

FTS CDC ITSO

Moderator: Ulrica Andujar
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1:00 pm CT

Coordinator: At this time all participants will be on the listen only mode until the question and answer session for today's conference.

I would also like to inform all participants this conference call is being recorded. If you have any objection you may disconnect at this time. I would now like to turn today's conference over to Ms. Jeanne Tropper. Thank you ma'am. You may begin.

Jeanne Tropper: Hello everybody. Thank you for joining us. And we apologize profusely for keeping you hanging on. We had a little bit of technical difficulties. And then there is a few additional people trying to get on. So I appreciate your patience.

And this meeting is going to be the re-initiation, if you will, of the Outbreak Management Interoperability (OMI) workgroup which we had started back at the PHIN conference in 2008.

¹First of all before we get started, as the operator mentioned I'm Jeanne Tropper. And I am actually the new program manager for the Outbreak Management program within the National Center for Public Health Informatics (NCPHI). And I formerly was the project manager for the CRA application and have worked with a number of you. But I am, as program manager, still over the CRA and now have responsibility for strategy and so forth of moving the Outbreak Management informatics program forward within NCPHI.

Joining me and also going to be participating in the presentation are a number of the OMI members that you are likely to be familiar with: Gerald Jones, who represents the OMS application; David Nitschke, who represents the Epi InfoTM application; Ulrica Andujar, who is going to be representing the CRA application.

And then we are also joined with a number of folks from the Northrup Development contract as well as Carol Worsham, who will be on this project as well.

²So with that we are going to move on to the agenda. Really what we want to do is refresh on what OMI is and then also refresh on some of the outcomes of the PHIN conference in terms of recommendations from that workgroup; talk about where we are in terms of progress for interoperability; and then move into the next step: how has H1N1 perhaps affected some of our thinking and our approaches moving forward? What are the best next steps for the project? And hopefully move into more of a regular meeting of the group.

³So moving on to what is OMI? So that's what we are calling it: It's Outbreak Management Interoperability. So what is all that? Why are we even talking?

So the original concept was a desktop interoperable tool set to better support the public health practitioner during outbreaks. So that's really the concept. And probably people can visualize it by thinking about the Microsoft concept, where you have got different applications that that can work together.

And we are initially focusing on the three applications that fall within the Outbreak Management program area, and that being the Outbreak Management System, and the Countermeasure and Response Administration applications.

So we also recognize that there are linkages with RMDS surveillance and case reporting system, other surveillance systems. And of course we recognize that the CDC tools are not the only tools - in fact in many cases they are in the minority - and that we also need to look at linkages with other systems that are out there: Hotspot, et cetera.

So what are some of the drivers for this?

Well first of all there has been lots of feedback in multiple venues over the years including CSTE, PHIN conference, and our workgroups that we have had. There needs to be better coordination and integration interoperability among systems.

And then out in the field there are multiple disparate systems, including manual systems that in many cases occur through siloed or a component development and used separate from other systems. There is a lapse of standard vocabulary in fact that is making data sharing difficult, et cetera.

And H1N1 - and we'll talk about this more later - certainly has magnified that issue and certainly demonstrated that there has got to be a better way. So this is very timely.

The other thing is that OMI is actually a COTPER-funded project for the fiscal year of 2009 and 2010. And our focus on that is to further define the prototype and position for some of the next generation of OMI, which takes into some of the considerations that I just mentioned.

⁴So with that being said, what is the purpose of the OMI working group? We have made some progress from the PHIN conference. We have worked on individual component parts.

So the idea here is to bring a subject matter technical expert for the national and state and local levels to help develop a vision and goals for the project, determine priorities and then gather requirements initially for the prototype as well as practical application within the field and also looking towards the future of perhaps the next generation Outbreak Management tool which we deploy.

And as I mentioned we had our first workgroup at the 2008 PHIN conference. Since that time we have done most of our work at the component application level and some internal thinking about the next steps for this.

So this meeting marks the reinitiation. Our initial focus for this meeting is to update you on progress on the individual application level; review some of the recommendations from the PHIN conference and see if they are still appropriate; talk about some of the implications that H1N1 may have on that initial approach; and then determine next steps, meeting schedules, priorities, et cetera.

Now we are going to have logical points that open up the questions. So I just wanted to let you know that. And also you can always put questions into the webinar that we can respond to.

⁵So what I am going to do is go through the activities to date as well as a summary from the PHIN conference. And then we will open it up for discussion and then allow each of the component applications to go through

where they are and then again open up for questions and then move into the quest for the next step.

When I look at the list I guess we have done more than I might have thought we had. But it all started certainly before June 2008; but we did have a formal workgroup focused on Outbreak Management business processes in which we did requirement gathering on business processing globally.

And then in 2008 we had the PHIN conference in which we had a workshop. We will share some of those in terms of what some of the initial requirements and priorities were as defined at that time.

In September of 2008 we had a NCPHI All Hands. And Outbreak Management program was formally established as part of the NCPHI reorganization. And that puts the multiple component applications under a single umbrella with the intent of looking for areas of synergy and connectivity and leveraging efficiencies, et cetera.

Since that time we have worked on a component application and had some internal discussions about OMI.

Many of you have worked on the individual workgroups for CRA and OMS and have had experience working with Epi InfoTM.

