

AHRQ PRESENTATION - BUILDING AND MAINTAINING A SUSTAINABLE HEALTH INFORMATION EXCHANGE (HIE): EXPERIENCE FROM DIVERSE CARE SETTINGS

5-14-10

COLLIN BUCKLEY: Hello, and welcome to the AHRQ webinar on building and maintaining a sustainable health information exchange. At this point I'd like to introduce today's moderator, Erin Grace. Ms. Grace is AHRQ's senior manager for health information technology, and she's senior advisor for Rural and Community Health. In this role she manages grants, contracts, and other initiatives related to health IT, including AHRQ-funded state and regional demonstration projects in health IT, and the contracts to provide technical assistance related to health IT, and Health Information Exchange for Medicaid and state health insurance program agencies. Erin, welcome, and the floor is all yours.

ERIN GRACE: Thank you, Collin. I'd like to welcome everybody this afternoon, and especially our esteemed list of presenters that we will be having today. I'll just introduce them all at one time, and then we'll go through their slides. Our first presenter today is Dr. Mark Frisse, who is a professor of biomedical informatics at Vanderbilt University. He created and directed a federal- and state-sponsored health information exchange in the greater Memphis area, with over five million records covering the care of 1.2 million individuals. He is also the co-chair of the Markle Foundation's Connecting for Health Common Framework Policy Group, developing model data-sharing agreements, as well as a member of the American Medical Association's Health Information Policy Committee. Dr. Frisse has also served as a professor of medicine and associate dean at the Washington University School of Medicine, vice president and chief medical officer at Express Scripts, and played a role in developing consumer websites, the DrugDigest.org consumer resource, and Rx Hub.

Our second presenter today will be Dr. Patricia Fontaine, who is an associate professor of Family Medicine and Community Health at the University of Minnesota Medical School. She divides her time between teaching and clinical research, and currently serves as president of the Minnesota Academy of Family Physicians. She has extensive experience in practice-based research through the Minnesota Academy of Family Physician Research Network. Her funded work for the Agency for Healthcare Research in Quality has focused on topics of national importance for primary care, including health information exchange, medical office safety, and the patient-centered medical home.

And our third presenter today will be Gina Perez, who is president of Advances in Management, Inc., which is a management consulting firm. Since 2004, Advances in Management has been engaged by the Delaware Health Information Network to provide project direction for the Health Information Exchange, which is a statewide effort to create an interoperable health care system in Delaware. In this role, Ms. Perez provides strategic direction and day-to-day executive management for the DHIN, reporting to the board of directors. In the spring of 2009 DHIN went live and became the first statewide Health Information Exchange in the nation. Ms. Perez serves on the Department of Health and Human Services Standards Committee, on the Certification Commission for Health Information Technology (HIE) Certification Workgroup, and the state-level HIE Steering Committee, as well as the statewide HIE Coalition. So as you can see, we have some very strong presenters today, and I think we will be learning a lot from them. So without further ado I'll remind you to please feel free to submit your questions during the presentations. We'll do the actual question-and-answer period after the presentation, and I'll turn it over to Dr. Frisse.

DR. MARK FRISSE: Thank you, Erin. I have been asked to talk about the role Vanderbilt played in creating a Health Information Exchange organization in Memphis, Tennessee. I'm coming to the end of Vanderbilt's role in this, and I'm thrilled to say that the Memphis community, a very vibrant, active group, has taken over this largely over the last few years, and by the end of September, the Vanderbilt relationship with that will have terminated, or our contract will have terminated, and the story you'll be hearing in the future will be coming almost entirely by the (inaudible) Health Alliance Board and the people in Memphis, Tennessee, and the next chapter should be wonderful.

The other reason this is a timely conference, I think, is because many of you may have attended a ONC-funded state health meeting in Arlington, Virginia, this week. I was not there, but some of the others of us attended a follow-on conference with the Agency for Healthcare Research and Quality and other agencies, including ONC, and one of the big issues that came up is just what does "exchange" really mean? How has it changed, and what does it mean in this

year of high-tech and the various disparate federal initiatives, as well as private sector initiatives going on?

So I need to take you back to 2004. This is before ONC. If you will remember your ARC (ph) SRD (ph) contracts were enough by ARC (ph), as five-year initiatives, again before ONC was formed, the primary goal of those contracts was to basically understand how healthcare would change if we put the patient in the middle.

