Information Exchange Provider Directory Task Force
Draft Transcript
November 1, 2010

Presentation

Judy Sparrow – Office of the National Coordinator – Executive Director
Good morning, everybody, and welcome to the Information Exchange Workgroup's Provider Directory Taskforce. Just a reminder, this is a federal advisory committee, so there will be opportunity at the end of the call for the public to make comment. Workgroup members, please remember to identify yourselves when speaking. Let me do a quick roll call. Walter Suarez?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
I'm here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Jonah Frohlich? Carl Dvorak is on.

Carl Dvorak – Epic Systems – EVP
I'm here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Yes. Paul Egerman?

Paul Egerman – Software Entrepreneur
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Seth Foldy? Jonah Frohlich? Jim Golden? Dave Goetz?

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Hunt Blair? Steve Stack?

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
George Oestreich?

George Oestreich – Missouri Medicaid – Deputy Division Dir., Clinical Services
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Sorin Davis?

Sorin Davis – CAQH – Managing Director, Universal Provider Data Source (UPD)
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Keith Hess? Sid Thornton?

Sid Thornton – Intermountain Healthcare – Senior Medical Informaticist
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Lisa Robin? JP Little? Jessica Kahn? Micky Tripathi?

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
David Lansky? Kory Mertz?

Kory Mertz – NCSL – Policy Associate
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Tim Andrews? He is on. Gayle Harrell?

Gayle Harrell – Florida – Former State Legislator
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Arien Malec? Do we have Lin Wan and Daren Nicholson yet from Axolotl? Did I miss anybody? Okay. With that, I'll turn it over to Walter.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Good morning, everyone. This is Walter Suarez, one of the cochairs of the provider directory taskforce. I think today we wanted to dive into some of the more detailed discussion from our presentation of the policy committee and the first meeting after that where we started to get into some of the details of the entity level provider directory. Our group of cochairs and technical advisors had a meeting late last week and had quite a bit of discussion around some of the use cases and some of the functional areas of this entity level provider directory to try to refine the specifics around where is it that they are needed. What are the functional areas, and what's the functionality of these entity directories? And try to continue to define the kind of recommendations that we would be bringing back to the policy committee later this month.

We have a set of slides, and I think, Micky, it would be best if you walked us through those slides. I know you put quite a bit of thinking around those, and some of us contributed to them too, but if that's okay, if you can walk us through those, and I know later during the two-hour meeting that we have today, we're going to also have a chance to hear from Axolotl. Probably after we have this discussion, there will be some quite specific questions to ask of Axolotl as well about entity level directories.

Micky, would that be okay if you walk us through the slides?

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Sure. I'm happy to. Thanks, Walter. This is Micky Tripathi. I'm the chair of the information exchange workgroup. Just in terms of the agenda, which is on slide two, I think, maybe in terms of time and, Walter, you tell me. We probably should have coordinated a little bit more before, but should we think about having this discussion until 11:00 and then maybe allow the folks from Axolotl to talk to us for about 30 minutes, and then that'll leave another 30 minutes for discussion again?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
That I think would be great. I don't know what time Axolotl was going to join us.

Kory Mertz – NCSL – Policy Associate
We actually talked to them about coming in at 11:30 because they're on the West Coast.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
11:30, okay, so we'll have an hour and a half before they join us.

Paul Egerman – Software Entrepreneur
Could you just explain the purpose of the Axolotl presentation?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
The thinking was really to hear from an organization that is implementing this in one or more information exchange settings, and the intent was to really allow us to have a more direct discussion about some of the functional aspects of the entity level directory. Axolotl was primarily identified as one of the technical teams that an organization that have provided this type of supporting a few of the regional health information exchanges, and so the main purpose was really to hear from an organization that is actually doing this across multiple organizations in a regional setting.

Paul Egerman – Software Entrepreneur
So it's sort of like a hearing with only one vendor?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
It's more than a hearing. It's really an open exchange with them with us asking questions and understanding better how things work in the ground, basically. But it wasn't intended to be like them presenting and providing more testimony, if you will. The purpose was more of an open discussion with them.

Paul Egerman – Software Entrepreneur
I guess I'm just a little concerned because I don't want to make it appear that there's something about this vendor that we're endorsing or something. It's just a little odd to have one vendor come in.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Let's just be clear and state that, Paul, at each point along the way. It's easy to do.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
We will make sure to point that out. I think I should have probably pointed that out as I was mentioning in the agenda that they were going to present. But indeed, the intent is not to or the intent was not to select them with a purpose of any endorsement or any expectations that they are the model to follow, but more one example and one technical organization that is doing this, and we would have a chance to ask questions directly to them and focus on the entity level functional needs. But we will mention that as we introduce them as well. Good point, Paul. Micky, do you want to—?

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Sure. We will have a discussion until about 11:30, and then the folks from Axolotl will join us, and that will take us right to the end of the meeting. On slide three is a couple slides here just to reorient us to where we left off from the last meeting. This is the work plan that we all looked at last time. Just remind ourselves of sort of where we are in the process and also of the heavy objectives that we set for ourselves as we look ahead to the work building up to— This is just building up to the November 19th Health IT Policy Committee meeting.

We'll talk about sort of a stepwise details in a second. We haven't really adjusted this at all, so I think part of what will come out of this conversation today will be any necessary adjustments that we see to this

work plan, if necessary. But right now let's have a discussion first and then see where we are. In many ways we are kind of, I think, lined up to have these discussions roughly in this order and on these timelines. I think, November 8th, you see an asterisk there. That was because, at the last call, that was not a formally scheduled call, but I believe that that is now scheduled. That's correct, right, Judy?

Judy Sparrow – Office of the National Coordinator – Executive Director
Yes.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes. So November 8th, we can take that asterisk off of that, and that is a scheduled call now. So what that does for us is it allows us to have one more meeting in between the gap between the full workgroup meeting that we have in two days and the next taskforce meeting where we will, hopefully on the 12th, sort of have an eye towards saying let's try to now sort of gel our recommendations. They won't be sort of fully specified, I think, at that point, and we'll certainly need some refinement, but that'll give us a week to put the final touches and the final—if there are loose threads, things that we may need to, in specific conversations or with work from just a few people, provide some focus to get ourselves to a place where we can get an approval of a framework approach and policy issues and actions for the full workgroup meeting on the 15th that will hopefully be out point at which we can get a full workgroup consensus for recommendations that we can deliver to the policy committee on the 19th.

Moving to the next slide, which is slide four, there's this approved framework that we looked at last time, which is at a fairly high level, but the idea is that we want to, in some kind of structured way, be able to look at different dimensions of what might be the requirements for an entity level. We're focused right now on entity level, although I think we'll very quickly start moving into clinician level conversations, as we start to think about this. But thinking about requirements and options, which are sort of together kind of constitute an environmental scan and business analysis to try to understand the lay of the land and what might be some options for identifying gaps that we identify as being necessary to be filled in order to further our objectives of accelerating the quality, efficiency, and penetration of health information exchange, specifically focused on meaningful use, but really providing a foundation for healthcare quality improvements over the long run. Then all of that with an eye toward developing some set of recommendations which again where the HIT Policy Committee, so those recommendations are in the form of policy recommendations or recommendations about specific policies that could be enacted or created and enforced to better the situation than might otherwise exist.

On the next slide, slide five, wanted to sort of remind ourselves of the key assumptions that we're operating under. First is that, as we discussed last time, we want to focus initially on the need for a specific set of functionalities related to any level director, so one, and this is what we presented to the policy committee. One function is supporting directed exchange, which is both about sort of send/receive, as well as query/retrieve. I'll stop after just running through these quickly for a conversation. This is an important slide, and we want to make sure that all of us are in agreement here.

The second is about providing basic discoverability at the entity level, and I put that in quotes because I think that discoverability is a term that's sort of fraught with multiple interpretations, and one of the things that I think we want to be able to do is get ourselves to a point where we are very crisply defining what it is we mean, so that's why that's in quotes there. The same with the third bullet, providing basic discoverability of security credentials is another thing that we thought would be a valuable function that an entity level directory could perform to enhance directed exchange, and health information exchange transactions broadly. That was based on a set of assumptions, which are, first, that the message vendor knows where the message needs to go, that is both clinician and organization, but may not know the complete address. That would be the idea of an entity level directory that somehow you don't know the complete address, but you know where it needs to go, which is kind of knowing the center, knowing who the recipient is, and wanting to send a unidirectional message to that recipient without any PHI exposed en route is kind of the lay high level definition of directed exchange, so this is kind of aligned with that,

except in the case where you may need a little bit more information to have that be something that is a machine-to-machine transaction that you can trigger.

The second is that messages can be sent over the Internet using standard Internet protocols and addresses. Third is related to message security, which kind of relates back to the discoverability of security credentials that we're assuming that security is base on the PKI infrastructure. Let me pause here and either ask Walter or any others if there's more elaboration you want to give to this and then open it up to the taskforce for a conversation about this and discussion.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
No, I think you highlighted the most critical elements here, and clearly the question is around some of the functional capabilities, the definition of discoverability. I'll just wait for some feedback from the group here.

Carl Dvorak – Epic Systems – EVP
On the part where the first assumption says knows where the message needs to go, clinician plus organization. Again, I'm not always sure that you'll know the clinician. Many of the use cases that we discussed with people for referrals even, they knew to send, refer the patient to an organization, but they weren't positive within that organization who was likely going to handle that referral.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right. Yes.

Carl Dvorak – Epic Systems – EVP
It might be nice to sort of white out the plus sign there and say knows the organization and possibly also a clinician within the organization, but not necessarily.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes, I think that's a great point. I think that really the salient point is about the complete address. Do you have a complete address for where you need to send it? Would you agree with that?