Then in February we got a funding notice indicating that the OMI project had been approved. We did get notification this year for 2010 that COTPER is going onto a bi-annual approach to their funding. So this gives you an idea of at least a few years that your project is still funded. So they are rolling forward assuming level funding for 2010. So we at least have this year and next to develop this concept and prototype it.

As you all know, everything changed with the H1N1 outbreak in April and May. We had scheduled a workgroup meeting just about the time of that outbreak and canceled it given all the focus there and postponed it until now.

And early June we gave a presentation to the Board of Scientific Counselors, which is a NCPHI advisory group helping with strategy. And we talked about our possible OMI strategy at that point, again recognizing that we really need to take our cues from the workgroup.

And then of course as we are speaking we are reinitiating the OMI workgroup.

⁶So switching gears back to some of the findings from the PHIN conference: During that time we used the 2005-2006 mumps breakout scenario that occurred in the Midwest as a means to illustrate the use of OMS, Epi InfoTM and CRA in concept during an outbreak. So we illustrated how each application could be used in a progressive outbreak. We distinguished how each system relates to one another also.

From my experience working on CRA, I often was asked how does this system relate to OMS? We tried to distinguish under what circumstances each system would be used, where their strengths and weaknesses were and how they would logically connect.

We also solicited input on future interoperability with some ideas for short-term, medium-term and long-term approaches. And again we will get a refresher on that at the conclusion of this webinar.

⁷So as a refresher, the three systems are Epi InfoTM, OMS and CRA. And in the middle of the Venn diagram is the overlap, where you find the new OMI project.

We envision that each application would continue to have a life of its own but that the program and that the applications would be moving forward more adhesively and more interconnectedly in the future.

And I am going to have each of the folks that I mentioned - David, Gerald and Ulrica - talk about each of the applications, where we are.

But generally speaking, Epi InfoTM is a very strong stand-alone application that is used nationally and internationally to support mostly individual investigator needs but also can support multiple investigators on an investigation. And it has tools - mapping, analysis, et cetera – that we have used with data from the other systems as well. So there is actually something that can be used with the other systems. And David will talk much more about that.

And then moving to the right we have OMS. And that is a larger footplate that is known to be for multiple investigators, multi - jurisdictional investigations where more powerful tools are necessary - particularly in the area of contact tracing, different types of entities, et cetera. So it allows for a stronger functionality and can be worked in concert with Epi InfoTM. And we'll talk on the next page of how those two can work together.

And then finally once there is a determination that intervention is necessary, then CRA enters the picture. And its genesis really was on a national program intervention with the smallpox. It was designed for a different purpose and was Web based and scalable so that a national or a regional program that was

necessary. Vaccinations, other kind of medications and known medication interventions could be tracked - those that the individual may not be having at that level. Ulrica will talk a little bit about that as well.

So those are the three applications.

Not shown here but clearly also part of this puzzle is NBS, a NEDSS-based system, which is a case medication system that would need to operate with these systems. And of course there the plethora of systems out there that are used by the various states to manage these types of functions as well.

⁸So the next page is the PHIN conference. And here we did demos and talked through the scenarios.

The concept was an outbreak that started small and evolved over the course of several months, perhaps even unknown origin, where an individual investigator using Epi InfoTM would begin an investigation. And as things evolved and multiple jurisdictions were affected, OMS was an important tool to activate to support multiple users and multiple jurisdictions. However, you will see Epi InfoTM would still be used by individual investigators.

And then finally in the latter months decisions were made to activate CRA because there were interventions and the need to share information back and forth among those systems.

So that was the concept we worked on. And as a result of that discussion we broke out into individual working sessions to get input from you, the workgroup, as to what would be important characteristics in components of an outbreak - interoperable outbreak management tool speed.

⁹So what was some of the feedback? One of the first things was to have questionnaires and data from Epi InfoTM to OMS and CRA. But the concept of having standardized templates or questionnaires that could easily be shared among the applications I think is probably the focus of this, recognizing right now we don't have a lot of interoperability.

Perhaps a start would be to have the same types of information collected, the same terminology and vocabulary, et cetera, to make it easier to import and export.

Of course one of the big things is to eliminate duplicate data entry wherever possible, whenever possible. And that's true among these systems as well as with NBS, with IIS - immunization information systems - and other surveillance systems.

One thing that was requested was to capture all of this data through OMS, certainly messaging and interoperability among the systems.

One that was interesting was a one-stop shop for everything, which is consistent with the concept of the desktop Microsoft Suite. But it does have some implications as to whether or not that one-stop shop is interoperable - a tool suite or an integrated system that is on a single platform. So those kinds of things need to be looked at in more detail.

¹⁰And then moving on, a need to get all that case data to surveillance systems so they transfer to CDC and state registries, a definition or standards of minimum data sets which diseases are entered in. You are probably all aware there is a minimum data set for biosurveillance, so the concept would apply here for Outbreak Management as well.

The need for open platform coding, and I presume from there the ability to easily plug and play: the idea that investigators need to be out in the field unplugged and off the Internet and off the network and be able to synchronize data back, since the Internet is not always available. It is not unusual to work in places where they don't have easy access.

Another was a need for a version of Epi InfoTM to be deployed on a PDA, a personal digital assistant.

