HL7 mFHAST

mobile Frameworks for Healthcare Adoption of Short-Message Technologies

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mFHAST Goal

- To develop standardized techniques and formats for use of Short-Message technologies technologies within healthcare settings

mFHAST Status

- Evolved out of mHealth LMIC sub-workgroup activities

- New HL7 project/product in development

- Meeting Thursdays @ 4pm EST beginning 1/29/2015

Short-message Basics

- "Short-Message" encompasses the realm of technologies related to SMS, text messages, instant messages, Twitter, iMessage, etc

- Messages composed of approximately 140-160 characters

- Estimated that upwards of 200,000 SMS messages are sent every second

- Low-cost, low infrastructure, low learning-curve

Short-message Tech in Healthcare

Global short-message studies have reported success in improving health outcomes and activities related to:

- Smoking cessation
- Diabetes
- Weight management
- HIV
- Medication adherence
- Appointment attendance

mFHAST Domains

- Clinical reminders (e.g., appointments, treatments)

- Community health mobilization

- Health Education

- Public Health and Emergency Response

- Surveillance and Tracking

Short-message Barriers

- Ad-hoc implementations

- Lack of interoperability

- Security/Privacy/Consent

- Message size

- Stateless (at its most basic implementation)

SMS Use Case - Immunization
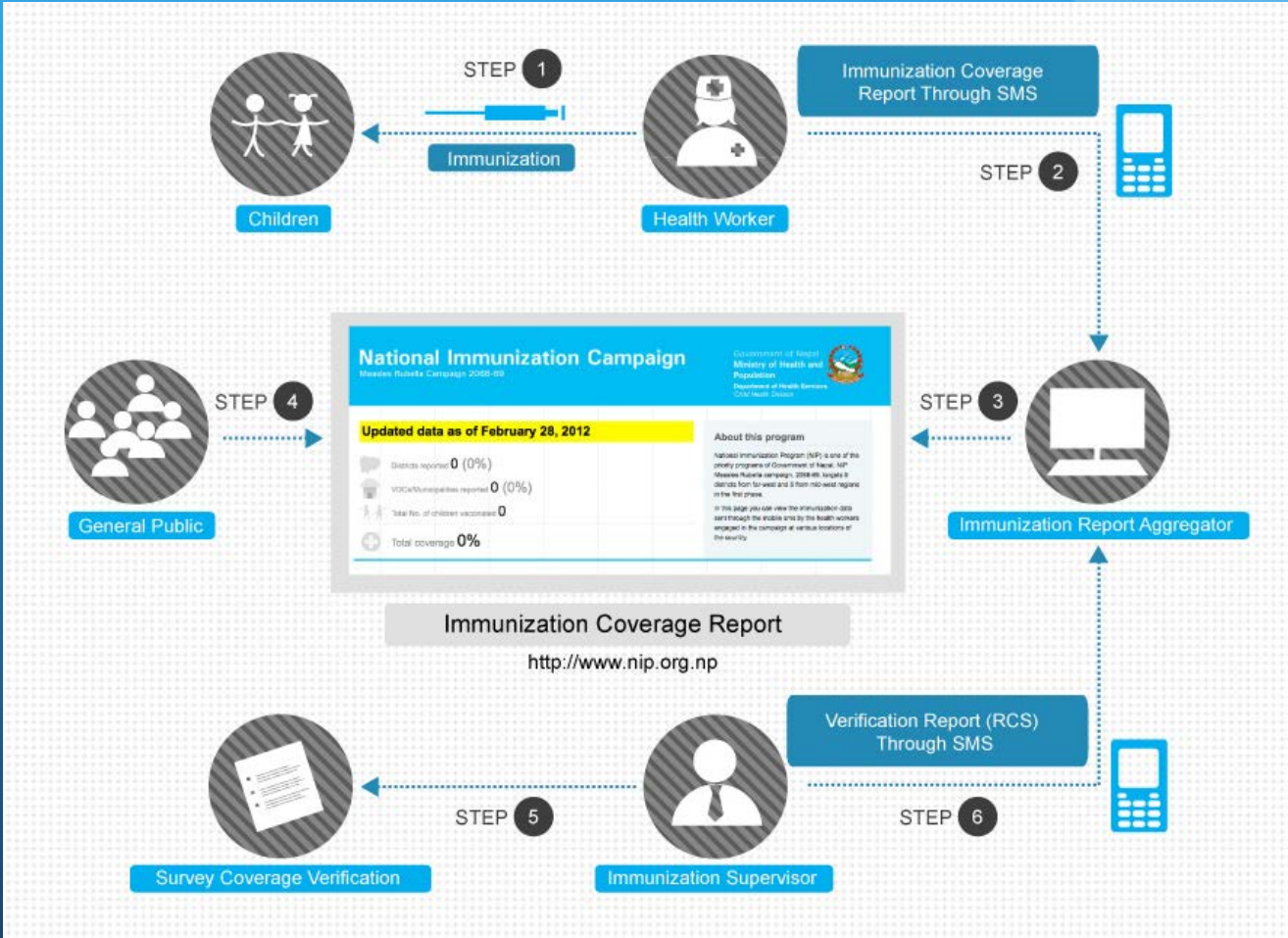
SMS Use Case – Maternal/Child Health