Carl Dvorak – Epic Systems – EVP
Yes, I agree with that part. I just was worried about what the first part might imply.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes, I think that's a good point.

Paul Egerman – Software Entrepreneur
Looking at the functions, the very first function says support directed exchanges. I might suggest refining that a little bit. It's really support routing for directed exchange. Routing, incidentally, is the same thing that other people call routing. There might be one other function that should be added here, which is, provide basic "discoverability" of services or information exchange services provided by the entity. The reason I say that is when we listen to how NHIN Exchange works, that's what they did. In other words, it was the certificate, and it was routing, but it was also a way to discovery what the services that were provided by that entity were.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Paul, when you say services, you mean clinical services …?

Paul Egerman – Software Entrepreneur
No, information exchange services. It might say we support HL-7 2.5.3.7.8 or something for lab, and we support the following message transport protocol, but we don't support this. So it would be sort of like— That's at least the way I understood NHIN Exchange worked is that it sort of told you what were the information exchange services that it provided ….

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes, information exchange services will be good. Yes.

Paul Egerman – Software Entrepreneur
Yes, I'm not talking about that we treat children versus adults or something like that.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Exactly.

Paul Egerman – Software Entrepreneur
It's just the IE services.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Paul, I think that's a great point. I think we'll address some of that, as we work through the slides as well, so I think that's a good point to add to this.

Paul Egerman – Software Entrepreneur
Yes, and the other question I had about this slide, and maybe this is too detailed, is this message security is based on PKI. That's probably true, but I'm not sure we've ever said that before, and I'm not sure we need to say that. This … feels like the sort of thing the standards committee ought to be saying. If people disagree with that issue, I don't care.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
I think it was on one of the sort of background slides from last time. I guess I would just ask a question, and this is really just the question is, is there something about saying, talking about discoverability of security credentials, does that put you in the paradigm of PKI? I don't know technically if that does.

Paul Egerman – Software Entrepreneur
It doesn't. I don't think it necessarily does. It seems like the right way to do it, but I don't know what you think about that, Carl, or if anybody else has an opinion.

Carl Dvorak – Epic Systems – EVP
I'm not sure I was tracking the whole point there, Paul.

Paul Egerman – Software Entrepreneur
It just seemed like it was very specific when you say security is based on PKI. My point was, why don't we let the standards committee say that?

Carl Dvorak – Epic Systems – EVP
Yes. Part of my head thinks that PKI is a generic concept, so I could kind of go either way on it. But, yes, I think it would be appropriate to have the security group decide that for final.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right. Yes. This is listed here as an assumption, so I guess one question that we can keep in our minds as we think through this is would changing that assumption change anything about what we're saying? I don't think so.

Paul Egerman – Software Entrepreneur
You already have the previous thing. You're using the standard Internet protocols.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right.

Paul Egerman – Software Entrepreneur
That's broad enough, I think.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes.

Carl Dvorak – Epic Systems – EVP
Just have state of the art security techniques.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Yes, that might include PKI.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes. Tim, are you on? Maybe we can come back when Tim rejoins because I think he had put this bullet on, so we can just double-check with him, but I think that's a fair point. Any other thoughts on this slide? Those are all great. Thank you.

That tees up—I'm on slide six now—a set of key questions. What we want to do here is if all of you will bear with me, perhaps just run quickly through this set of key questions that really, I think, are things for us to just keep in mind as we then, on the next two slides, about some specific scenarios. Then we'll come back to these questions after that, but wanted to make sure that as we move through the scenarios, people have these questions in their mind. This is really just walking through that framework that we talked about last time and that I showed just a few slides ago.

Some of the questions, as we think about what scenarios does this really apply, and how important are those scenarios in the scheme of things, which of course is sort of the key questions for us, as we think about how much do those scenarios then justify our weighing in with some policy recommendations and what should be the extent of those policy recommendations. It's really sort of thinking through, you know, users, uses, and functions. Which scenarios would use an entry-level directory lookup because now we're focused on this question of entity directory lookup? Is there something there beyond just what happens with regular DNS architecture? I think, as we know with NHIN Direct, there is no anticipated extra infrastructure that's required beyond what the DNS architecture requires today in the way of directories and routing tables. So this is really a question of saying, in what scenarios would we think that there may be value at having something, a layer on top of that. How do we specify that? That's what the first part is about which scenarios would that kind of functionality be appropriate for, and how important are those scenarios in the overall scheme of healthcare delivery?

Moving next then to content, having decided that it may be important for those particular scenarios, and that there is something there, what content would be needed to make such lookup functions valuable? Moving to operating requirements and business models, how would such content be provided and maintained? I think it's a very important point is how would you actually get to the level of information that would be needed to make it valuable, and then how would you be able to maintain that data so that it is valuable on an ongoing basis as people use it and hopefully start to depend on it? Then, finally, what policy actions are needed to create all of that or to spur the creation of all that or create incentives that hopefully will spur the creation of all of that? At the end of the day, I think there's a question of, do the envisioned scenarios of some kind of entity level directory lookup kind of capability would justify a set of policy actions and recommendations? These are really just, again, some guiding questions for you, as we walk now through the scenarios. Then, as I said, we'll come right back to these, so don't think that we're just going to try to skip over these.

The next slide, slide seven and eight are two depictions of some scenarios. The first one is really the scenarios that we have talked about, but Walter has kind of blown them out a little bit more just to give a little bit of a stepwise workflow related to each one. They're really focused on the meaningful use

directed exchange examples where we've got lab transactions, patient care summaries in the ambulatory setting, so a summary from PCP to specialist, and then hospital discharge summary or hospital summary, depending on whether it's from a variety of settings within the hospital. But whether it's ED or inpatient, what have you, but having that ability to generate that care summary appropriate to the visit in the hospital and being able to deliver it to whoever is the responsible agent on the ambulatory side, PCP or referring practice or what have you.

What we've done is I'm just going to explain why they're ordered this way and explain that left-hand part, and then I'll pause and see if, Walter, there's anything else you wanted to add to the description of these. Then I'll open this up for some comment. We arranged this in what it says on the slide, higher fraction of cases with inadequate, incomplete information for recipient addressing. What's meant by that is, again, going back to this question of how often are we in this situation or do we depict that there would be situations where you would want to do an entity level type of lookup, and so what we mean by that is we certainly talked about cases where you may want to have a more specific lookup, like I need to send something. Dr. Jones referred this patient to the hospital. They are the referring physician. The patient is now being discharged.

We need to send it back to Dr. Jones. Dr. Jones practices at Sunnyside Practice. That gives me an address, and I have an address, and that's all within a local directory, perhaps, or it's a well-established relationship, so I've already got that. The sender knows where it's going, has the full address of the recipient, and no real lookup capability is needed at the entity level there. That means what situations would I be in where I want to have a lookup capability that says I want to send it to Sunnyside Practice, but I don't know to whom, and is that relevant in some way? It's almost like as we were describing in a call last week. How often do you just want to look up the right side of an e-mail address? You want to be able to have the full e-mail address, not just the right side.

Paul Egerman – Software Entrepreneur
The right side is the only part we look up.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Could you elaborate on that?

Paul Egerman – Software Entrepreneur
That's how e-mail works. You only have to do the lookup on the right side. In other words, the sender of e-mail only looks up the right side of the e-mail address.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
You're saying that you know the left-hand side?

Paul Egerman – Software Entrepreneur
I'm just saying there's no lookup on the left-hand side. You only have to look up the right-hand side.

Carl Dvorak – Epic Systems – EVP
What Paul is commenting on is that the directories that are involved in looking up and managing e-mail, they basically look at the right-hand side and deliver the e-mail to the organization that's in the directory for the right-hand side. Then once it's at that organization, the organization itself resolves the left-hand side. Paul, that's what you were getting at, right?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
I guess the resolution would be this left-hand side exists or not.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I actually think the issue we were confronting is that while it's true that the routing only needs the right side, to actually get it all the way there, the organization, the person who sends it needs to know the left

side, and so we were trying to grapple with the usefulness of a directory where we don't have the left side, and the use cases that that could enable versus not. So if I don't know Dr. Blumenthal's full e-mail direct address, for instance, then I'll be able to get it to the doorstep of the organization, but they may not be able to route it to him accurately.

Paul Egerman – Software Entrepreneur
Why wouldn't they be able to?

Claudia Williams – ONC – Acting Director, Office State & Community Programs
What I'm saying is I don't know that your protocol is Dr. Blumenthal underscore whatever. I don't know.

Paul Egerman – Software Entrepreneur
But you're thinking about it, Claudia, in terms of an e-mail address. But if you think about it in terms of like an HL-7 transaction or CCD or a laboratory order, it's in the content of the transaction.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Right, but if we were thinking of it, you need to know the naming protocol for that individual to get it all the way there.

Paul Egerman – Software Entrepreneur
No, you don't. It's in the transaction.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes, but someone would have to. Say for example scenario one, the clinic X, the second bullet in the scenario one, clinic X EHR generates the lab order and send it to the laboratory. Then the third bullet, laboratory information system receives the order. The question is in between those two bullets, how does the clinic X EHR know? How do they know what the address of the laboratory information system is to send the lab order? It could be a known, they know it. It could be they know the organization, but they don't know the actual address to put in the message.

Paul Egerman – Software Entrepreneur
I don't understand what you're asking, Walter, because the LIS, that's clearly to me that's just from the entity level directory, right?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
No, I'm just describing the information system at the lab.

Paul Egerman – Software Entrepreneur
The lab sending back the result?

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Yes.

Paul Egerman – Software Entrepreneur
Yes. Presumably they know where the order came from, right?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes.

Paul Egerman – Software Entrepreneur
All they have to do is send it to the same entity that sent them the order.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes, but the first part is really the clinic sending it to the lab. How does the clinic know the address?