And from the outset we at Vanderbilt, who had been charged by the governor, and were the PIs reporting to the state of Tennessee to create this, viewed exchange organizations somewhat as a means to an end of patient-centered care, more information at the point of decision via (ph) the consumer, the public, to achieve better healthcare outcomes. That was the spirit of the ARC (ph) five-year contracts, and I think what you'll hear from at least two of us who are involved in that today. As is the case with many, we had reasons to do this, and anticipated the ARC contracts.

Governor Phil Bredesen was facing – a newly appointed governor – a major crisis in healthcare financing in the state of Tennessee, which is not a surprise to any of you from state government. We had a large county hospital called the Regional Medical Center – or the Med – which was in great distress, and Governor Bredesen in his February 2004 speech to the Legislature talked about a technology informatics adjunct approach to supporting this, which was (ph) a collaboration of Vanderbilt and the Med. What we found out almost immediately, of course, was that when you look at an ailing hospital, you're really not looking at a single organization, you're looking at a community in distress, and I would submit all of us – every community is more or less in some degree of distress.

We really wanted to look at how this could be done. Now, the exciting thing about Memphis, quite frankly, was that the payer mix would be considered fairly negative in terms of a high number of uninsured high number of TennCare, but I actually was attracted to that, because that gave a person a chance to do some very dramatic, innovative things along this period of what Clayton Christian from Harvard Business School would talk about. There weren't very many competitors out there, not many rivals. We ultimately received, after a planning grant that was funded privately, a \$5 million (inaudible) contract, as well as some money from the state Legislature and, more than anything else, we had a leadership team, starting with the governor, the mayor of the city, county in Memphis, the board in Memphis, and the commissioner of finance, Steve Guess (ph) and others, to be consistently supportive of all this. And I'll return to that in a minute.

The next thing to look at is what do we really do? Well, as Erin says, we have over \$5 million in counter records, and we have clinical information of over 1.2 million people. This is not just claims. This is not just emergency room visits. This is not just one or two hospitals; this is literally everyone who did not opt out, in all the major hospitals in Memphis, Tennessee, and quite a few of the larger county and safety net (ph) clinics. That was the scope of what we tried to do. We had large numbers there, as you will see, and we have been in operation in another week – total full operation – for four years now, and so we have a lot of data to start being able to demonstrate what the impact of this hospital-based change has been.

As you can see from the next list – and all these things are out on the web in multiple places and no doubt will be posted from this – this was a hospital-focused organization. The initial premise was our hospitals were in distress. You have to go where there's a significant critical mass of intellectual capital and financial capital, and get their buy-in first. And again, in 2004, that seemed to be the right strategy, and I think it still is the right strategy in many urban communities today.

Our primary focus of work was on the emergency department in terms of use of that. Again, that has been, I think, the (inaudible) over all to be useful, because the hospitals basically felt if you could not demonstrate some impact in emergency department care, transitions in care and test utilization, then they weren't quite sure how much of a difference it really made to the care of their community.

So we had a very large group. You can see the web site on the other side and, if you look a little closely, you'll see an RSA token. We did use two-factor authentication because the last thing we wanted in the world was to have any breeches or privacy violations, so we worked very hard to avoid that.

What do (ph) the interface look like? Well, it's basically a much more stripped down version of the Vanderbilt interface. I could show you slide after slide after slide. Most of the use, about 94 percent of the uses, were for basically

looking at discharge summaries or individual laboratory tests, but what you see on this slide, at the bottom you see rows and columns of data, some red, some green, and if you look at the greenish-blue column, you'll see that there's all kinds of different abbreviations there. These are data from all different hospitals.

Most of our patients had been to multiple different hospitals and this is a demo data set – composite, if you will – of numerous real instances. And what we were able to do was take the data in whatever format you have, linking code (ph) on the alpha (ph), and then producing (inaudible) that graph, which is a popup window above, so you could look at the trend of this case of an hematocrit over time from multiple hospitals – a specific (ph) case from one place – hospitals and clinics, I should add.

The architecture was rather unusual. It remains viable today. It's led to a spin-off company, and it's being used throughout the state and the country at various organizations. It's basically a variant of what we've been doing at Vanderbilt Medical Center for 15 years. And I think it's important to emphasize what we did. We did not try to map every data item to some common standard on the inbound. We did not tell any of our participants what they had to send us, what format it had to be in, or anything else. Our criteria were very simple.

One, you must have accurate ADT information so we knew who the patient was. Two, you must be able to tell us what the format of the data is, and we'll parse it from there. And the Vanderbilt approach, throughout our organization and throughout our exchange efforts, has been to take the data in whatever format that it comes in, tag it – so say I'm a white count, or I'm a discharge summary.

