# HL7 mHealth- mFHAST Project Meeting

**Subject:** Mobile Frameworks for Healthcare Adoption of Short-Message Technologies  
**When:** 06/04/2015 – Thursdays, 2:00 PM-3:00 PM EDT  
**Where:**

* **Conference Line**:
  + 1-866-469-3239 Call-in toll-free number (US/Canada)
  + 1-650-429-3300 Call-in toll number (US/Canada)
* **WebConference:**
  + <https://westat.webex.com/westat/j.php?MTID=m72c5e417e0dcc1ca7b6252a48ca9e677>
  + Meeting number: 650 446 181
  + Meeting password: Aloha123!

**Attending:**

* Nathan Botts
* Rob Savage
* Butch Arthur
* Chris Brown
* John Liu
* Kwekour

**Regrets:**

**Minutes:**

1. Introductions
2. Action Items
   1. Follow on with Immunization Use Case on 05/21/2015
3. Review of Updates from Last Week
4. Refining PSS
   1. Clarify that the project will end with DSTU vs comment-only ballot
   2. Add ITS as Co-Sponsor
   3. Once completed
      1. Submit to ITS for Co-Sponsors comments and approval
      2. Reach out to Product Line Taskforce before submitting to Technical Steering Committee for approval
   4. Discussion on messages and message types to be included within scope
5. Action Items
   1. Complete scoping statement and then send out to ITS and Mobile Health workgroups for review
6. mFHAST Immunization Registry Use Case Discussion

**mFHAST Immunization Registry Use Case**

Disaster Scenario - Person shows up trying to determine if a vaccination is needed and to be able to record in an easy/efficient manner.

**Setting Constraints:**

* Due to disaster, networks are down and bandwidth is low
* Rural area with sparse cellular towers
* Response site is utilizing mobile devices over cellular network (smartphone, phablet)
* Cellular network is 3g and below

**General Notes**

Registry work needs to ensure that:

* Registry work needs to ensure that the person is not duplicated
* Needs to be an ability to review history
* American Immunization Registry Conference findings:
  + Looked at registry results for kids and ehr results for kids.
  + When looking at consolidated registry it is better than EHR
  + Message is that if you really want to have a useful registry need to have successful matching
* Pandemic situation
  + Might not be as problematic
  + Pulse immunization – just addresses whatever population is present
* Product Discussion
  + Inventory aspect
    - Short-message that gives NDC to a kid (Hepatitus B Vaccines)
  + Forecasting
    - Need to also be able to address shortages as early as possible

**Use Case Questions**

* **What are the underlying use cases**
  + Use case of getting immunization history into a registry
  + Report out
  + Output of a CDS engine
  + Forecasting the next dose
  + Further use cases downstream
  + Notes:
    - Key features in the US is to get the history, find out what was administered and when the next is due.
  + Vaccination type counts
* Is this a feasible scenario?
  + Engaging with a registry effectively over mobile seems unlikely
  + Why tetanus?
  + Health Risks in the US
    - Tetanus penetration is probably in the 80% range
    - MERS
      * Could potentially be computer infrastructure challenges
      * Lots of people wanting to get immunized
      * Want to record who is getting them
      * Capture a paper (with barcode, etc) that identifies the patient and the specific vaccine administered

# Tetanus Use Case Draft for Disaster

**Overview**

Situation describes need for Tetanus Vaccination. Understand of patient need for Tetanus Vaccination is necessary. Situations might include the ability in which web is accessible and in such situations a SMS strategy would not be needed/recommended. Otherwise assumes situations in which web is not available or feasible, requiring the use of SMS.

**Stakeholders**

* PHER
* American Immunization Registration Association
  + Nathan Bunker=HL7 Representative
  + Allison Chi-was most recent representative
  + Michael Flynn-previous representative
  + Rob Savage-defact representative as member
* CDC

**Functional Requirements**

1. Patient Identification
2. Administration Date
3. Vaccine Type
   * The vaccine used to vaccinate needs to be known at the trade name level.
   * Vaccination date is needed.
   * Birth date must be known.
   * Person needs to be unambiguously identified in the message.
     + In the US, with no national identifier, this would be a problem.
   * The health worker recording should be identified.
   * Do you send only currently administered vaccine or do you fill in historical doses?

**Disaster Response Immunization for Tetanus Workflow**

1. Person/Patient presents or is receiving emergency care
2. Retrieve patient identification if available from person or identification on person
3. Authenticate to Registry
4. Request history from registry (time permitting)
   * Patient Identification
     + SSN
     + First\*
     + Last\*
     + Sex\*
     + DOB
     + MRN
     + Address\*
     + Phone\*
     + Mother Maiden for Child
     + Picture/Biometric ID (e.g. LMIC situations in which identification is less feasible)
   * If Fail
     + Tetanus is provided and documented
   * If Success
     + Retrieve tetanus record for person
5. Tetanus Record Review
   * If Tetanus has been received in last 5 years no shot needed
     + Send notification that decision to not vaccinate was made
     + Acknowledgement provided
   * If Tetanus has not been received in the last 5 years shot is provided
     + Patient ID if not already assumed in the message chain
     + Vaccination type – Tetanus Diptheria
       - Descriptor/CVX codes (required for MU)
       - UDI?
         * 2D Barcode for GS1

GTIN – for vaccines it carries NDC, Lot and expiration

* + - * NDC?
      * Lot #
    - Route of admin

1. Patient Identification Matching
   * When it gets to the aggregator, patient matching is a huge issue. If historical doses are also sent, then event deduplication becomes a real issue.
   * If we send an currently administered vaccine that can be unambiguously linked to a unique person, then the immunization coverage report can indicate how many people got immunized with what and when.
   * Going much beyond this may be very challenging. Without a complete history, one can’t make recommendations for next dose due nor evaluate if the dose was given appropriately.

**General Notes and Discussion:**

**Immunization Use Case as posed by Rob Savage via email 04/28/2015**

Gentlemen

I was reviewing the power point presentation on the wiki (Overview) and thought that the immunization use case raised some questions for me.

It looks like a clinician administers a vaccine and “reports” it vis SMS to an aggregator. Based on the experience of the US immunization information world, I thought I should raise some issues/questions. I will follow the flow.

The vaccine was used to vaccinate needs to be known at the trade name level. The vaccination date is needed.The birth date must be known. The person needs to be unambiguously identified in the message . In the US, with no national identifier, this would be a problem. The health worker recording should be identified. Do you send only currently administered vaccine or do you fill in historical doses?

When it gets to the aggregator, patient matching is a huge issue. If historical doses are also sent, then event deduplication becomes a real issue.

If we send an currently administered vaccine that can be unambiguously linked to a unique person, then the immunization coverage report can indicate how many people got immunized with what and when. Going much beyond this may be very challenging. Without a complete history, one can’t make recommendations for next dose due nor evaluate if the dose was given appropriately.

One area missing in this picture is how the health worker knows what to give and when. This is a typical output of a CDS engine. Even without this, if the clinician can’t see a complete history for the patient, they can’t make a judgment on what to give. The problem with this is that over immunization is a common outcome. When looking at the hep B coverage in the juvenile prison system of a state, I found that prior to the jail nurses having access to the IIS, many kids had 5 doses of Hep B. They would often arrive a month or two before their records were available. As soon as the IIS was available to the jail nurses, the practice ceased.

I think that the scope of this paradigm needs to be narrower than implied by this diagram, since it seems to promise more than I think it can deliver.

I would be happy to chat about this with you.

Rob