Paul Egerman – Software Entrepreneur
The clinic knows the address of the lab by going through the entity directory, and it routes the order to the lab. The lab processes the result. It sends it back to the clinic. When it sent it back to the clinic, it uses an HL-7 transaction that identifies an order number. Probably somewhere in the content of it, identifies the ordering physician. Then the EHR system receives it, sees the order number, sees the ordering physician, matches it up to the patient record, and does whatever … it does.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
When it looks up the entity in the entity directory, you're thinking that the entry in the entity directory for the lab would have a left-hand and right-hand side ….

Paul Egerman – Software Entrepreneur
It doesn't need the left-hand or the right-hand side. If there's a discoverability of the services, it tells you where you send the order, so it may be an address or something. And it tells you a format, and you send the order there.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think that it's interesting. I think that we're talking the same language. We're basically saying, in certain cases, and Direct is an example, to get it all the way to who needs it, you probably do need both. You need to know both sides. You're right that the routing director doesn't need to know that, but to get it there, you need to know it. We're all asking the question, but let's pretend the left side either isn't known or doesn't exist. What is the usefulness of a directory that just includes the right-hand side? In the case of HL-7, maybe that left side doesn't exist. In the case of Direct, the left side does exist, but you don't know it. We're still asking what the utility is of a directory that just restricts itself to the right-hand side.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right.

Carl Dvorak – Epic Systems – EVP
Claudia, maybe one of the things that we'll need to do is to spend some time talking about how left-hand sides get evaluated. I definitely agree with Paul that the directory, to facilitate much of what we want to accomplish here, simply does not have the left-hand side, but that doesn't mean we don't have to account for how the left-hand side should be handled. That's handled more by protocol standards and convention, much like e-mail is today.

It doesn't mean you don't have to know it. If I intend to send David Blumenthal a message, then I have to know about David Blumenthal, and I have to know what should I put in my message or on my message so that it gets to David and not some other random person. That has to be discussed. I think what I'm hearing Paul say is let's not presume that that needs to be in the directory. For example, an e-mail, it's not actually in the directory that drives that e-mail exchange around the country. I do think we need to come back and discuss that. There will be used cases that if I want to send Dr. Jones a summary, then I'll need to address it to Dr. Jones at that entity. But I think we were trying to discuss more the entity level directory. What we may want to do is just inventory which use cases involve knowledge of the left-hand side, so we can come back and talk about them.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think that's what we were trying to do here is just make it clear that a directory that doesn't have a left-hand side, there are certain use cases that can enable— In a direct example where you do need a left-hand side, there are certain use cases that can enable and certain that can't, and just move forward with that understanding.

Carl Dvorak – Epic Systems – EVP
It enables both, and yet it's not sufficient for one of them. There's a next step that has to be determined.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
I'm just wondering even now to what extent that is useful because, in the first case, going back to that, I'm a clinic. My EHR is sending a lab order to a lab. That doesn't go to a technician in the lab with a name, a person. It goes to a, say, mailbox in the laboratory information system that receives all the lab orders from all the clinics, and they just open it up inside the lab. But it does have a mailbox@labclinicx.org. So it has a left-hand and a right-hand to identify the general location where the message comes into.

Carl Dvorak – Epic Systems – EVP
Walter, it actually doesn't. In the lab example, it really just does drop it to an entity, and the entity may put multiple identities. The entity may put multiple entities forward if it's got regional processing, for example. But basically it really just does go to the entity. They unpack it, process it, and then they return it to the sending entity with the order number that the sender sent along with that order, and then the receiving entity uses that order number to do, as is appropriate with that message. In many cases, the doctor who orders the test is not necessarily the doctor who deals with it, if you're a resident or in the ED.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
But when you say, Carl, that it goes to the entity, where?

Carl Dvorak – Epic Systems – EVP
It just looks up a port number on the PCP/IP line and starts talking to it.

Paul Egerman – Software Entrepreneur
There's either a standard for doing it, or you could do some services lookup that says, use this port number and this address.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
Just let me ask a question. The purpose of this, it would seem, we're talking about this is where it requires some resolution of ambiguity.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Yes.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
The transmission error, or you just don't know. And so it may not be something that happens on every occurrence because once you resolved it, it should, in the case we've been talking about labs, then it just goes on.

Paul Egerman – Software Entrepreneur
Right.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think the point was raised earlier that because of the actual requirements of CLIA to test interfaces, the lab and the fact that lots of folks actually don't do orders, but just get results back, probably the best use case to be thinking about as what should drive our requirements here is the care summary between two docs because that is where the most ambiguity is likely to occur.

Paul Egerman – Software Entrepreneur
Sure, although, Claudia, I think we did signal in stage one that we were going to be doing orders moving forward.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
… standpoint of where we need this layer of discoverability that's beyond what's already been specified. I think the domain in which that's most acute is the care summary one so that at least in terms of being sure the requirements line up, that might be the best place to start.

Paul Egerman – Software Entrepreneur
The main point we're trying to make before we go onto the care summary is the lab example does not have a left side, and I believe the same thing would be true if this were a prescription, e-prescribing. I don't think there's any left side.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
I agree.

Paul Egerman – Software Entrepreneur
And it's true if it's radiology. So even before you get onto the next part, you've got lab, radiology, pharmacy. That's a lot of stuff right there. There's no left side.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
The reason we arranged these in this way was to address precisely the point you were talking about, Paul, and what Claudia was mentioning that it's probably the case, if you look at the bottom of the hospital being in a position where a higher fraction of the transactions that they have to conduct may be where they have some familiar name perhaps with where something needs to go, but they don't know a specific address, and they haven't had an established, to Dave Goetz's point, this may be a first time occurrence for them, so it's not established, and it might be in that sliver of cases where an entity level lookup is valuable for them. But for 80% of what they do, or maybe it's 60%. I don't know what the fraction is. They've already got within their local directories a complete address. They know where it goes, and it's not an issue.

Paul Egerman – Software Entrepreneur
I understand. Are we going to talk through this second scenario then?

Carl Dvorak – Epic Systems – EVP
One thing before we jump further, I think there's a more fundamental maybe accident here. The notion that we're talking about the left-hand needed or not needed, it doesn't really exist on a continuum as that line down the left represents almost. I think an entity directory enables all these different forms of exchange, and then there are certain forms of exchange where they're intended to go to a specified individual within that entity that we'll need to discuss. But they can occur in some of these different silos.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
Yes.

Carl Dvorak – Epic Systems – EVP
But it's not that it's actually on a continuum, and I think kind of forcing it onto a continuum is what is sort of eliciting this commentary because it doesn't really fit on that continuum.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes, Carl. I think you've hit it right the nail on the head, I think, because what this is telling me anyway, and is clarifying in my mind is that there are really sort of the two paths, if you will. One is the need to identify the entity to be able to open that port that you're referring to, and then be able to communicate the message. Whether the entity is the lab, pharmacy, or even a clinic or hospital, so they could support that as well. That's one path, which is the entity level directory.

The other path is really the next iteration, which is in some cases you do want to have some sort of a provider information that the entity receiving the message can route the message to. Is that what we're

seeing here like two paths, if you will? One is sort of the path that takes us to the discovery of the entity and the port, and be able to open that port and communicate that way, which has nothing to do with left hand and right hand. Then the second path is really the one with the need to identify the full address.

Paul Egerman – Software Entrepreneur
I don't understand the full address comment.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
I'm going to ask Tim Andrews to join in a second, but one question just to your point, Carl. The point of the continuum wasn't sort of to say whether it is useful, whether entity level routing or entity level information for the purposes of routing is useful. It was to say the continuum is about given the way transactions happen today in the current state of the world, those on the bottom are being represented as settings in transactions where you are more likely to be in a situation where you may know the familiar name, let's say, Birmingham Pediatrics, where information can go. But I don't know the specific domain name for … addressing because this is an emergency department maybe and the patient is being discharged. Now I need to send them somewhere. The patient says Birmingham Pediatrics is the primary care practice. That's all I know. So I want to look up the entity.

Carl Dvorak – Epic Systems – EVP
Okay.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
That's how that's being represented. The labs, that's why I would say that I think it's 100% of the time it is absolutely known in both directions because there's no way that you can go through a CLIA sort of process without having that established. But on the hospital side, maybe it's 20% of the time. I know a familiar name, but I don't know the specifics.

Carl Dvorak – Epic Systems – EVP
That red arrow is indicating the likelihood that you have pre-knowledge of the entity versus have no knowledge of the entity, but have to initiate some sort of lookup on it?

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Right.

Carl Dvorak – Epic Systems – EVP
So it's not really about left-hand side at all.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
What we were still trying to identify though is those cases where just being able to look up the entity helps you perform the use case.

Paul Egerman – Software Entrepreneur
You have to look up the entity for all of it. Even if you have this thing you called the left side, you still have to look up the entity.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
What we're saying is that in some cases where you know the domain already, like in the lab example, your system is performing these functions, but you as a human being don't look up the familiar name to map it to what the actual ….

Paul Egerman – Software Entrepreneur

You might.

Carl Dvorak – Epic Systems – EVP
Yes, you might for ….

Paul Egerman – Software Entrepreneur
Yes, certainly you would if it's radiology, but even for lab, you might say to the patient, well, this test, where would you like it to go? There are three different choices here. Which one is closest to where you live?

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes, but that's not looking up. That's not from a familiar name. That's in the cases where it is already established. The machine-to-machine connection is already established, and all I'm doing is giving the patient a choice of things that are already established.