Put that tag on it, throw in the database, and every organization – you'll see the above – every organization can have its own logical database. So they could basically flush out that database at any time. It was almost like remote storage for them, except we had not translated the data at all, but we had put an extra tag on it so we could pull data across from disparate sources.

Then we had, basically, a record located service, if you will, that we built, a variant of what we had – we did not use a real expensive MPI system or anything – to prove that we could accurately merge these records, and then we just present them through a secure web browser. The only kept data integrated – the integrated patient database really is nothing more than an audit log of what took place. We don't keep any large, centralized data, nor do we use it for anything other than patient care. There was no secondary data use at all. And a lesson I want to return to, of course, is that focus, and staying focused on one or two things, is absolutely critical.

So, why did we succeed? Now, one of the things I'm rather tickled about is apparently there is a wonderful set of discussions at the ONC meeting about leadership, and they used John Cotter's "Why Transformation Efforts Fail" framework. That's a common framework that a lot of people use. You will find that it's basically the foundation for how we looked at this project in our 2004 application, which is out on the web. And we had this. We had a sense of urgency. We had a guiding coalition. We had some initial quick wins. We had some very, very realistic focus planned. We realized, early on, we were not in the technology business; we were in a trust business. The primary job we had was to ensure the participants that the data would be used for the advancement of patient care but, more important, would not be used against their own self interest, and that they could trust one another to do this. We found that all concerns about "We're going to lose patients," or "The world's going to come to an end," or "Somebody's going to report it," have been false. And you can talk to the people in Memphis about that.

Governor Bredesen, who had the technology background, has urged a national meeting field (ph) version 1.0 first. We believed - - I personally believed – that any organization that's facing a quick timeline – and that would include the timeline we had for the ARC contracts, and I would submit, also, that includes meaningful use – anyone that tries to do too many things in a short period of time is doomed to fail. Almost every health information exchange that tried to be comprehensive certainly took longer to get going than one that stayed focus on one or two things. That's not to say that in the long term that's not a good strategy; I just don't think you're going to get quick wins (ph) if you do that.

As I said, we focused only in emergency department care. The data came from throughout the community – every hospitalization, every visit – but the only place that was used initially was the emergency department. Later on, hospitals used it and safety net clinic used it because they kept calling up the emergency room or coming down to see the records and see what was going on.

We took aid in any format so the total cost to the participants was only the cost of their time, a secure socket layer and some personnel time, of course, to ensure quality assurance of the data. The overall operational cost is really about \$1.5 million a year for this primarily hospital-based system. It would be much larger if we had a lot more small practices hooked up. But when you think about it, for one million people that's one and a half dollars per member per year – one and a half dollars – compared to an average healthcare spend for an individual of \$7- or \$8,000. So we think it's pretty good.

We got some quick wins. In the first couple weeks we had people write in and say, "We think we saved a life today. We found the test. We were maybe lucky on that." But we let it evolve over time. Again, we did not try to shoot for Nirvana; we just took it as it started and let people build on it. Example: transcriptions. Everybody sent transcriptions to one major hospital but, over time, the medical community put such pressure on that hospital to participate that they accelerated their intended desire to do that and pushed it up on the queue, if you will, to get them up sooner. It already intended to do it but, as you know, when you're dealing with healthcare providers of any type right now, they're in the middle of some very burning technology questions, and you can't necessarily expect them to put health information exchange first.

So what have we done? Well, we can give you anecdotes about saving lives. We have a couple papers coming out from a very wonderful Ph.D. student, Kim McNurl (ph), about workflow and how people viewed that. We can prove test (inaudible) behavior changes. We're going to be able, through a large case match control, demonstrate some substantive savings and radiographic tests, particularly CT and head MRI, some reduced testing for specific conditions which was done by Jim Bailey (ph) (inaudible) at the University of Tennessee. We're going to be able to show some reduced admissions, comparing HIE users to non-HIE users. And again, that's all being packaged for publication right now, so we're not putting the data out widely at this juncture. We're still really having to go through the peer review process.

This model is being adopted by other regions through this for-profit company called Informatics Corporation of America, ICA. We found ambulatory connectivity to be a very tough challenge. Of course that is the challenge today. And the big question is whether or not all of the ONC and high-tech provisions are going to make it easier. And we also found that a lot of the lessons we learned about vaults and technology were also very valuable to us at Vanderbilt inside our own firewall.