And then a general a need to understand the entire process with the people talking to each other. So how does this all fit together? So they have to all be interoperable not only with each other but with other aspects.

So that's where we are in terms of background. And at this point we would like to open it up for questions. Or if you want to type in online that's always helpful; we can go through those. And then we will switch gears and talk about the individual component applications.

Coordinator: At this time if you would like to ask an audio question, you may press star 1 on your touchtone phone. You will be prompted to state your name for introduction.

And Dexter Roman your line is open.

Dexter Roman: Hi there. This is Dexter Roman up in Kentucky. I'm a career genealogy field officer up here and been involved with trying to get some sort of OMS applications center going for a long time.

In the process of all that, one of the things that came up was another CDC application in another silo, the Rapid Assessment Survey program - the RAS

program for hospital needs assessment. I wonder if you guys were considering that as another interoperable software to include with OMS?

Jeanne Tropper: I think we need to. We need to look at what others are out there.

Dexter Roman: Yes. Well certainly in the responses that we have had so far, the - one of the big needs that's sprung out is that need for it. And that's based on hospitals and shelters at the same thing of being able to track your needs as far as what's happening if you have outbreaks and things going on - what kinds of things are going to be popping up and being able to trace those. And it seems like that would make sense with OMS as well.

Jeanne Tropper: Yes. And Gerald had mentioned that from the past that we had done an assessment in terms of OMS and had identified a few systems.

So yes, we do need to consider that. And again I think it's the right tool for us for the right occasion.

Gerald Jones: Okay. You can provide your people with that evaluation also with OMS Rapid and some of the other groups that were doing the evaluation period; this has been about a couple of years ago.

Kendal Passos: Kendal Passos from Delaware. Question: Since we are talking about interoperability, have you looked at taking the demographic and core data set out of the CRA and plugging it directly into the other applications and making that a standard for all states to follow? So that way the data exchange from all systems would be caught or whatever, can be easily translated from one system to the other, and up to the national level?

Jeanne Tropper: Certainly. Well I think when we talk about standardized templates and practices, that would be a concept. So I think the answer is yes on that. What are the standard demographics that we know are core to anything we do but that we could add to if we wanted it to? We certainly have that concept in theory. And certainly the concept applies within Epi InfoTM.

It helps to facilitate that exchange if we could agree on the core elements no matter what we are going to collect.

Have we built it in? We have the sort of rudimentary approach to that. But it has not been fully adopted.

But that's a good point. And I think that's an important piece, the interoperability, moving forward.

Kendal Passos: Certainly. Along with that you may want to look at taking it down to even a deeper level as to where even the name of the data elements are exactly identical.

Jeanne Tropper: Yes. And I think that that is where everybody is agreeing that this is what they are going to adopt.

So it would apply in this case, but at a much more detailed level.

Coordinator: Participant Jenny Gallagher your line is open.

Jenny Gallagher: Hi. I was just wondering how laboratory data fits into this whole picture.

Jeanne Tropper: That is also a feeder system. I did not mention that, but certainly it needs to be included, an ideal system would clearly have laboratory results as well.

I know that we have the ability to collect that information, but it is manual. So the idea might be at some point to have the ability to link. But again we have to prioritize. Demographics would probably be the first thing, and then moving from there.

Jenny Gallagher: If I could ask a follow up to that: When you talk about demographics and all these other things, there are several other projects like the Laboratory Interoperability Project. And I think there are other projects as well that are working on resolving some of these issues for sharing and coding and things like that. Are you connected to some of the other projects that are going on?

Jeanne Tropper: Well it sounds like we need to be.

Jenny Gallagher: Yes. I would think it might be beneficial to everybody.

Jeanne Tropper: Yes. If they are already defining what that is, then we certainly need to connect into that as we work with labs, we will certainly, at your suggestion, follow up on that.

Coordinator: Ann Holt your line is open.

Ann Holt: Hi. This is Ann Holt in Tennessee. I was there at the 2008 PHIN conference workgroup. And I know one of the things that was talked about that I don't see here on this list was bidirectional communications and surveillance systems. And I think - going along the same lines with the lab information - that if we had that communication and were able to see lab information from, say, like NBS that's already being communicated electronically, then investigations could be started in OMS.

And so there is a whole lot of importance and usefulness behind that bidirectional communication as opposed to just sending information for reporting purposes.

Jeanne Tropper: Yes and I think we will get into the interoperability. Gerald will talk a little bit more about progress in that area. But the intent is not strictly for reporting. It is actually to have that link. It's just been challenging in terms of progress.

And we have that concept with CRA and the innovation registry to have a bidirectional link so that as you are administering what the history is and vice versa.

Ann Holt: Yes. I was just going by that first bullet that was listed up there. You need to get on this case data surveillance system to transfer to CDC and state registries.

Jeanne Tropper: Yes. We will make sure that that's changed to bidirectional. Those are the priorities. So they also know, state registries.

Ann Holt: Okay.

Coordinator: I am showing no other questions at this time.

Jeanne Tropper: ¹¹Okay. Well it probably makes sense to move on since we do have quite a bit to cover. And I am going to kick it over. David Nitschke is the project manager for Epi InfoTM who will share with you the current status and usage on Epi InfoTM.