Carl Dvorak – Epic Systems – EVP
It depends though. I think there's a bit of change happening with this. A lot of the insurance companies are contracting with major lab providers, so with the patient's benefit the patients are even being told what labs they need to go to. So I think there will be cases where the patient says, look, if I'm going to get this paid for by my insurance, I have to go here. Otherwise the doctor might route them to their lab or to a hospital lab. They have to explicitly route that patient to a lab that's approved by the payer.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
Yes.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right, but all I'm saying is that the communication and the protocols for that transaction have already been established. Otherwise I couldn't offer that choice to the patient to have it done electronically because there are other processes, out of band processes that require that, like CLIA and all of that. A lab is not going to allow you to send things blindly.

Paul Egerman – Software Entrepreneur
Yes, but a pharmacy would.

Carl Dvorak – Epic Systems – EVP
Yes.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
No … pharmacy, no they won't. You have to do it through SureScripts.

Paul Egerman – Software Entrepreneur
Well.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
There's an enrollment process.

Paul Egerman – Software Entrepreneur
Hold on. That's one vendor. There's more than one e-prescribing gateway. But you could also have the situation where there's a direct connection between a healthcare treatment provider and a pharmacy.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
But isn't there an enrollment process for those cases as well?

Paul Egerman – Software Entrepreneur

I do not know if there is—

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
I believe that there is.

Paul Egerman – Software Entrepreneur
—an enrollment process.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think what this conversation is demonstrating is that if anything, there's greater value than we might have anticipated. I'm not sure we need to resolve each of these. The main point I think we're trying to address here today is at an entity only level for the lookup capability. How valuable is that?

Paul Egerman – Software Entrepreneur
Yes. I think, Claudia, though, it would be helpful. Let's walk through. We went through the laboratory one. Let's walk through the patient summary one also because I think there's a real misunderstanding of what Carl and I are trying to say about this part that you called the left hand because it is really not part of the address. It is really, in my opinion, it's part of what I call the data. Let's walk through, if you don't mind, let's walk through the second scenario, and maybe we could try to explain that.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
But I think the question was, if I'm Dr. Jones, and I actually do want to get it to Dr. Smith, and I don't know the full address, I think the only point that was being raised here is you're right, the routing doesn't need the left-hand side if it's using direct. But if I actually want to get it to the other doctor, I can't get it to him without the full address.

Paul Egerman – Software Entrepreneur
I'm sorry. I disagree with that though because you can. If we could walk through the scenario, first of all, you'd see that there are two things you have to do. You have to get it to Dr. Smith, and you have to identify the patient, right?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes. I think that's an important ….

Paul Egerman – Software Entrepreneur
And at least as important as identifying Dr. Smith is identifying the correct patient.

Tim Andrews
Can I jump in for a second and just ask a question because I'm a little confused, and I know I got here late because I had trouble with the conference line, but it seems to me, I'm having another level of confusion because particularly when you say you have to have the patient identified. At least in my understanding, that's an important dividing line between identifying a provider to send information for and identifying a patient, and then presumably patient information to go along with that. At least in my experience, that's an important dividing line because provider information can be viewed—I'm going to use the word routing, but don't take it too seriously—as routing information, whereas the patient's identity and the patient information is all PHI.

So it's a very, very important dividing line between that. A lot of the effort at least in ONC was about a uniform addressing scheme, so you could get it to a provider in this case without having to expose PHI. Now you can do all of this, again, with just an entity address, I think, as you and Carl have been talking about it. But you need then another segregation of some … I think we're talking about sort of the same thing, but we're talking about it in different buckets.

Paul Egerman – Software Entrepreneur

Yes. But, Tim, what you're making is an argument about security, which is an interesting issue.

Tim Andrews
Right.

Paul Egerman – Software Entrepreneur
But it's a separate issue.

Tim Andrews
It is, but I think it points out to people, and I think there's still some confusion in a lot of people about what we're actually talking about. I think what you and Carl are saying is the only thing that you would call an address is the address of the entity like direct.partners.org or the lab.

Paul Egerman – Software Entrepreneur
That's correct.

Tim Andrews
There could be more information that could be involved in routing, whatever you want to call it, because ….

Paul Egerman – Software Entrepreneur
Or perhaps you could call it ….

Tim Andrews
… the provider name is going to be in there somewhere. The patient's name could be in there somewhere. All these things could be utilized by somebody in order to direct the message to a specific point.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
I'm also hearing that we might have been too, you know, Web address focused. In other words, focused too much on the traditional e-mail address of a left hand at right hand, and I heard that there's actually much more direct connection between organizations and the entity lookup is where that will be very beneficial because I think scenario two, the clinic EHR is sending the CCD to the other clinic EHR, and there is an open pipe that goes there and drops the message with the PHI and all that. But the receiving clinic EHR is the one that opens the message and incorporates the data into the patient's record.

Paul Egerman – Software Entrepreneur
That's correct. The point I was trying to make is if you look at the receiving EHR system, the receiving EHR system in scenario number two has to somehow figure out not only who is the specialist involved, but also has to figure out who the patient is in order to process it correctly.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Undoubtedly, yes.

Paul Egerman – Software Entrepreneur
And so from the standpoint of terminology, I call that workflow. It's got to do something and then it's going to move things around. The point I'm trying to make is, how you identify the patient and how you identify the specialist is a part of a standard about the information that is transmitted. It's not part of the address.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
That's true. I don't think we are saying that the patient information would be part of the address.

Paul Egerman – Software Entrepreneur

So if the patient information is not part of the address, then the specialist is not part of the address either. They're both part of the data that's transmitted, and parsed out by the EHR system.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
That's true. The question becomes in the scenario two, how does clinic X EHR knows to send it to clinic Y? How does it know that it's clinic Y the one that they need to open the pipeline and drop the CCD and now clinic Z?

Carl Dvorak – Epic Systems – EVP
We may want to just work our way through these slides and then have more of a general discussion. Tim and Claudia, again, I think we have to have the discussion on where knowledge for a left-hand side would be appropriate. How do we attack that? Because I think it's within our ability to recommend how to attack that, but I think what we have to remember is that that is just a different thing than the entity, and we may have something simple like you UPIN, colon, string of digits, reserved for physical provider addressing where appropriate.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right.

Carl Dvorak – Epic Systems – EVP
And just use the UPIN as a convention on the left-hand side.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Yes.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
If we walked this scenario two, it just points to some of the steps. The primary care provider clinic X sends a patient summary to the specialist in clinic Y, so this is not like me sitting in, well, the clinic X EHR is the one that ultimately sends the patient summary in a, say for example, CCD form to a the clinic Y's EHR, and the clinic Y's EHR system received the patient summary and incorporate that data into the patient's record. Then the clinic Y's EHR sends some sort of alert to the specialist that new information about the patient is available. That's kind of the description of the process, and the question becomes then, so where in here is it that the entity level directory will assist clinic X, PCP in clinic X, send the summary, the patient summary to the right clinic?

Paul Egerman – Software Entrepreneur
Or it has the address for clinic Y and does the routing.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
But they know that it is clinic Y? Is that what you're assuming?

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Can I suggest something? I think the thing we're trying to ask is the utility of knowing the familiar name of clinic X and being able to look up information needed for addressing in a directory. I think, on page nine, I'm wondering, just given. Page nine sort of asks that question. Let's check ourselves before we go on and confirm that that's something that we think has value, and we should pursue. Then on page ten says what elements might be included in such ….

Paul Egerman – Software Entrepreneur
Sure.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think, focusing on that, it's looking up, and it's mapping between the name I know as a person and the name that's needed to be known by my computer. That's really the nub of it.

Paul Egerman – Software Entrepreneur
Sure, but Claudia, in this second example though, you can really illustrate how it's useful. I go to my PCP, and he says I want to send you to an orthopedic specialist, and I say I'd like to see the people over at Baptist Hospital because I saw them before. I've never dealt with them before, but I'll send your stuff over to them.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Yes, that's exactly the scenario I think we all have in mind. That's one scenario that would be very well supported by this.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right, so I think we're in agreement on that.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think what Carl was pointing out is there will be instances where you need to know the routing information to the individual names. We're not tackling that right now. But there are other scenarios where you don't, and there may be several of them. Maybe it's a high, high priority.

Carl Dvorak – Epic Systems – EVP
In all the scenarios that I've seen so far still rely on an entity level directory being in place.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
But I don't think they all rely on the human lookup ability function.

Paul Egerman – Software Entrepreneur
No, they don't.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
The lab one probably doesn't, so we're not saying there shouldn't be an entity directory. What we're asking right now is that ability to look up LabCorp at 25 East Street, and I know how to actually route it to them.

Carl Dvorak – Epic Systems – EVP
I think about that a little bit differently, having set up lots of lab interfaces. The difference in the lab is you'll look it up probably once. And then if I'm in a community with a community hospital, I'll probably look up that once as well. For each patient, attach it to the patient. Once I'm attached, then I cannot have to look it up each time. But I do think they'll all benefit from a lookup, even if sometimes you look it up just once to set up.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
You'll be fat fingered typing. How many times do you get the wrong phone number?

Carl Dvorak – Epic Systems – EVP
Yes, and it's a validation thing. You'll want to look them up to say, yes, that's the lab, and then not have to futz around with a string of digits and all that sort of thing.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
Right.

Paul Egerman – Software Entrepreneur
Yes. Plus a lot of these things have similar names. LabCorp in Wellesley or LabCorp in Newton?