What did we learn? Well, you're in the trust business, you need to stay in leadership. The low period of entry we think was very important. Another thing, from the outset we did not try to go out and get medication history data. We figured it was Rx Hub (inaudible) it was going to happen on its own. We feel the same way about independent access clinical labs. We got all the clinical labs, but we got them through the back end from the hospitals and providers who had them already in their systems.

We think architecture is very important because a big challenge to ROI is can you keep the I, the investment, small enough to get it in short term returned. And again, heretical notion, but consumer engagement directly was not predictable to us. We had 50 or 60 people who were on the ground floor running emergency departments involved in patient care toiling for nine months to implement the Markle Connecting for Health data sharing agreements back in 2005, and they definitely were the proxies for our consumers. And because we had this deadline that we had to get this thing alive we stayed very focused, very, very practical. Vickie (inaudible) has spoken extensively on this from our group.

We did not over-engineer. As I told you, we just tagged data. We didn't map everything to HL (inaudible) or anything else, and Janet King and others from our team could talk a lot more about that at some future date.

We allowed standards to evolve. We build a simple system, and we just really focused on what we would uniquely do. Again, we did not try to stick in the middle of people doing E prescribing or laboratory and other things. And we found costs to be paramount to our notion of sustainability.

Now, what do I think the predictions are? Well, we were really, again, all about the individual. And we think we will be able to demonstrate very soon in publications that there are real savings, just within the emergency departments

alone, by having data available when people make decisions. We believe those ideas will absolutely be sustainable. So when I think of a sustainability strategy I do not necessarily think of (inaudible) how sustainable we'll be to models of organization if we built six years ago for six leading-edge companies, or leading-edge kind of projects will all be financially sustainable in an uncertain world is a pretty high barrier. But I think in every case what you're going to hear about these pioneers, you'll see that the intent of what they tried to do will indeed be sustainable with some fits (ph) in starts.

What we learned, of course, is that most people thought the care was coming from within their institution, really, most of it was coming from elsewhere. We think we can track populations, we can track – real time, we can tell you what Memphis's white count is today versus what it was yesterday. And we think that's going to change the way people think of the word. Exchange, to me, is as much a verb, it's a set of service (ph), as it is a noun.

We do believe that we will have a number of exchanges in our communities: hospital-based, clinical-based exchanges which, in some places, will be the dominate form, in other places may be relatively limited. Each will have a certain scope of activity; for example, readmissions, a quality reporting (ph). But don't forget, in a way, large ASPHR provider, or many, many other people are really de facto exchanges as well. So I personally can't accept, 100 percent, the notion of a purely higher hierarchical model that I practice in the community. I send my information to a local exchange. They go out to the state and the state goes out to the country.

There's some advantages to that. It will be done in some instances, but it won't cover 100 percent of what we need to do to achieve meaningful use and better patient care. And I think the end in framework (ph), if they're working now, is going to be a very exciting way of tying a lot of these things together. And again, value, sustainability – it's going to be so hard to measure that. And I won't argue to emphasize will the ideals, will the means to an end, or the end to improve patient care be achieved somehow, and focus more on that than on the particular organizational forum. And again, the (inaudible) organizations keep it as cheap, as small as possible, and as simple as possible.

I wanted to leave you with a neat article by Paul Starr (ph) from 1997. It's a very thoughtful piece about technology and policy that's still explains some of the culture dynamic today, and I do that because it emphasized the (inaudible) in Memphis, Tennessee. And again, we knew that, and we realized that what Paul Starr said was very helpful to figure out what the real problems are going to be there. And then I leave you all so that it'll be out on the slide deck some sense of a timeline: when things were announced, when we went live, how that interacted with IN HAND (ph) and HSPC (ph) and the ONC things. So even though we were opted in a different world, if you will, more and more in the ARC world, we were tracking and building on all the national lessons we could have. So with that, that concludes my part of this webinar, and I will go on mute, and we'll have questions later.

ERIN GRACE: Thank you. And just to remind everybody, so you don't forget your questions later, feel free to submit your questions along the way, and we will actually address them after all three presenters have presented. So Patricia, if you'd like to take the helm; we look forward to hearing from you.