David Nitschke: Yes. Thank you Jeanne. Again my name is David Nitschke. And I am the project manager, as Jeanne mentioned.

And so as we go through this, we will be describing the products where we will go through current usage and current status and our interoperability features.

But to start with current usage of Epi Info™, it's typical to know exactly how many users we have simply because seeing that Epi Info™ is free software in the public domain it's often copied and shared - especially in public health. Schools in public health that use Epi Info™ in their training will often give a CD of Epi Info™ with maps and everything to the students in the class.

We do know, based on our Web site certificate, that just in 2009 alone, year to date we have had over 77,000 downloads of Epi Info™. So it's quite a popular suite of tools.

We know that it's used in all across the country as well as within CDC here at the various centers, institutes and offices for various research projects and to create applications using the Epi Info™ tools. Most recently we are involved with the H1N1 outbreak supporting the National Center for Immunization and Respiratory Diseases Influenza Division.

But because Epi Info™ also has a very powerful language translation component, it's allowed to be able to translate applications into other languages. And therefore it's very powerful for the international audience as well as those health organizations, like the World Health Organization and the Pan American Health Organization and other countries all around Africa and South America. In fact it's used as the primary foundation for national monitoring and evaluation systems in several countries, including Egypt and El Salvador.

¹²The current version is Version 3.5.1, which is then available for download from the Epi Info™ Web site on cdc.gov/epiinfo. And it's been out there since about August of 2008.

For a few years we have been engaged in a rewrite of the original software, and we have recently moved that out to an open source platform. And that's going to be Epi Info™ Version 7. And it's based on csharp.net. And not only does it support Microsoft Access as the Version 3 support, but it will also support SQL Server and MySQL, which is an open source database tool for the Linux-based Ubuntu operating systems. So that also makes it very attractive to the users in relatively lower-economic situations that can't afford the expensive databases.

So that as I mentioned, this Epi Info™ 7 version is in a pre-beta state out on our open source projects, out on CodePlex. And there are stakeholders. So the future direction of that development project depends an awful lot on what you guys say as far as where we go from here.

So we are going to need to resume our stakeholder meetings to get user and partner feedback so that you can resume the control over the direction of where the Epi Info™ project goes.

And NCPHI is in the process of rolling out a new open source framework for open source projects. And so we need to have an opportunity to explain what that framework is all about and how you as Outbreak Management stakeholders really have a say in the open source collaboration.

¹³The interoperability features of Epi Info™ have been used by people in the CRA crowd and other applications; an analysis module has been used sort of

as a stand-alone tool for getting your tables and frequencies and case test analyses.

But it also has import and export formats. And in the past year we were in collaboration with a nonprofit organization known as InSTEDD to create an Epi InfoTM adapter using the Mesh4X technology. And we are really excited about this. It's going to be a very good way for sharing data across different sources regardless of the platform; the prototype already creates maps and you can change transmit data using SMS text messages if you have small amounts of data to share.

And it will allow an investigator in the field to connect with other investigators and share data almost in a peer-to-peer sort of way.

¹⁴The diagram of the Mesh4X prototype: if you have Internet connectivity you can use sort of a cloud environment. So the Amazon Cloud is what we used in our demonstration. One installation of Epi InfoTM can upload the data to the cloud. And then using Mesh4X another user who wants to synchronize to that same DataMesh can download that information and synchronize their data. And using the cloud they can maintain a synchronized data collection.

But the beauty of Mesh4X is that you don't have to have connectivity all the time. If you have intermittent Internet access you can continue doing your work and it'll automatically refresh your data as connectivity is restored.

If the Internet is not available at all - say you are in such a remote location that the Internet access is not available - with a Mesh4X tool you can put in a cellphone number and share the data using SMS text messages for small amounts of data at a time. And that's going to be a very powerful asset to investigators working in the field.

¹⁵This is actually a screen print of user interface of the Epi InfoTM Mesh4X adaptor. This is an older version. The newer version has been updated a little bit but it looks even better than this. And one of the things on this slide is to show that it automatically will geolocate address fields in your data.

So as it will create a map of the data that you can share, it'll produce the - next slide, please? ¹⁶It'll produce the dot - show the actual cases and pinpoints on the map. And so this would produce a KML file that can be displayed in Google Earth.

So that's about all I had to talk about with Epi InfoTM at the moment. So I am now going to turn it over to Gerald Jones, who is going to describe all the activities with the Outbreak Management Systems. Gerald?

Gerald Jones: ¹⁷Thanks David. So I want to just give a brief overview of current usage. Then I want to discuss the current status of OMS. And then we will discuss some of the ongoing and some of the fiscal year development.

The current use of the volume is we have received quite a few requests for OMS. We're deploying on this in a phased approach - once phase is in place, we receive feedback from that phase, then we release to further sites.

We currently have 13 jurisdictions that we've received on the OMS 1.3. We have two international partners that are using OMS version 1.3. And we now have one jurisdiction using OMS 1.3 with the new messaging component also.

And so with that, once we receive feedback then we'll have a wide release of OMS 1.3 going forward. With that we have been using quite a few exercises, the most recent being (NCH) radioactive radiological exercise.

And then for version 1.2, we have had requests and have at least 25 jurisdictions that we feed on this version 1.2.

