

Facility Registry Request for Information Q&A – May 8, 2020

Carl Leitner: Thank you all for joining and for your interest in the Facility Registry RFI that was put out. This RFI is for looking at the development of a facility registry tool. In OpenHIE, the facility registry component has been one of the key components of the architecture from the very beginning and we've had a number of tools that have partially played that facility registry role over the years. However, we've had some challenges with those tools in actual deployments of facility registries for a variety of reasons, some technical, some political or governance related. The aim of this RFI is to collect ideas and ensure that we can move towards the production of a fully fledged and fully functional facility registry that addresses some of the challenges that we've seen in the deployment of facility registries over the last few years.

The work as intended to proceed in two phases. These phases can be done in parallel, but the first phase is sort of the critical phase and getting an MVP product for facility registry out there. This isn't looking at the facility registry necessarily interacting with any other systems but ensuring that we have all of the usual user roles for facility registry management interface available for facility registry. It's based on a FHIR data store and can serve as a standalone facility management function, so it's not built within another tool that's required to use. That isn't to say that options for integrating a facility registry within multiple tools shouldn't be considered, but it should also be able to function as a standalone tool. And it should provide standards-compliant interfaces for streaming or manipulating the data that's within the facility registry. The second phase is really focused in on integration of the facility management interface developed or being developed during phase one with some of the existing Digital Square investments, in particular the GOFR or facility match functionality which is designed to bring multiple sources of facility information together, as well as the Instant OpenHIE stack for packaging all of the Instant OpenHIE components together. In phase two, we also want to ensure that we can support a federated management of health facilities, and this is not necessarily geographic federation, but by business domain so that we can support a more realistic model of facility information as we see it in countries. So, moving away from a more centralized model, which we've been looking at for the last few years and built on to a more explicit federated version.

Throughout all of these phases, we're looking at not just the software development itself, but as well as having high-quality documentation for users administrators, and developers, as well as thinking through the community support aspects of this. We are also expecting outside of the hopeful funding for the development of the facility registry tool that there will be other opportunities for the deployment of the facility registry and thinking through maintenance or help desk features and support. While that wouldn't necessarily be within the scope of interest for this RFI, thinking through what would be a longer term, multiyear support needs for a community of users around the facility registry should be thought through as this work is considered. I'll stop there to see if there are any questions on what I said or about the RFI process.

Q: I was wondering if you have a sense of when the RFA might be released?

A: We expect to move things relatively quickly, assuming that we can move forward. Things with COVID-19 are obviously impacting a lot of our activities. And so, with that caveat of making sure that people have enough time to thoroughly respond and think through, we do anticipate moving at a rapid pace. That was one of the reasons why we are going through this process rather than the open application process that we use for other procurements.

Q: I know that Digital Square tends to encourage collaboration between implementers. Since this is an RFI, but it does ask that we propose how we would execute the work, are you interested in us discussing collaboration in the RFI response?

A: I think that would be wonderful, and even if they are just opportunities for collaboration that you're considering and nothing is obviously confirmed or formalized, that would be fine as well. But I do think there are a number of stakeholders as well as expert organizational expertise across multiple organizations that would be useful.

Q: In the RFI, there was a link to a Google Document titled [Vision and Requirements for a Federated Facility Registry](#). Would it be appropriate to post additional questions there (as comments) as the week's move on?

A: Yeah. That document was intended to elucidate some of the challenges that we've seen before and propose a potential solution to those challenges. That document is being taken over by the Facility Registry Community from OpenHIE for further management. So, it's posted to the wiki and will be an upcoming agenda item for the Facility Registry Community calls. So that being an OpenHIE community document that we can use to help crystallize or argue about what are the right approaches are appropriate for this. In short, it's supposed to be a document owned by OpenHIE, and not Digital Square document.

Q: If I'm looking at Notice E0 and I'm looking at this RFI, and if I were supporting products in this space, I wonder how one would approach it. A lot of products obviously have some kind of facility component and it's challenging whether you're using something like a RapidPro and you're trying to do reporting based up facilities or if you're already way up in the weeds in DHIS2 doing aggregate reporting and trying to do facility oriented stuff. I wonder how folks would self-select into being considered in this in this RFI versus E0. What I'm hearing is that would be a slightly different process for the RFI. It's more focused, it's going to move more rapidly and I don't know what that also says about how much scope would or would not be included if something were in E0 versus the RFI.

