be facilitated by job aids, which can be embedded on a mobile device.

1. Use Case: Failure to receive expected healthcare reports within a pre-determined time period might trigger different methods of healthcare-related actions. For example, failure to receive monthly drought report from a human or from a well-device might trigger a healthcare worker to visit the site.
   1. Use Case: MHealth delivery of care (e.g., telehealth)
   2. Use Case: MHealth collection of healthcare information
   3. Others?
2. Real-time connectivity must not be a mandatory requirement for mHealth usage within LMICs (since connectivity and/or electric power availability might be inconsistent).
   1. Scenarios where mobile health devices in being used for health care in an area where there is intermittent connectivity or low power

Actors:

* + Patient
  + Non-clinical health worker
  + Clinical health worker
  + Static mHealth device (such as a water-well-depth meter that transmits a message once a week)
    - Consumer Use Case: The patient has no power or connectivity at his home village. When the patient walks to school, the school has connectivity which enables the patient’s data to be pushed to a clinical recipient.
    - Use Case: A Non-Clinical health worker electronically collects information on various patients while traveling to various villages. The information is eventually pushed to a clinical system when the non-clinical health worker arrives at a site that has connectivity and electric power.

1. Use of Text Messages to register or update patient data or population data
   1. Vital Statistics registration
      1. Birth
      2. Death
      3. Pregnancy
      4. Vaccination
   2. Public Health Events
      1. Surveillance data
      2. Ex. Haiti – text messages used to track chlorine tablet dispensing for safe drinking water using non-clinical workers
      3. Supply Chain management
   3. Patient data
      1. Track and identify issues during pregnancy
      2. Client encounter
      3. Screening
   4. Auto alerts and reminder (Text messages or Interactive Voice Response (IVR)) –IVR helps with illiterate or vision impaired
      1. Referral reminders
      2. Check-up reminders

Healthcare tips for pregnant women

* 1. Clinical Events

1. Use of Diagnostic devices attached to Smart phones for services like vision screening; ultrasound; ect. Reduces the cost of delivering healthcare to LMIC

**Issues regarding the use of mHealth in LMICs:**

* 1. mHealth applications would benefit if there was a Standard that could help resolve different information in a semantically-consistent fashion.
  2. Standards-based way to normalize various messages types transmitted through various modes such as text, email, voice, picture messages
     1. For example: which method would be most effective in communicating health information. Defined the confidence level of information based on message and scenario types.