¹⁸The current status on this OMS project: the current version is version 1.3; 1.3 is a complete base system. That means it's a complete deployable system that can be used for outbreak management at the state, county and local jurisdiction.

One of the features that comes with version 1.3 is that it's Wizard-based set up. With wizard-based set up and configuration, it facilitates ease of use of format. The major development for the current fiscal year is OMS messaging.

And we have the OMS messaging subsystem. We call it a subsystem, because it's an independent module that can be added on with version 1.3, which allows synchronous messaging between OMS to OMS, OMS to NEDSS and OMS to other third party applications capable of consuming an HL7 message.

The messaging subsystem again is being beta tested, is currently just one site and again we will increase that. We'll discuss that a little bit further. Also we've had quite a few requests with the H1N1 event on that and we're considering again deploying that per the results of the current phase deployment.

¹⁹Now to speak on OMS in terms of interoperability features. The major feature that allows interoperability format is messaging. And so our current development is OMS messaging, again, the subsystem that was mentioned previously.

And with that, the OMS message now currently conforms to an Outbreak General Message. And I mention that just to indicate the highly collaborative effort that we've done. We've worked with many different groups within our center to ensure that we have the correct vocabulary and that many partners within our center, be it India, state health departments with their surveillance system, independent surveillance system, or the third party asked can consume that message.

OMS now as mentioned can send data to third party systems and it's been a high prioritization from our OMS user group. And again, we're in discussions with the NEDSS Base System to be the first consumer of this message. And we will have updates coming soon in terms of that progress.

And to complete interoperability for OMS, we leverage highly import and export so OMS allows data import and export in a variety of formats. And then finally to complete interoperability we have a variety of formats for data analysis. On that, data can be analyzed real time dynamically with Epi InfoTM SASS, SPSS, and many different types of GIS software and Social Networking software.

And anything that's ODDC compliant can be again analyzed with our method.

²⁰Lastly, just to recap some of the discussion with messaging. Again we conformed to PHIN Outbreak General Messages. We allowed data to be sent to third parties. And with that, in terms of the prioritization that's been put in place we have one OMS messaging, OMS to NEDSS, which is the NBS system, and then OMS to third party.

And we have prototypes of each in place and we'll have demos of that coming up in an OMS user group very, very soon. And again, we're in discussions

with the NEDSS Base System to be the first consumer of our Outbreak General Message.

²¹And here we have a screenshot and the screenshot's included just to show that not only can we message and have synchronization on this data, but it's criteria based. So depending on the criteria selected you can message specific cases within OMS and specific types of OMS data.

For example, if you want to launch an investigation or if you only want to send labs, if you only want to send counter measures, or if you only want to send contact tracing data, you can subset your data in that respect. You can send confirmed cases. You can select by duration. And then it gives you an opportunity to use this data before they're transmitted to the next site.

²²And just a quick screenshot of Merging Data. And Merging Data gives you intervention before the data are included into the site that you're transmitting to, that you're messaging to, a means of verifying the data before they're merged into the Data Desk.

And again we'll have an overview of this. We'll give a messaging demo coming up soon with the OMS user group.

I am now going to pass on to Ulrica for CRA.

Ulrica Andujar: ²³Thanks Gerald. So I'll get right in with the current use of CRA and probably the more commonly known would be the vaccine doses administered exercise, which was piloted in 2007 and then last year was followed up with the Doses Administered Exercise (DAX).

The system was used by the 62 Public Health Emergency Preparedness Grantees using seasonal influenza as a proxy for pandemic influenza vaccine tracking. And data was submitted to CDC using three options for these exercises.

The first option, option one being aggregate data exchange, option two being Web based aggregate, and also option three being Web based patient detail. Another usage of CRA, then at the state and the local level in preparing and conducting emergency preparedness exercises including counter measure tracking and then also at the federal level with some centers that have been mentioned previously in NCIRD, the National Center for Immunization and Respiratory Diseases, Division of Global Migration and Quarantine, as well as the National Center for Environmental Health.

And CRA has been used in different capacities to support those emergency preparedness activities for the tracking and/or reporting of pharmaceuticals and in some cases non-pharmaceutical interventions.

²⁴The current status of CRA version 1.8.2 is currently in production and is also available on the CRA demonstration site. And we do have a release coming up around mid-July and that version is 1.9. And some of the high level features that will be included in version 1.9 includes complete support for data exchange with state immunization information systems as well as synchronization of data using Web searches and enhanced analysis visualization reporting capability, particularly utilizing Google Earth and Google Maps technology.

²⁵This is just a screenshot of embedded Google Map within CRA. As I just mentioned, the version 1.9 will include use of Google Map and Google Earth. You just can access the Google Map from within the CRA system for the

upcoming version, and also will be able to generate a KML file with CRA data for use with Google Earth.

²⁶Some of the CRA interoperability features as mentioned in the last status slide, include the HL7 data exchange with state IISs. The CRA system will fully support the implementation of Guide for Immunization Data Transactions using version 2.3.1.

Bidirectional data exchange will be available sending and receiving of messages. Again, the synchronization of data between CRA and state IIS will be in version 1.9 and also that version will support both Internet and Web based file upload of messages.