A: Yeah, so it's an RFI so please provide feedback on where those boundaries can be more clearly indicated. In looking at this example, where I would expect the E0 work would be is on the linkages from the source data systems, so if I have a lab system or supply chain system, using the mCSD standard to say, here are the health facilities I have. I could imagine that being covered under E0, as well as subscriber data systems that don't necessarily manage or provide augment the facility data, just want to subscribe, could similarly be on the receiving end of those requests for updated facility information. So, essentially the bottom row would be the E0 supported work, and the top row would generally be considered in this RFI. That being said, if there are or key information systems that you would want to

link to in phase two that have a large deployment, considering that as part of phase two work to ensure that we have that integration and to do some of the testing, I think is potentially worth considering in here as well.

Q: If folks had a large QA element that they had to do as part of testing federation and that involved dependencies on that, then you could see some of the bottom part in the RFI response. But as an initial filtering. I'm trying to understand the vision here and how this will look when people are done with their stuff and they produced outputs for shelf-readiness and where are we at six months or nine months or a year from now, and I think this makes sense to understand which direction this is driving in. Are there other particular workflows or use cases?

A: The RFI has not gotten very specific on use cases but has some suggestive use cases. The OpenHIE Facility Registry Community has embarked on a process of reaching out to countries and ministries to understand what their priority use cases are. The intent is that those use cases feed into the vision document or would be constraints or requirements that get attached to that vision document. There are things like licensing health facilities proposing health facilities approval workflows for health facilities; those governance processes that would happen at the ministry level are some of the key use cases, as well as ensuring that there's a public portal and access to the health facility information for open access to it, at least within the confines of whatever the particular ministry would want to make public.

Q: I've been on a few of the last facility registry calls and this is the first time I'm seeing the vision document for the federated facility registry. Could you tell us a little bit more about the origins of it?

A: Yeah, so we worked with a few stakeholders to pull it together, documenting some of the challenges that we've heard, and then worked with the facility registry co-chairs to ensure that this vision document fits within their work plan and framing for this year. It would have been ideal to have had this introduced already to the facility registry, as we said we want to try to move a bit faster with this one. So, acknowledging the fact that that could have ideally been handled differently.

Q: Can the federated merge master can push back to other facility registries or is it only one-way?

A: You can imagine chaining these federation's together. So, for example, you can imagine this picture being let's say within Tanzania, that's within the East Africa community, where we also have Uganda and Kenya. If they wanted to develop a regional facility list, they could federate against the countries and that would be a geographic federation.

Q: If we stay within country, the supply chain will have entities like a cold storage at the airport or something, which are not reporting facilities in the DHIS2 sense of the word, or human resource systems will have folks that work in that supply chain facility or people in headquarters that are not also reporting as we normally think of reporting. So, they have records in their own registry. Those are brought in for a broader view into the merge master, but would the merge master act as if it's a master facility list and then be able to say, listen, I changed this information about these facilities or I added different organization location resources, like in the FHIR sense, and would those be pushed back into the lab system or the human resources system or the supply chain, or is that only a one way view?

A: Looking at this diagram here, you can imagine instead of saying community health pool over here, you could say supply chain system so we could pull back that data down as a subscriber, you just have a merge issue potentially to deal with on that supply chain system and sort of an arrow from the right hand side of the left hand side, to deal with merge might need to happen, but that reconciliation of data within the those tools would be sort of out of scope of this work, but at least possible with the way that the mCSD transactions are set up. The supply chain system can both initiate and respond to where you've updated services, but how they merge is dependent on that particular system. So, as a concrete workflow, for supply chain, for example, there's something that's relevant, call it a global location number, which is coming from this GS1 standards. That global location number is often managed in the supply chain system itself, so when the data goes from that source data system, the supply chain system backing up into the federated facility registry merged in, that would pull in that global location number. But when the supply chain system requests updates from that merged master, they could be pulling in the full list of health facilities which may not have existed before, and then somebody within the supply chain system will need to determine if a GLN would need to be assigned for any missing facilities as new facilities come in.