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Right.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
It sounds like these scenarios are actually, and that was sort of the main purpose of putting them together was to try to highlight without getting too much into the workflow, trying to highlight where and how the entity directory level would—entity level directory would be helpful. The same thing with scenario three, the hospital discharge summary or the hospital data back to the clinic. It's sort of in the same kind of process as the previous scenario between the two clinics, so I think we might want to, just in the interest of moving a little bit forward, we might want to go to the next couple of slides, I guess, and particularly slide nine, as Claudia was highlighting, because I think that's where we have the discussion about the functional benefit of that.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Sure. Yes. In slide eight, not to skip over it, but we can keep it aside to think about it a little bit or not, are actually two use cases. One, I think, came from you, Carl, and one came from you, Paul, as suggestions of different functions that an entity level lookup would be valuable for. I may have gotten some of the details wrong, so correct me, please, if I did. But I think these were just another set of scenarios. They're not strictly meaningful use stage one scenarios, but that said, does the taskforce feel that they are important enough to warrant our consideration, as we think about the kinds of functions and use cases and scenarios for an entity level directory.

Hunt Blair – OVHA – Deputy Director
I've been doing my best to stay out of the fray, but I would say that even though they're not strictly stage one, that these are, I mean, the top one on page eight is, I think, one of the most sort of it's a use case that people can relate to. So I think it's useful.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes, absolutely.

Hunt Blair – OVHA – Deputy Director
… confusing ….

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
I wonder if in the next iteration of this, once we have the discussion on slide nine and beyond, we could add to the scenarios, because it's going to be very helpful for people in the policy committee as well as others to read some of the scenarios and they relate to, yes, this is what the hospital needs to send to the clinic after a patient is there or when a hospital needs to look for patient data when the patient is in the emergency department. I wonder if it would be helpful to add a couple of bullets inside each of these scenarios highlighting entity level directory will support this and kind of describe in each of the scenarios specifically how the entity level will help. I know we don't want to do it right now, of course, but it's just a suggestion as a future way of describing the scenarios, highlight the value and the places where the entity level directory will be supported.

Paul Egerman – Software Entrepreneur
it supports all of these, right?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes. Exactly. In all of them, there will be a bullet that says entity level directory supports this scenario by doing the following.

Paul Egerman – Software Entrepreneur
But so far there hasn't been any examples of one that the entity directory wasn't required for.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
No, which is good.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think the point was made that some are more, like the lab, you might look it up once.

Paul Egerman – Software Entrepreneur
Yes. You may feel you don't need to do it each time. There might be reasons why you would do it anyway, but that's a whole other discussion.

Carl Dvorak – Epic Systems – EVP
Claudia, what sometimes happens with those is that when a patient enrolls with insurance, I'll be putting information about that patient's benefit plan into the registration, and on that card it might say labs must go to X, and I might be certified with them or maybe that changes some day in the future. But I'll actually have to go to that patient's benefit then and say when ordering lab tests for this patient, I need to route it to this spot, so they will look it up from time-to-time in many scenarios. Not all scenarios. It's definitely less, but I do – if we want to get to a plug and play level, I think it's a hugely valuable piece even for the lab type scenario.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
I actually want to build on what Walter said. I do think these use cases are useful or for illustrative purposes. A typical little family physician office may have one or two hospitals where they routinely exchange with, may have one or two labs, a handful of outpatient testing places, and then an ecosystem of specialists and other clinician caregivers with whom they exchange. The local stuff, over time, would probably be fairly quickly populated in their own little local address book, if you will. It's when you start to get these occasional patients who come from further away or have care when they're out of town, or if people go to an emergency department when they're traveling, things like that. The whole search, and based on the discussion you all just had, which seems to me inordinately complex, trying to do this search and retrieve sort of stuff seems to me like it's got to be a whole other factor of complexity. Yet that's probably the stage two or stage three sort of stuff we're really hoping to get to. Does the silence mean I said something absolutely radical?

Carl Dvorak – Epic Systems – EVP
No, I think I agree with you. You go off the deep end of complexity pretty quickly with this.

Steven Stack – St. Joseph Hospital East – Chair, ER Dept
Right.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
It sounds like there is general agreement, and I think Paul just said it that there is value in almost every one of these scenarios. Perhaps varying in terms of how much immediate value there might be versus in some cases, to Carl's point, in hopefully a future world of greater plug and play, you could almost imagine there being a lot of value in almost every one of these scenarios.

Paul Egerman – Software Entrepreneur
Right, and the comment I gave you too, when you think about the laboratory example where you say it doesn't change. That exists a lot with e-mail too in the sense that you can e-mail the same person over and over again. You say it doesn't change. But actually it does, from time-to-time, change if the organization is acquired, if something happens. From a vendor standpoint, it's easy though to just write the software so that it uses the directory since that handles lots of the situations.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right.

Paul Egerman – Software Entrepreneur
You don't want to write the software so it always sends labs to a certain place. You'd rather write the software so that there's sort of level of what's called indirection where it says, well, if you choose this lab, it'll look it up, and it'll do what it says.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
If we move to slide nine then, I think this is really just teeing up some of the questions that we've been batting around, but I think this might be a good way for us to get some sense of where we are on these questions. The question on the slide says how important is entity level look up in this new thing? Is there value in the service to look up entity level addressing information? This is exclusively entity level addressing information for, let's say, familiarly known entities. For example, the provider knew only the entity name in a familiar way provided by a patient, let's say. Then they would want the ability to find the specific entity routing address. Where do I actually send them?

In use cases certainly requiring this function do exist, though such cases probably constitute a relatively small share of likely directed exchange transactions today. That doesn't mean that in a future world where the assumption is that things are plug and play that you don't already have these things sort of built in as part of specific enrollment processes, which is the way a lot of things happen today.

Carl Dvorak – Epic Systems – EVP
I would really strongly disagree with that last bullet point. I think actually that's probably the majority of exchange transactions that exist today are from entity-to-entity.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Again, Carl, this isn't getting at whether— This is asking the question. In what scenarios of the world today would I be in the situation where I literally don't know how to send something electronically to the next place where it needs to go, where I know that it's Birmingham Pediatrics, but I don't know anything beyond that.

Carl Dvorak – Epic Systems – EVP
I guess if you constrain it to say in today's specific world without interoperability as contemplated by direct exchange, NHIN, or other HIEs, then it would be a true statement. But the way it's written here, it almost reads like the use cases that have been contemplated as part of the IE workgroup represent a small share where the knowledge of entity would be important. I guess if we wanted to say in yesterday's world, people had to hardwire interfaces, we could say that. But the way this is worded, it almost makes one reader seem like they're not current. They're not going to be the ….

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes, so what if we say in a directed exchange world? So it's not yesterday's world, but it's in the world of the next two years.

Carl Dvorak – Epic Systems – EVP
Then I'd say it's wrong. I would say it's significantly wrong.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
So in what cases? I just want to push on this because this is really important. In what cases then would I want a look up capability at the entity level where I probably haven't through other processes already established that connectivity?

Carl Dvorak – Epic Systems – EVP
Well, again ….

Paul Egerman – Software Entrepreneur
The first question is how did you establish it in the first place?

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Through the ways that I establish it today.

Paul Egerman – Software Entrepreneur
So you have to have somebody call you or send you a letter, and you have to type it into your computer system?

Carl Dvorak – Epic Systems – EVP
I think it's ….

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
No, it already established. I've already established different levels of messaging with those entities who I have business relationships with and already have high volume.

Paul Egerman – Software Entrepreneur
And so you're saying those are the only ones you want to be able to communicate with.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
No.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
No.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
No, I'm saying those are the ones who I have established communications with, but now I have—and then in what scenarios, and that's a part of my either that I have an initial setup where I sort of looked at the world and said here are the ones that have who are my trading partners, and so I'm going to establish those things because I know they're trading partners, or the ones that sort of accrue over time because as I start to get these ones that are unfamiliar, I sort of incorporate those and do that one-off.

Paul Egerman – Software Entrepreneur
But you've got to be careful of that, Micky, because that's the same argument that people use against standards. They say, well, I've already got all my trading partners set up, so why do we need standards on content?

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think what's valuable here is I think it's been really valuable to be clear that what we're talking about is not a routing directory that's in your computer, but just look up facility that connects between the human name and the routing information.

Carl Dvorak – Epic Systems – EVP
Yes.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think what we're hearing is that there's a broader scope for that than maybe was assumed to these slides, but I think it would be great also to hear from other people on the phone. I think what we're trying to grapple with is given that that doesn't answer—obviously it doesn't answer all the use cases, but it's just a critical area to move forward in, and it would be great to hear from some of the state folks, from other folks on the phone just weighing on this question of the value of that kind of look up function.

Paul Egerman – Software Entrepreneur
Although we did get testimony on it. One of the providers said yes, this was the most important issue. That was in the testimony.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
What about others on the phone? What we're doing is just making that assessment of this domain as something that is critically important as an infrastructure piece, and we're hearing from folks that it is. Other people's points of view?

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
Well, I'm never one to be shy. One of the things that has occurred to me all along, as we've had these discussions, is you're going to have people who are not going to be comfortable without human intermediated exchange, and that so that smaller entities, or it's specialties, or with the labs, or whatever. They're not going to be comfortable until they've had a human confirm that something is routed to the right person and has been viewed in a way that they deal with it. I see that at Vanderbilt, for example, where I work with those guys on different issues.

This is a building block. It seems to me a necessary one for going forward and being able to understands the path going forward. I agree with the idea that you're going to have machine-to-machine communication at some point, but that's not going to be true in an environment like Tennessee maybe as much where we're just not as integrated. Our systems aren't integrated very well down here, and we all may be marching boldly towards consolidation over time due to a whole host of elements, but we've sure got a longer way to go than Massachusetts or Minnesota or a lot of other places. The idea of having something that humans use or can use to confirm and interact is, I think, it's going to be used at least here more than maybe elsewhere.