The listing data exchange capability that we have is the aggregate data exchange which was used for the previous vaccine doses administered exercises. And that will still be in the system, but of course, supports multiple data formats to include flat file or pipe delimited, XML file and also HL7 version 2.5. And again, aggregate data exchange also supports both PHINMS and Web based file upload.

Another interoperability feature included in CRA includes import/export. The import feature that we do have includes the ability to import an Excel format of patient information and also we have expansive export of data capable within the system to include extractions as well as summary reports.

And of course, as mentioned in some of the other discussions, CRA data can also be used with Epi InfoTM and the data extract has been enhanced to include the capability to use Epi InfoTM analysis as well as some of the mapping functionalities.

²⁷And this slide here is showing a visual representation of the enhanced data exchange with IIS and CRA, and then also synchronization, and that is determined, of course, within the state or the jurisdiction whether it goes from the POD to county to state. But this just shows you how all of that works together and how the synchronization would mesh together.

And that actually concludes the overview of CRA. At this time we'd like to open for question and answer discussion.

Coordinator: And remember that's star 1 with a comment or a question. And we'll give it one moment. And I'm showing no audio questions at this time.

Jeanne Tropper: Okay well we do have some folks who have taken us up on the offer to type in some questions. And so I'm going to go ahead and read them out and then I'll take a crack at it or let my colleagues do so or get back to you, depending on how hard they are.

"So what are you doing to protect the identity of patients who are indicated on GIS maps based on latitude and longitudinal coordinates?"

I generally speak and we follow HIPAA privacy rules but as far as GIS, Guy did you want to comment on that?

Guy Faler: Well okay so I can speak for CRA. I don't think we are exposing patients on maps from their addresses, where they live or something like that. I think we'll be tied publicly to the organization where they received the counter measure.

But this is one of the things that maybe some people would say it is probably okay to show it in some cases because you can run a report and get a list of

patients and their addresses, for example, and there are reasons we may need that information.

From that report, you could also type the information into a Google map or the like. So it may be sensitive for some, not sensitive for others. So we would look to you to provide guidance to us in that area.

Jeanne Tropper: Yes, so the capability is there. And it would be up to the particular jurisdiction on how they want to use it and protect the identity of the patients. And as part of our FAQs that are on our Web site, we do have a position statement (CRA related but as you know we're a new program and a new team working together, so this would apply across the board) stating that we do follow HIPAA regulations which, of course, do allow sharing of identified data for public health purposes without further authorization.

And we also follow the federal security requirements that are probably as tough as they come in terms of HIPAA. And in fact because CRA historically has a Web based system, it's very secure and everybody has to access it using digital certificates, which makes it sometimes challenging.

And we're just looking at some alternatives, and of course, if you're doing offline then it's not an issue.

Okay other question. "What is the best person to contact with questions about OMS?"

That would be Gerald Jones or Carol Worsham. We'll post this information and this presentation; the cover sheet has all the email addresses, so either of those two would be fine.

Coordinator: We do have an audio question from Kendall Patterson.

Kendall Patterson: Hi. Yes. I have a question about Epi Info™ version 7. I see it written as csharp.net. Now would that be a Web based incline or a dot net based fit client where it has to be installed on the end user's machine?

David Nitschke: This is David. At the moment the Epi Info™ 7, the c sharp build is a desktop client to be installed on the user's machines. And the reason for that is we wanted to initially get something out that would most closely emulate what people are currently using.

But there has been some discussion for quite some time as far as the need to have a Web based solution for Epi Info™. So that's definitely something that's in the queue to be considered for development in the near future.

Kendall Patterson: Okay. With that said, since you have moved it to an open source repository like Code Flex, it is a true open source where a program could download it and modify the source code or is it an open source - or is it an open application that's closed source?

David Nitschke: At the moment it's a true open source application. The source code is there and it's available for downloading and modifying the source code. As far as making updates to the code that's there already, the National Center for Public Health Informatics is in the process of establishing an open source framework which will help to govern some of the things that will be needed to address as far as updating the code that's available for the CDC within the CDC government infrastructure. Does that answer your question?

Kendall Patterson: Yes it does. And one more question. Since it uses a database back end of Access sequel or my sequel runs on either the Linux or the Windows box, and

this is an installed application, can the application and the database reside on the same machine or does it have to be on totally separate boxes?

David Nitschke: They can reside on the same machine. As I mentioned, the current bill that's out there - I don't want to call it a version yet because it's still a pre data distribution - is a client based application which is to be installed on the user's desktop.

However, with version 7, one of the main features that makes it different then the Epi 3 version is that - if you're familiar with Epi InfoTM, you design your questionnaire historically with the 3 version, the design of the questionnaire and the cables that collect the data are within the same access database.

With version 7, you can continue with that same model if you choose and that's in actuality the default, but you can also elect to use a different database for the design of your questionnaire and a second database, whether it be the same access or SQL server in order to collect the data collected with the questionnaire. So that will also facilitate the exchange of data with other users.

Kendall Patterson: Okay thanks.

Marion Kainer: Hi. This is Marion from Tennessee.

Jeanne Tropper: Hi Marion. How are you?

Marion Kainer: Good. I had wanted to ask you a question with regards to CRA. Is one able to import, for example, the people who would be receiving the shot into the CRA application?

Jeanne Tropper: Yes, in fact, one of the things that's new with the system is the ability to pre populate with who you're expecting to have immunized, such as a target group. So you could pre populate and then you could enter a nursing home or EMS folks, etc.