Q: So if I'm the supply chain, I push up or pull information into the merge master. If there are changes made then one potential workflow could be that the supply chain says, okay, I'm going to check with the merge master to see if there are updates and so you could get updates from that merge master and incorporate them, or in some cases another registry system may just only submit a merged master and not pull out dates, but there's a couple of different workflows here.

A: Yeah.

Q: I noticed in the vision document, there was mentioned of a common georegistry. Is part of the vision here to have the solution provide information like updated or curated hierarchies, to provide additional contextual hierarchy information to help facility registries?

A: Yeah and supported multiple hierarchies. The boundary definitions for geographic areas (latitude and longitude coordinates) for health facilities, to me that the most granular data we have. So I think there are two options there. One is, let's have that georegistry integrated with facility registry and people are directly managing geographic data within there, or they're subscribing to alternative sources, maybe from the Department of statistics or something along those lines. To be honest with the latter part, I'm not sure what the standard space looks like there, so I don't know how universal of a subscription of the service could be that would be applicable in working with ministries in the countries that we tend to work with. So if you have any feedback during the RFI process, would be wonderful. And that vision document is a draft so please feel free to make comments.

Q: I can imagine that the authentication and authorization aspects of this could be a bit complex. Folks on the call who've worked on PEPFAR projects for example where there are facilities that are sensitive like health care facilities at military installations and those are often confidential information, and the same with human resources or other areas, and that in certainly geographical information systems are sometimes duplicated between academic or private institutes, and the ministry may have its own, and

the National Bureau of Statistics may have its own, so it certainly could present some challenges. Do you have any thoughts around flexible enough authentication/authorization to be able to handle this or is this not so much included in phase one or phase two.

A: I think there are a couple of ways to handle that. One way is if you look at this pattern of taking, on the upper left, these four source data systems and subsetting the data and merging them together, so you're essentially defining a merge policy (i.e., I want this information from this system and this information from that system). I imagine that in that merge policy, you could do things like, if it's a facility that is coming from the military, let's remove the GIS information from it. I could see multiple merged data sets generated. One that is perhaps the full, most comprehensive data set that's used internally by the ministry. There could be one that is redacted for sensitive information. There could be a public one that might be perhaps further redacted or not. And so that would be one approach where you could generate different views of that integrated facility information and then handle authentication and authorization to access those based on which "merged document" you're looking at.

Q: So within that merge policy, there could be several merge masters behind the scenes.

A: Yes.

Q: Another thing that I've seen on the ground is that we've got complexities with regard to reporting and dotted lines between stakeholders. So you may have your HIV-oriented clinic, but that clinic is set inside a certain wing of a hospital, and the hospital may be publicly managed, but donors are only supporting the HIV-clinic. It seems to me in the MCC specification and in the maturity, the ongoing maturation of FHIR is that there is or was support for both organizations and locations and that there can be multiple organizations types of locations. But that starts to complicate managing and visualizing that. What are the subscriber data systems like if an NGO, for example, wants to highlight here's where we're intervening, here's what we're supporting government stakeholders, or if you're a larger donor (e.g., a bilateral like PEPFAR), you're saying, we're supporting these clinics and these facilities and these administrative areas, but only these areas and there's a separate programmatic kind of fluff hierarchy supporting those and I don't know how that would fit in here.

A: This could be a semantic thing. If we're saying facility registry, but we're really saying facility plus multiple hierarchy plus geo registry together, and we're using facility as shorthand. But is it a semantic thing or is it a data management issue?

Q: Probably a bit of both. I'm just trying to get my head around what the location and organization resources would look like if you had identified an additional hierarchy, and then you push that into a merged master. So the merge master would have to be able to understand and respect submissions from source data systems that had multiple hierarchies in them. So it's multiple hierarchies going into a potentially multiple hierarchy situation.

A: Yeah, and the multiple hierarchies do get confusing. So I know for example in Tanzania, the ministry uses one hierarchy, the Christian Social Services Commission, which is the umbrella FBO, uses a different hierarchy at the sub national level, starting with zones where the ministry is using regions, but then

when you step down in the hierarchy, those hierarchies end up being the same – they merge together. So they're not even discreet hierarchies.

Q: How do they merge/how do they become the same? You mean at the facility level when they finally get to the lowest level of the tree?

A: I think it's at the district level.