IHE Work Item Proposal (Short)

# Proposed Work Item: Alerts Targeted at Humans (@@H)

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# The Problem

Within a health enterprise there are often multiple registries of humans (e.g. client registry, facility/organizational registry and health worker registry).  In addition, there are multiple actors that wish either to produce alerts and messages targeted at humans or to render said alert or message and present it to a human to initiate a workflow.   A few key characteristics:

* the messages may or may not contain PHI (e.g. clinical vs public health/health systems management)
* at time of publication, the final recipient list may not be known (however search parameters against a human registry are known e.g. ‘all Nurses in district X’)
* the publisher of an alert should not need to know the business logic behind delivery of the message and multiple means of human interaction (SMS, cell, email, IVR, interaction with point of care system, FaceBook) may be desired
* the message can be rendered by any number of systems but no central way to determine if message has already been delivered
* the desired content of a message can vary widely among publishers of message
* some message are intended to be delivered immediately (e.g. emergency response) while others are intended for consumption at some point during a health worker’s interaction with a point of care system
* messages can be delivered either to health workers or subjects of care

There is currently no standard for message brokering with a health enterprise.  Having a standardized messaging broker reduces system complexity between the large sets of message publishers and alert consumers.

# Key Use Case

Alert targeted to explicit list of health workers:  An alert is targeted to a specific list of health workers concerning a recall notification to three clinicians known to have administered a drug. No subject of care is identified in this message.

Alert targeted to one health workers, about a specific patient:  This example illustrates an alert generated by an ICP workflow host targeted at a specific health worker (assigned to the patient) about a specific subject of care. Note, an applicable use case could also be that the alert is about a subject of care sans targeted recipient (i.e. anyone who sees this patient please do X).

Alert targeted to a health facility in a geographic location:  Alert generated by a CDSS is intended to be sent to all outpatient care facilities in Chapel Hill (which have contact information in a facility/organizational directory).

Cost Reduction Incentives: A health network (such as a ministry of health) may obtain subsidized rates from a Mobile Network Operator (MNO).  The various health services business units utilize SMS based messaging workflows, the health network wish to reduce cost by allowing various business domains to use the subsidized line from the MNO to reduce costs.

Alert targeted at a patient cohort:  An alert is targeted at all female patients between ages 18-40 in a certain district asking them to begin a survey on the availability and quality of MCH services in their district.

# Standards & Systems

Related Standards:

* Code Systems/Value Sets: SVS, CTS2, FHIR Value Set
* FHIR DTSU ( Alert, Practitioner, Patient, Location, Value Set )
* DIRECT, CAP, CDA, ALMAS, IXS

Potential existing systems involved include:

* Registries/Directories with APIs defined by HPD, PWP, CSD, LDAP (DSML), ServD, PIX/PDQ, PDQm, ... or proprietary interfaces
* Consumers:  RapidPRO (SMS messaging platform), OpenMRS (point of care applicaiton), Verboice (IVR platform)
* Publishers: iHRIS (health workforce manage systems), ODKCollect (data collection systems , OpenMRS (point of care application), Medical devices

# Discussion

Suggest the development of a supplement messaging within a health enterprise potentially involving four actors: Alert Publisher, Alert Consumer, Alert Broker, Human Registry

The following are not in scope:

* Profiling/defining message content  (should be ambivalent and support CDAs, CAP,FHIR Alerts, etc. )
* Means for rendering and delivering of message content to a human recipient
* Modeling/defining of search parameters across human registries (this should be jurisdiction defined and defined by service contracts)

The OpenHIE community has been exploring this issue during the course of this year and has a need for such functionality.