Then you could add the immunization and then show who's got it and who's still outstanding - that kind of thing. But yes, we have that capability.

Marion Kainer: Thank you.

Jeanne Tropper: Gerald is going to address the written questions. Go ahead.

Gerald Jones: I wanted to address both questions very quickly. There's a question regarding Citrix for OMS in terms of OMS running on a Citrix environment and there's also the train the trainer. So I'll address both very quickly.

We're proud to announce that OMS can run in the Citrix environment. For H1N1, we actually set up a Citrix environment at CDC and have OMS successfully running very well in that Citrix environment configured to an H1N1 questionnaire.

Secondly, in terms of train the trainer, please give us a call or email us and we can set up sessions. We've been doing independent sessions for OMS training. And we can address your need on an individual case by case basis.

So just to recap, yes you can now run OMS in a Citrix environment which means that you can access in a Web enabled approach. And secondly, on a case by case basis, we are doing training. And our email is outbreakms@cdc.gov.

Jeanne Tropper: Okay, we're going to go ahead and move on. These are great questions and interaction. And again, we recognize this is the first meeting after some time so hopefully in future meetings we'll be able to get to more discussion as well.

²⁸Before we go on, just wanted to let you know what the OMI program is doing for H1N1.

And many of you may already be aware of this. So let's start with Epi InfoTM. A very detailed hospitalized clinical data survey has been set up for our CDC investigators. And so those are for the first hundred to two hundred or more patients that are hospitalized to provide a very detailed, very complex information for them to study.

In addition, we are supporting our Division of Global Migration and Quarantine for a recent cruise ship outbreak with a specific survey. And of course, all of these things can be essentially reused.

One of our expectations for the next year is to start making standardized templates and questionnaires and applications for that matter available for use so that we're not having to reinvent the wheel.

OMS, we've had a number of requests in preparation for the fall. I wanted to let you know that we also did consider it for CDC use and actually set up a configured version of OMS to support the H1N1 - some of the case reporting.

Our EPIs concluded that they felt more comfortable with other tools. However, one of the things to recognize is that OMS is really meant for the field investigators, certainly for more complicated investigations. But it really was not meant to be a national system to support a national view.

However, it was something that was considered. And as a result of that, we have conceived an H1N1 questionnaire that will be included for fall support at the state level.

The other thing that we're doing and probably many of you are painfully aware of, is that we are full speed ahead in preparing for the fall vaccine campaign assuming that the decision is made to vaccinate. There is a vaccine and if the decision has been made to vaccinate, we fully expect to have CRA doing the doses administered tracking.

And we do recognize that that will be for a portion that as the event unfolds and as more people are vaccinated, we will move into a different means of tracking with DRSSS but in the earlier stages we'll be using CRA.

And then of course we are supporting individual states who want to use the CRA system to track antivirals, as well as the vaccines at an individual level for those who may not have their immunization registry capable of doing that on a vaccination basis.

We don't have a whole lot of time to discuss but we would like to get some feedback from you on how do we best address OMI short term and long term. And we have some ideas that we'll share with you but we wanted to open it up for you to provide us some input.

And starting off, are some of those recommendations from the PHIN conference still valid? Do they still make sense? Does the concept of an interoperable tool suite make sense? I think one of the things that H1N1 did for us was recognizing that we do have to have a centralized mechanism to report to CDC for the outbreak itself.

And certainly we are using case reporting and the NEDSS system, but there is a point in an outbreak where we do need national reporting at a fairly detailed level. And we didn't really have that tool available.

²⁹And we just wanted to show progress again. And it's probably self-evident from the discussion that we had previously. But taking all the requests from the PHIN conference and starting on the top with the applications taken from the field unplugged and then being able to synchronize that.

What we did have is at the individual component level we did have that. And those are complete. But what we don't have is the suite together though we have mechanisms for getting the data back and forth.

Eliminate duplication data entry: we have partial through our import/export and then using messaging and interoperability among the systems. Again, we have partial. We've prioritized for the different systems. We have CRA to IIS. We have OMS to NBS. So we don't have all the messaging that needs to go on among the various systems.

We have open platform for Epi and CRA is complete as in platform, depending on what that really means. All the tools that are used within the CRA are open source tools.

It is not open source available but we're using things like Google maps. And others that you want to mention that we're using that are open source tools?

David Nitschke: Yes, it's a Java based Web application so the tools that we use to develop it are all freely available.

Woman: Okay. And then questionnaires and data from Epi Info™ OMS and CRA, again partial with import and export features. Getting OMS case data - we did talk about the bidirectional means of getting it to the surveillance system where you have partial as Gerald just talked about.

What we don't have is the Epi Info™ deployed to PDA.

David Nitschke: There are things to consider with respect to that. There are some other open source solutions for the PDA that might make sense to try and incorporate depending on the acceptability and adoptability and how it meets the needs of the Epi Info™ users.

Jeanne Tropper: And then we have the definition or standard for minimum data. We have not as a group - the wording does not define that. But we have the capabilities within each of the systems to support that. And then the ability to capture aggregate data in OMS, no we don't.