Hunt Blair – OVHA – Deputy Director
I would absolutely agree with Dave that that's similar for the Vermont environment. I think, for pretty much any state that doesn't have the kind of consolidated health system environment that Massachusetts and Minnesota did. For your question, Claudia, yes, this is the right direction, I think.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Great.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
Not to denigrate the conversation. I learned a lot. Sometimes it makes my head hurt and my eyes cross, but these are all good conversations.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
It seems like, if I'm understanding sort of the pulse here of the group based on the conversation is that I'm not even sure we need to walk through the rest of slide nine because it seems like there's at least general agreement that an entity level directory is valuable now, and it's going to be even more valuable in the future.

Carl Dvorak – Epic Systems – EVP
I agree with that statement.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
We should move to the next slide, which is slide ten, about what should it look like.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes. I think, Micky, the part that we might want to articulate in future presentations is the explanation of how is it going to be helpful. The explanation that we can give inside those scenarios, I think, is going to be helpful for people to understand it. We had a conversation, a long conversation, several conversations among ourselves here trying to help us all understand why is it valuable, and we are all coming to consensus that it is going to be valuable now in the future, but it's going to be very important to describe how is it going to be helpful.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes. Exactly. To the extent there was concern, and that's what you see in some of the slides here about that an entity, strictly entity level lookup type of directory would be of relatively limited utility now. What we're hearing, I think, from a number of people is that that is not a good assumption, that is actually is more valuable. That's fine. I think that allows us to then dive into the conversation of what might it look like, and how do we sort of engage in that question?

Paul Egerman – Software Entrepreneur
Also on slide nine, you have this concept of limited value of how individual level information. I just wanted to reiterate the point that it shows this example, Dr. Blumenthal at Partners-Direct. The right-hand side is the entity level. The left-hand side you would just establish some convention or standard for it. So if you want to send something to Dr. Blumenthal, the standard, for example, could be to put his UPIN number there or UPIN number followed by three letters or something. But you would simply establish a standard for that, and so, but you still need that entity level.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
Paul, just to kind of follow that up, again back to my concern over kind of human intermediation. It would seem to me that an important policy to establish would be to establish a standard method of reaching a human at an entity so that I'm struck by the referrals at Partners Direct. But I mean some kind of universal deal that you must do in order to do this, and that you must then have a way for people, for a human to look at it so that stuff doesn't get lost.

Paul Egerman – Software Entrepreneur
My response to that, Dave, is that's fine. If that's part of meaningful use, then the standards committee can establish that standard.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
I agree with you.

Paul Egerman – Software Entrepreneur
We can certify against it and test that these systems do it.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
It's also policy, Paul, in that we're saying as a policy, people must do that in order to be able to interact with the system.

Carl Dvorak – Epic Systems – EVP
Yes, I think that you might be on the path, and I think we'll have to figure out if we should do policy beyond meaningful use or make suggestions for consideration beyond it. One thing I think might help, just to help people ground in an example, it's very likely that you'll have a patient who registers with a practice in Tennessee maybe, Dave, and in the registration form it'll say I'm enrolling as a patient here. My primary care provider will be so-and-so, but I receive cardiology services from a private cardiologist. Here's their entity, and if I'd like to, I could say, is there a specific physician within that entity. And I could actually put the doctor's name or UPIN. I might be receiving oncology infusion services from a U.S. oncology. There I might just put the oncology organization because I don't actually see a single physician there. There are different providers that deal with me, as I execute this chemotherapy protocol, for example. So I might not actually have a provider, but it may be relevant to exchange documents back and forth with them, as I continue course of treatment.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
Right.

Carl Dvorak – Epic Systems – EVP
Both are valid, and I think we should ground our entity discussion and then, beyond that, figure out is there a set of recommendations or policy guidance we could offer on how to tackle that left-hand side because it is really a different animal.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
I agree.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
I think we got a little bit caught up in the term individual because the individual part was really just getting at this question of with only having Partners-Direct.org, that we need some kind of convention or some type of specific recipient on that left-hand side in order for it to get somewhere that makes sense. That doesn't necessarily have to be a person. It can be sort of a general place.

Carl Dvorak – Epic Systems – EVP
Then, Micky, the flipside of those transactions, I think, are critical.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right.

Carl Dvorak – Epic Systems – EVP
If I'm showing up at a hospital in Sarasota, Florida, and I'm from Boston, but I'm on a three-month winter break down there, when I go to the ED, I just want to say I get my care at Partners. In truth, it may be 15 doctors that have seen me over the last four years. I don't want to have to remember to name each and every one of them. I just want to say, ask Partners for my record. They'll give you a summary of everything that I've consented to.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
Don't forget that as we consolidate and delivery model change, you're going to be seeing a whole lot of people who you don't see on a normal basis.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right, but going back, Carl, to that very specific example, I think all we're sort of saying here, and this is where this conversation got a little bit blurry was that in order to do that, Partners would have to agree to a specific way of representing how that information would enter the Partner's system with a whole set of workflows on their end about what they're going to do about it, and then be able to represent that accurately in the directory, right?

Carl Dvorak – Epic Systems – EVP
I think it's simpler than that. Partners would just have their directory entity, and it would have a port that processed incoming requests for information. Requests would come in from Sarasota. They'd validate the certificate. They'd check the patient record to see if there was an opt in or a consent as appropriate, and if there is, and if Sarasota is a valid HIPAA covered entity, they would send whatever the patient was okay with them sending.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes. Absolutely. That's all I'm saying. But it doesn't happen without someone doing some work on the Partners end to figure out the receiving of that, and then the onward workflow that have to happen.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
This is a query retrieval part of it.

Carl Dvorak – Epic Systems – EVP
… happen automatically.

Paul Egerman – Software Entrepreneur
No.

Carl Dvorak – Epic Systems – EVP
If the patient said let that happen on my behalf when it's needed, and that one might happen without a personal intervention if the patient was okay with it.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes. All I'm saying is do we know that it's referrals at Partners-Direct or is it unsolicited CCDs?

Paul Egerman – Software Entrepreneur
It's whatever the standard is, Micky.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Whatever the standard is or whatever the convention is, that's all we're saying. But somehow that has to be established.

Paul Egerman – Software Entrepreneur
Correct.

Carl Dvorak – Epic Systems – EVP
And that would be the domain of the standard. There would be a particular transaction type that said I'm an inquiry. Process me.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right. Yes. I think that's exactly the fine point.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes. In that last question is really not referrals at Partners. It's really inquiries at Partners. In other words, there's a query coming from Sarasota asking for data about a patient in Partners.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Right. Yes.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Then Partners finding it and sending the information back to the Sarasota hospital.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes. Can I suggest we move to slide ten? We've got two slides and ten minutes, and it'd be great if we could have some conversation on these two slides. Slide ten is really now just starting to dig into this question of, all right, having established that it is valuable for some set of scenarios, maybe highly valuable for every scenario, what content would be needed to make the entity level lookup valuable for those scenarios, and how do we think about that? The bullets that you see here are really just taking different ideas that have come from different places and putting them there. It's not about saying this is the straw man to knock down or this is our going assumption. I think this is really just to inspire conversation.

The idea would be, is there something along the lines of certainly familiar names and whether it's Partners or Mass General or Brigham. Those are all familiar names that relate back to an entity that is Partners-Direct.org or whatever it is. Then the relevant domains, that would be defined perhaps by each

entity. It's up to each entity to decide what those specific IP domains are and how they want to be able to handle that. Is there other information that's needed for matching to a specific domain like Paul had mentioned earlier? Lab Corp has many, many places. That may not be a great example because they may be on the same domain, but so for the specific purpose of electronic routing, I may not need to know those differences.

Certainly if I'm sending a patient to a particular drawing center, that I need to have the specific locations, which are separate from the question of a network domain. Do we want to have conventions around general inbox addresses like we were just describing? Is that a part of a standard or a convention, or how do we do that? Do we want to have addresses for the different services or different protocols, whether it's, I could receive things via e-mail, Web services, REST. Those are all different protocols, and we want to be able to have those as a part of what I can look up, integration capabilities, what have you. I think the rest of it is fairly self-explanatory. What are people's thoughts on this?

Carl Dvorak – Epic Systems – EVP
I'll toss in a computer science perspective on it. Directories are always easiest to maintain when they stay as static as possible. Where you presume you can talk to the entity that you're looking up, in any case, what you're better off to do is to take things like the protocols and the integration capacities and shrink them down to basically have a defined transaction that says what capabilities do you support. So rather than having to update the directory every time I add a new capability or subtract one or modify one, the directory just knows how to hash you off to that entity, and then that entity can tell you what capabilities they support. You're generally better off to keep expressions of capabilities out of the directory and instead have one standardized method that any participant in the directory could ask any other participant in the directory what capabilities do you support. So there's probably an opportunity to define a simple standard for that and then leave that out of the directory, so you don't get a lot of update traffic to it.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think the general concept of distributing responsibility for maintaining detailed information like that to the actual end users might ….

Carl Dvorak – Epic Systems – EVP
Exactly.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
… might be a generalizable idea.

Carl Dvorak – Epic Systems – EVP
Yes.

Paul Egerman – Software Entrepreneur
Yes, but the main thing is that the user doesn't have to change the directory, so the user may have basically in effect their own Web site, and that's where they put in if they change from HL-7 2.5 to 2.6, so the directory doesn't change. The way to sort of shorten this a little bit is to say in terms of addresses, integration capabilities, this is what I tried to talk about discoverability of services. It should be like some pointer to an address that gives you information about that kind of stuff. That's all you need in the directory because then it becomes, as Carl says, static. It's important to say that you have familiar names. You need to have aliases. You need to be able to list somebody under like five different names. But I think all we need to do is describe this at a very high level, that we could take this slide and perhaps need to talk about it for another half hour or so, and then we're done. In other words, we don't have to go through and detail into specifically what needs to be defined. Then on the policy side, you just say, we like that thing that Carl just said, so we want to point to something that tells you all the different protocols and everything. The standards committee has got to figure out how to do all of that stuff.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
I like that thing Carl just said.