Set Up Free Appointment Reminders with Text4baby

1. Text REMIND (or CITA for Spanish) to 511411.
2. Enter appointment date. Enter 7/7/2014 as 07072014.
3. Enter appointment description with time, place and purpose (ex. 3pm apt w Dr Parker).
4. Reminder text will be sent three days before and the morning of appointment.
5. You can set up as many reminders as you need, at any time.

SMS Use Case – Disease Management
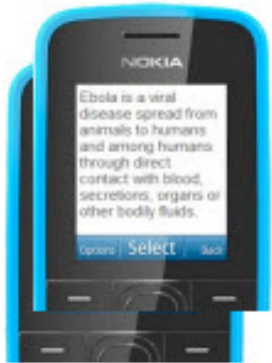
Initial set of key Ebola messages is broadcast to all subscribers

An individual dials *112# from their mobile phone. The service is marketed via mobile, TV, radio and other channels

A USSD or IVR service is triggered in response to *112#

5
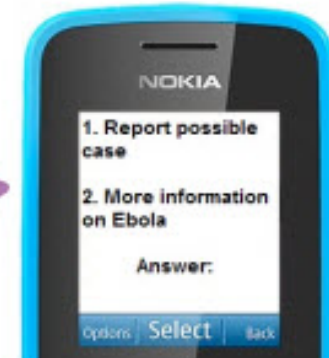
Two basic options:
1. Report a case
2. Request information

SMS Use Case – TB

SMS + Cue Card Interface

General Strengths
Can be used with any phone
Ongoing cost is low (SMS)
Many workers familiar with SMS

General Weaknesses
b)
Requires basic literacy skills
Changing survey requires new cue card
Hard to enter in free-form notes
No confirmed receipt of data delivery
Worker can forget or lose cue card
Quite easy to fake visits (copy old SMS)

Our Results: Accuracy & Efficiency
We measured 4.5 errors per 100 entries
The average interaction was 97 seconds

SMS Cue Card

1. Create a new SMS Message
Press Center Button
Select "Messages"
Select "Create Message"
Select "New Short Message"

2. Switch to Numeric Input Mode
Press Menu Button
Select "Entry Mode"
Select "Numeric"

3. Enter the ID of the Current Patient
Aamir Khan   - **Press** 1
Abhishek Bachchan   - **Press** 2
Aishwarya Rai   - **Press** 3
...

4. Enter a Space
Press *

11. Enter the Patient's Cough
No Cough   - **Press** 1
Rare Cough   - **Press** 2
Mild Cough   - **Press** 3
Heavy Cough   - **Press** 4
Severe Cough   - **Press** 5
(with blood)

21. Check Yourself
Your finished message should be
formatted similarly to the following:
10 372 62 68 4 1030007

Short-Message Standards Development

mFHAST Pathway of Inquiry

- What is the issue?

- What are the critical variables?

- Who initiates/consumes the message?

- What format is required?

- What are the limitations?

Short-Message Actors

- Companies, Organizations

- Governments

- Public

- Families

- Peers

- Person

- Systems

Short-Message Communication Methods

- Reminders

- Broadcasts

- Education/Decision Support

- Structured Data Collection

- Interactive Health Communication

Short-Message Communication Structures

- Coded

- Short codes

- Free Text

- Structured Response

- Structured Data Collection

- Interactive Health Communication

mFHAST Next Steps

- HL7 January Working Group Meeting 01/19/2015
  - 2nd presentation of mFHAST project
  - Finalization and voting on mFHAST PSS

- Q1 2015 – PSS submission, Documentation, education, use case development and requirements gathering

- Q2 2015 - Harmonization and specifications development

- Q3 2015 – Piloting and testing

- Q4 2015 - 1st Product draft submitted

Great work proceeds us!

Standards Development

- HL7 EHR/PHR/FHIR/Medical Devices/PHER

- WHO eHealth Standardization and Interoperability Recommendations

- ISO/AHIMA/OASIS/IEEE/HIMSS

Initiatives

- Mobile Alliance for Maternal Action (MAMA) in Bangladesh and South Africa

- Millenium Development Goals

- mPowering Frontline Health Workers

- Saving One Million Lives initiative

- Asia e-Health Information Network

Organizations

- US Centers for Disease Control

- World Health Organization

- United Nations Foundation

- USAID / UNICEF

- mHealth Alliance

- Johnson & Johnson

- Gates Foundation