For the H1N1, we have had to set up a separate system to do that. So the future probably would hold the concept of having a system that can both support offline at the state while still supporting the ability to support the CDC using Web or Data Exchange or other mechanisms down the road (e.g., the Grid).

And we recognize the need to capture data from many different sources from other upward management systems, other surveillance systems, et cetera.

Okay now back to where I was. I'm sorry. We don't have a lot of time but let's go ahead and open up to see if there're any questions or suggestions moving forward.

The first question is, “Are these slides going to be available? I’m checking to see if I can download. There are no files.” First of all, yes they are going to be available. We’ll put them on all three Web sites (CRA, OMS, Epi Info™). Okay next one, “When moving forward, please be cognizant that the PHIN coordinator is not the only state level person involved in OMI. Do not restrict announcements about OMI to your PHIN coordinator list. Please also be aware that travel restrictions at states are currently placed severe and do not restrict online information sharing to the PHIN copies.” Yes. Definitely.

“The Webinars are a great idea. Keep them up and be sure that there is a better mechanism to maintain a user distribution.” Yes, yes. If only we could figure that out.

“Our state experience is frequent dropouts of lists. Why not use a listserv that we can sign up for rather than your Outlook list?” That’s a great suggestion. That’s so true. Yes. And we recognize the challenge. Charles will look into that.

Are there any voice questions?

Coordinator: Yes we do have one audio question.

Marion Kainer: Hi. I have an additional question here please. I was wondering if you could detail what messages OMS can now actually send? I was aware of the simple case report but can you provide details with regards to immunizations, any treatments, case management, contact management, or other investigation details?

Jeanne Tropper: Yes, Gerald will have to address you now about that.

Gerald Jones: Currently Marion, we have the outbreak general message for HL7 2.5. And so if you're talking about OMS to OMS, you can send the entire data set, the entire record for a case from one OMS instance to another OMS instance.

If you're talking third party or to a surveillance system, we currently have the outbreak general message configured. And going forward, we really appreciate input in terms of some of the next steps in what would be a priority for the use of community in terms of messaging.

And we will have a user group meeting coming up within the next week or two at the latest, and we would really like as much input that the user committee can provide.

Marion Kainer: Okay and I have an additional question. Some of our states have also been trained in the FAST software which is a PDA enabled application. How do you foresee that meshing with OMI?

Jeanne Tropper: As you probably know I am relatively new as the program manager, so I am not familiar with this but it sounds like my colleagues very much are. So we'll move to figure that out. We have done some evaluation but we do not have any specific plans. What is the recommendation Marion? Do you think that's something that we should be considering?

Marion Kainer: It is currently available for PDA. And so I do not know whether it's open source or able to be integrated with your current suite instead of developing something parallel or in addition to it.

Gerald Jones: Yes. I know that there is another software for the PDA that the info group was looking at that's called Epi Surveyor which fully open source PDA software tailored specifically for epidemiology.

So look up Epi Surveyor. I think it's offered by a group called the DataDyne Organization - DataDyne.org and Epi Surveyor is the name of the product.

Coordinator: I'm showing no other audio questions at this time.

Jeanne Tropper: This has been a very helpful discussion and it seems like we have some reinforcements of some of the recommendations with the PDA and some of the bidirectional interoperability.

³¹But basically this gives an idea of where we are. Today we talked about it. We're segregated use with limited interoperability with some import and export features, limited messaging, some shared analysis tools, some forms development tools, different platforms, some oriented architecture features. And then we have an application that can send data to CDC easily or we've gone to do that.

So short term - and we probably need to next meeting talk about this rather than trying to tackle this right now - but some of the thinking we've had is the concept of decompressing or taking the best components from use of the existing applications and building what we're calling a composite application that would be a standard vocabulary, use the same suite of analysis tools and then have joint training and implementation.

But in parallel to that, we plan to continue to work on the individual component applications practically in the field as they are today since that's what we have. So the parallel activities to joint training or standard template import/export, et cetera with the current tools but working at a composite application that would take the best of all of those.

And then mid term: testing that, allowing messaging or upload options for primaries not using CDC applications, form development, contact trades and data sharing agreements in place with the project area.

And then longer term: the longer term interoperable platform that becomes the “best of breed” accessed by the Web or in the future grid architecture that there’s probably a whole session to discuss but you’ve had some exposure to.

Keeping data locally but accessed as appropriate as needed during events by CDC, used both by CDC and by the field so there’s a consistency and then data share freely across boundaries and defined with their note sharing, data sharing agreement.

So we have a good handle on this today and we probably have a very good handle on what we’d like to see in the future. It’s between now and then that’s the challenge. ³²So I think that’s what we’d like to focus on in some of our next meetings is those parallels, a path with a practical application of what we have now in the field and working on a prototype of concept that would take advantage of some of the newer technologies and will offer faster assembly of systems or applications as needed during events.

So next step, again I apologize for keeping people over and appreciate those of you that stayed on, and we won’t decide these things but what we’ll do is set up another meeting in July and we’ll go through some of these next steps and then be in touch with you about some suggestions.

We’ll go ahead and post to the three Web sites. In the future will be an OMI Web site. And we’ll go from there. And with that, we’ll say good day and thank you so much for all your input. It was very valuable. Bye-bye.

Coordinator: That concludes our conference for today. All parties may disconnect at this time. Thank you.

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