Paul Egerman – Software Entrepreneur
Yes, and so we don't even have to decide. In other words, we could just say, we need to have some description of the name, and you're going to need some other information about the organization, but we don't even need to say anything more about that. We'll let the standards committee decide if it's the street address, the zip code, all that stuff.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes, so I think you were talking about three types of information: the identification information, the service support information, and the security credential information, if I'm hearing correctly. And the service support information might be more of a addressing or I'm thinking of a standard transaction too where I can send a query to the entity to ask what kind of integration capabilities and support they provide, and they can respond to me to automate the process.

Paul Egerman – Software Entrepreneur
That's right.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Because a Web site makes it human intervention needed.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
One of the issues we talked about a lot in previous conversations was the case of partners where you have Brigham Women's. You have the radiology department. So there are a lot of entities that exist underneath that, but you may still want the top-level entity to be the ones people are most familiar with, or LabCorp where you need a million and one different locations. One option is just to ask the organization to construct for itself, as they would with posting to a yellow pages, which top level they think is most useful and what sort of next levels they want to include in one posting, let's say. Or you could have a more rigid protocol to say every endpoint needs its own entry in the entity directory. It might be worth thinking through a little bit more what would be the most productive way to go in terms of getting to that, to the actual granular detail you need to be able to look up routing information.

Paul Egerman – Software Entrepreneur
That's an excellent point, Claudia. I think that's a point from a policy standpoint we've got to spend some time on is who can be in this directory.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Right.

Paul Egerman – Software Entrepreneur
It's probably anybody who has endpoints, and you're probably going to say Mass General and Brigham can be separate endpoints if that's what they want. But what about DME suppliers? What about all the laboratories? Is it any organization that has a license within a state? What about group practices that may not be licensed in any way in their state? How does that all work? I think there are some interesting issues to discuss.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
If this is right, Micky, the next conversation will be a chance to focus on some of those top issues, so we can tee up some of those questions?

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Yes, exactly, that's what I was going to propose. I'm getting short on time here, and we want to be able to give the folks from Axolotl the full measure of time that we've allotted. I would just quickly point to slide

11 then and not get into a discussion about it right now in the interest of time. But I think, in the next taskforce meeting, we're going to want to dive down into the content kind of questions and, Paul, the issue that you just raised, as well as kind of the operating requirements, business model that we might think about, and they're fundamentally related, obviously.

But sort of the questions about do clinical entities define how they want to be represented, for example, and maintain responsibility for maintaining the information in some way? Are there levers with respect to EHR certification to create registration and the ability to provide updates to either the directory or following on from the conversation we just had to the targets of pointers of the directories, or maybe the EHRs themselves are targets. Then the question of the possible business model, so EHR certification is sort of a set of levers that are available certainly within sort of the current paradigm.

Then in terms of business models, there's a whole variety of approaches one could think of. Is there about defining policies and perhaps asking the standards committee to work on standards that can create sort of opportunity for what would essentially be market driven services. Is there possible more sort of formal approach that is about federation of government sponsored directories that are already being funded through various government programs, whether it's state level HIE, then Medicare, Medicaid, public health, or is there something centralized, moving sort of towards the other end of the spectrum, which is about the launching of perhaps a new entity level directory on a nationwide basis or building on existing nationwide kinds of directories that, for example, CMS is most prominently creating with respect to the NLR and … and other things. So this is really just an appetizer for our next taskforce call.

If the folks from Axolotl are on the phone, are you here? I'm sorry. I forgot the names of the people from Axolotl who are going to be speaking.

Judy Sparrow – Office of the National Coordinator – Executive Director
Yes, Lin Wan and Daren Nicholson, are you on the phone?

Daren Nicholson – Axolotl – Product Manager
This is Daren Nicholson. I just joined. Yes.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Great. Yes. Daren, is Lin going to join you?

Daren Nicholson – Axolotl – Product Manager
I believe so. I'm actually on my way to work. She's the one who is going to be doing most of the talking, and so I assume she'll be calling in, in a minute or two.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Okay. While we're waiting, do people want to just – are there any thoughts on slide 11 here or any others, kinds of thoughts about what we should focus on for the next taskforce meeting? Just to remind you, we have a full workgroup meeting in two days and then on the 8th, a week from today, we'll have our next taskforce meeting.

Dave Goetz – State of Tennessee – Commissioner, Dept. Finance & Admin.
I've got to go, guys. I'm sorry. I have a meeting I have to go be ministerial at.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Thanks, Dave.

Tim Andrews
Micky … I think that slide 11 looks like a meaty discussion unto itself, and we're better to not start diving into partially ….

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Fair enough.

Tim Andrews
As long as we're stalling here for a second, the discussion on Wednesday morning with the full workgroup is partially to bring them into the loop on where we've been in our discussion. Is it also to hear, well, I won't try to answer the question? What's the agenda for that call?

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
I think it's really going to be about the provider directory work because there is the other substantial sort of thread that we had launched earlier on was related to public health. But frankly, I think, as a practical matter, what we found is that there was a lot of overlap in the membership of the taskforces, and given how much the level of intensity that's been required for this, running those two in parallel I think would have been quite difficult.

Tim Andrews
I fully appreciate that.

Kory Mertz – NCSL – Policy Associate
I believe Lin Wan is on the call now.

Lin Wan – Axolotl – Director Application Development
Yes. This is Lin. Sorry I'm a little bit late.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Great. That's okay. Welcome. Let me turn it over to both of you, if you wouldn't mind just introducing yourselves. You're here from Axolotl. Really the idea was really just to get some perspective from an organization that is on the ground and has been doing this and grappling with these issues of directories in a number of different sort of production settings across the country. Certainly from the information exchange workgroup perspective and the HIT Policy Committee perspective and the taskforce perspective, none of this is about endorsing or promoting anything that Axolotl has done or the particular way that you're doing it. It's really about information gathering to try to uncover what are some of the obstacles that you've encountered and that can help inform us about some recommendations going forward.

Lin Wan – Axolotl – Director Application Development
I don't know whether my colleague, Daren, is on the line.

Daren Nicholson – Axolotl – Product Manager
I am here. Yes.

Lin Wan – Axolotl – Director Application Development
Hello, Daren. Daren, I'll actually kick off, and then you can actually join. My name is Lin Wan. I'm the director of application development at Axolotl, and I've been with the company for a long time, and Axolotl is primarily in the HIE space. We have been in the space for a long time connecting communities, so we have a lot of experience setting up provider directories, etc.

In the e-mail actually Kory sent us to get input, I believe actually Santa Cruz and Health Bridge, the two communities are actually mentioned in particular, so we'll be going over some of that at today's meeting as well. Daren, I'll hand it to you. Do you want to introduce yourself?

Daren Nicholson – Axolotl – Product Manager
My name is Daren Nicholson. I'm a senior product manager at Axolotl. I'm mostly here because this is an area that's beginning to interest me, as we're looking into how to exchange data between two different

HIE communities, two different RHIOs. Of course, many of the use cases have to do with point-to-point sending, you know, referrals, etc., whereas a shared directory is important. That's it. Go ahead, Lin.

Lin Wan – Axolotl – Director Application Development
Kory, I sent you some slides just like a few minutes ago. I don't know whether you want to pass control to me, or you want to actually open the slides. It's really mostly just related to the questions you and Tim had sent last week.

Kory Mertz – NCSL – Policy Associate
Lin, I'm going to send them out to the group right now, so you can just walk through them, and people just have to look at them, control them themselves. Go ahead.

Lin Wan – Axolotl – Director Application Development
The question last week when we receive the e-mail from Kory, Kory and Tim actually has sent us a list of questions, and they mentioned that they're interested in two communities, Santa Cruz and Health Bridge, and also the questions mostly fall into several kind of buckets: the content of the directory, how to create and maintain the directory, and how it's used. That's pretty much our understanding of the questions, and the slides are prepared to kind of address some of these.

If everyone has then I'll just actually jump to slide four, which is basically a brief overview of the Santa Cruz community, and it has actually been the longest running EHR in the U.S. since 1995. It has 300 physicians and 2 hospitals, 4 independent labs, etc. There are actually about 300+ users in the directory. Some of them are actually, a lot of them are staff members or physician assistants, etc. And there are a couple of information related to their patient population is not huge. It's about 300,000 patients. The thing about Santa Cruz's community is most of them are actually receiving 100% of their clinical data via our HIE application, which is … and they also have bidirectional integration with lots of third party EMRs like Epic Care, McKesson, Practice Partner, etc.

Feel free to stop me any time if you have questions. If we're done with Santa Cruz, I'll just kind of give an overview to Health Bridge, and mainly on the provider. They are actually the largest EHR, the healthcare for HIE in the United States with 17 counties connected and approximately 5,000 active physicians. The provider directory actually contains about 11,000 users in the directory, belonging to about 800 entities. There are also the entities of physician practice are also participating hospitals, etc. And that's pretty much it, and they're connected to many types of EMRs via different means: HL-7, fax, paper, and they also are connected to 17 health departments, etc.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Just a quick question: I was very intrigued by your bullet, self-sustaining model through report distribution services. Could you talk about that for a minute?

Lin Wan – Axolotl – Director Application Development
Health Bridge actually runs their distribution for several of their hospitals and labs, so they basically, the last … to actually send out results themselves either on paper or courier or other to some EMRs, they have actually a kind of direct connection to those EMRs. Now Health Bridge has consolidated, so instead of dealing point-to-point with many systems and many physicians in running their own kind of faxing, courier service, everything goes through the HIE right now, and the HIE runs. They actually have massive printing to print lab results for those physicians who are not kind of electronic yet, and they also send results to EMR vendors if they're actually capable of interfacing. Just by … HIE runs the things like printing, courier, operation, and faxing, and they charge for that …. I think they're self-sustaining.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I thought maybe this was referring to a distributed model for the directory. You're talking about the business model.

Lin Wan – Axolotl – Director Application Development
No.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Okay.

Lin Wan – Axolotl – Director Application Development
No, I'm talking about their business model. That's just … directories, and now we're going to touch briefly on what the content in the provider directory and the HIE provider directory. I think actually most people know what typically these providers, the provider directories are. They typically have all the provider's information like demographics, name, contact number, and IDs. By IDs, most of the physicians have multiple IDs from different entities, and that's actually fairly important, so one of the most important attributes about those providers are their different IDs with different entities. Then there are other professional information, specialty, license number, degree, etc. And also, roles, what kind of roles they play, routing information, licensing information. We also, in the provider directory, we also store organization information kind of like typically we call them practice organization or entities. Over there, you have the typical attributes for organizations such as their … to their organization or NPI address, contact information, all of that. Also, the relationship between provider organizations, provider staff, etc. are also stored there. Did I hear someone?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
This provider directory has both entries for provider organizations, entities, as well as individuals?

Lin Wan – Axolotl – Director Application Development
Correct. It's very much like an LDAP kind of a directory. It is actually LDAP compatible, and it has provider entries and entries have relationships. Some of them are organizations, and others are providers, and you can establish a relationship between them. And the entries can actually contain certificates, but so far we have not actually seen these widely used. We're seeing them actually used for secure e-mail, etc., but not actually for a lot of other things.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
In the routing information, do you include the URL and the e-mail address, things like that?

Lin Wan – Axolotl – Director Application Development
No, sometimes it has e-mail address or just a destination system, and then the routing engine would actually figure out does this practice like practice partner McKesson, and there is the location to. Typically the most widely used mechanism for transporting is still now Web service at this point. I think most of the systems are still using MLP HL-7 over MLOP. It's just actually a destination saying they're destined to the system, and that would allow us to figure out kind of what kind of data to generate for that system, which ID to use because most of the system would want, if it's an Allscripts system, it would actually want their IDs, and some of the ID data enhancement would actually come into play.

That's pretty much the content of our directory. Some of the other questions were related basically how are they populated, and how are they maintained. I think it's very much actually relying on human right now. What we're seeing is the HIEs, the real estate establish relationship with the participation in organizations, entities like hospitals, labs, and practices. The organizations provide user data to the HIE. So most of them actually sent data using file exchange, and we take any kind of – we standardize. We have certain – several file formats that's kind of standardized. They can send us CSB file, Excel spreadsheet, or they can actually send HL-7 master file. Although I have to say most people that we've seen in the system, they prefer to use kind of a flash file, kind of delimited file rather than HL-7 master file. Most of the systems we interface with do not have query response capability, so by far the most popular way to get provider data is just through file exchange.

Again, maintaining the directory, it's again based on the sources, typically the ones directly associated with the provider, so they have more detail, very detailed information. They're familiar with the provider. They have the detailed information on the provider. Therefore, they sends the changes to the HIE. The HIE typically do play an administrator role here. They would actually kind of do review of the information to make sure actually to kind of do a double-check on the data entry before they actually let that change into the provider directory. That's pretty much the creation and the maintenance part. Any questions?

Some of the other questions related to what are our provider directories used. Now, our provider directories are used for several purpose: authentication, user authentication, so for the users logging into our system, this actually will be the place actually we check for user credentials, user name and password and also some other information. Things like certificate can all be stored there. Then authorization, user roles are actually also stored in the provider directory. Those pieces of information are used in authorization decisions. Then the other parts of the most kind of the most typically used is for user provider information lookup for routing purposes and also for data enhancements, and also when we actually query other systems, we will use the provider to generate a similar token to pass through the other system.

That's the first three top bullet points are basically the typical usage we have in our system, and there are also other questions on how are the information access. For us, it's typically access using our API, proprietary LPI, and they can be exposed just through LDAP. The typical transactions, what you would expect, is basically search, add, update, and delete.

There are a couple other miscellaneous questions from Kory and Tim's e-mail. One of them is, how do we deal with multiple providers who work at multiple sites. And for that, we basically use, these users are shown as separate entities to end users, and the multiple sites typical … they are associated with different IDs, and when they actually log into, work on behalf of different sites, that typically means different access level to data as well. So in our system, we typically treat then as separate entries to users, and if an end user, like you're trying to send the information to such a user working as a multiple site, it is the sender's responsibility to choose kind of really actually which user at which site you're actually trying to send the data to because they do mean different data access rights. Different sites can actually have different consent level and really can have different privileges at different sites, so they're pretty much treated as separate entries.

The last question was are there significant variations in how directories supporting directed exchange are implemented and used in different sites we have implemented. So far, we haven't actually seen a lot of great variation. And I think one is like we're still in the stage of we're trying to connect the HIE and the things that the HIE try to standardize on things, and that's what they promote. And for kind of inter-HIE, you may actually see different HIEs may do things differently. But so far it still looks like people are looking for standards, trying to identify standards to exchange provider information, although we haven't actually seen anyone picking like a clear winner yet. That's pretty much our quickly going through the questions that we got from Kory and Tim. We'd be very happy to answer any other questions you may have.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Just to jump in, so from your perspective in an HIE where you are providing that service, you are the provider directory. You provide that connectivity between the entities and individuals that are part of the HIE. But when a provider in your HIE has to communicate with a provider outside of the HIE, how does the directory capabilities work, or are you seeing there's where the need for a sort of inter-HIE directory will provide some of that functionality?

Lin Wan – Axolotl – Director Application Development
I think if there actually are ways to query the other community that actually will be ideal to do kind of a discovery, but a lot of that actually would rely on the provider will not jump out of their system to do something. So if there is the provider discovery that's going on, it needs to actually go all the way through

the end system, which means the EMR system that they use will have to have that discovery capability. Now what we have done in communities is sometimes we would actually add a secondary provider directory that will be an external directory that would actually make the directory entries available to our application users for searching capability. When we actually talk to other EMR systems, oftentimes what they want is they want that information, but they're not actually or most likely not going to be able to query that … so what they want is typically some way to have the HIE to periodically push information to them. Most of them do take files again, and they build up their own provider directory.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Are you saying that each HIE that wants to communicate with each other is doing that on its own?

Lin Wan – Axolotl – Director Application Development
Yes. So far we do not have— There is, I think there are actually several states, etc. trying to build up provider directory, but in the field, we haven't seen anything that's kind of a super directory that will allow you to query into. So the communities, if they need to exchange information with each other, they're typically doing so by direct negotiation with the other HIE and figure out what they need to do in terms of exchanging provider information.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
One of the things we've been talking about today, we're sort of taking this in pieces, so the first piece we're looking at is sort of just at the entity level, and then we're going to move next to a discussion of actually getting down to the clinician, individual level. One of the questions we've been grappling with today is to the extent – to what extent there might be value in standing up a discovery service, a lookup service that would allow for mapping between the sort of human recognized name of an entity and whatever routing information is needed. It would be really helpful to hear from the standpoint of the work you're doing on individual HIE organizations how you might use such a service and how valuable it would be to you.

Lin Wan – Axolotl – Director Application Development
I have to actually get a little bit of detail on what you have in mind for the entity. Are you thinking of a directory that has – what level of entity is down to hospital labs within the HIE or just kind of like in NHIN Direct, they were healthcare domains with domain names.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
This would be the human recognizable names, so I'm not sure we would get down to a hospital lab, but it would certainly be Brigham Women's Hospital, let's say, or maybe it could even go down to the radiology department there. We haven't fully discussed that, but it would be the name known by human beings, not the domain name, but it would allow for mapping between the two.

Lin Wan – Axolotl – Director Application Development
These systems typically I don't remember whether they have multiple entry points. You know, one department may have several interfaces, so would we typically have seen in the directed message exchange is typically to a provider level, and definitely the provider will actually provide to an organization, which typically contains where their interface is. If it's coupled with that, it can allow you to determine routing, then that's actually – and there are actually useful things like organization or NPI and other information about the organization that is actually helpful, contact information. So I think such a service will be useful, although in the case of point-to-point kind of provider data pushing, just from our experience, it seems like when you do that, you're typically targeting a provider level rather than an organization level. Things may be different for agencies like public health or immunization gateways, immunization registries. Those would be just the entity matters more than providers. Otherwise what we've seen in terms of results delivery, referrals, etc., those are typically down to a provider level.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Thanks.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Are there other questions from the taskforce? I know we're running short on time. Okay. Doesn't sound like it. Thank you, Lin and Daren. This has been very helpful.

Lin Wan – Axolotl – Director Application Development
All right. Any time.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Great. Judy?

Judy Sparrow – Office of the National Coordinator – Executive Director
Oerator, can you check and see if we have anybody from the public who wishes to make a comment?

Coordinator
We do not have any comments at this time.

Judy Sparrow – Office of the National Coordinator – Executive Director
Thank you, operator. Thank you, Micky and everybody.

Seth Foldy – Wisconsin – State Health Officer
This is Seth Foldy just letting people know I was attending for the last half-hour. Thank you.

Micky Tripathi – Massachusetts eHealth Collaborative - President & CEO
Thank you, everyone.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Thanks, everyone. Bye-bye.

Public Comment Received During the Meeting

1. Directories bring Discoverability, but do not bring Trust http://bit.ly/dBqmLR.

5. Question for Lin: what do they have in place for interoperability? ie. some sort of markup like XML? My email is tory@spiritualpr.com. Sorry, this was my first meeting.

6. General Orders don't need discoverability (e.g. Lab)... Specifically Provider to Provider Referrals do.