DR. PATRICIA FONTAINE: Well, thank you very much. It is a great pleasure to be a part of this presenting team today. I'm going to come less from the big picture, structural standpoint, and talk to you about some of the foot soldiers on the ground, with what has been called the litmus test for health information exchange success, and that is will the smaller practices participate? A little bit of the punch line is given away in the title slide here. One of the folks that we talked to kind of summed it up as they say they're interested, but somebody needs to say, "Do it." And they're looking for the people like the Marks and the Ginas that help them do this.

So let me give you a little bit of background that you're all familiar with, but it gives a slightly different perspective from our work compared to Mark's and Gina's. We are also funded by HRC task orders to do this study, which actually just appeared in the Archives of Internal Medicine in April. So the background is that the ERA Act is going to provide billions, as you all know, and while we're thinking about health information exchange, a lot of the family physicians that we interviewed are still looking at that first item, which is getting electronic health records. So we've got all of those steps before we can achieve the goal of a national health information network, or the NHIN.

And our statement has really been sort of setting the stage for health information exchange with some legislative mandates. Our 2007 E-health law did require electronic claims submission by 2009, E-prescribing by 2011, and we

have on the books that we're all going to have interoperable EHRs, all hospitals and providers, by 2015. Now, we have a good head start compared to some other states that are out there. According to Stratus Health, which does a survey, 42 percent of Minnesota primary care practices have fully implemented EHRs compared to only 4 percent nationally.

Now, there is a lot going on in Minnesota, as far as high-tech and the structural aspects, and I'm not specifically going to address that, but in case any of you out there are listening, I wanted you to know that we are certainly aware of that. The definition that the Office of the National Coordinator has for HIE as the electronic movement for health-related information among health organizations, according to nationally recognized standards, is a very strict definition.

As Mark has already pointed out, it has to do with languages, HL7s, NOMED (ph). It has to do with (inaudible) coding and so forth. And as we did our project, which involved actually going out and talking to the physicians and administrators in small, primary care practices, to see what the barriers were for them, or what benefits they hope to achieve by getting involved in health information exchange, we found that many of them didn't really understand the concept, or the definition of HIE.

Technically, HIE is not – we had to kind of discuss with them – it's not the information that is exchanged within self-contained networks. So we have a large number of clinics that are all part of the health partner system, for instance. They all use a certain proprietary electronic medical record. That's technically not health information exchange because it's all within one record.

So the key concepts here are that it needs to be independent organizations, like Mark talked about, different hospitals or different practices and different health networks, and it has to be interoperable systems and according to national standards.

So a couple explanations that we do have in Minnesota, one I'm sure that you are familiar with, is the CHIC, or Community Health Information Collaborative, and it's been funded since 1997, and it is in Northeastern Minnesota. One of its best-known projects is the Patient Record Locator Service. Also, a little newer on the scene is Minnesota Health Information Exchange, or MNHI, and it has a project also focused in the emergency department, and it had to do with medication lookup. So MNHI's structure concept – layperson's concept – is given here in the diagram.

So our study, the rationale is, then, that most existing studies of HIE have taken place in the hospitals and in the larger health systems, whereas the majority of health care encounters occur in the ambulatory setting, and that's where the majority of patients really receive their care. So if we really want to make an impact on health care outcomes, we need our efficiencies and our quality improvements to address the ambulatory care setting, not to mention the fact that for the NHIN to become a reality, our practices have to become involved. So the specific aim, as I alluded to, are to assess the motivating factors and barriers that are going to influence primary care practices to participate in community wide health information exchange.

Our study had a soft side to it. It was largely a qualitative study. We did collect quantitative data through a questionnaire on practice demographics and the existing IT status, but basically we did analysis of guided discussions with key informants and these were in nine practices throughout the state. The key informants varied quite a bit. Some of the clinics that were part of some larger systems had somebody who is specifically designated to help them with health IT. Others were small, so low practices, that were basically creating their systems through the ingenuity and the persistence of their docs and their support staff. So we'll find out a little bit more.

Our study was conducted fairly recently, as you see; 2008, 2009. The nine practices were all primarily family medicine. And we purposely selected them to include four urban practices, five rural locations, and all of the practices has fewer than 20 providers. They had varying degrees of involvement with electronic records and with health information exchange, but we did pick them because they had at least some potential connection with health information exchange efforts in their part of the state. For example, you'll see on the map here that in Northeast Minnesota the practices that we were fortunate to be able to make our visits to in January these were very knowledgeable about the Tick collaborative. In the Metropolitan area, the three practices there were Urban Safety Net Clinics that had achieved some funding to just get started with a Health Information Exchange within their network.

And then finally in Southwestern Minnesota there had been an attempt to achieve a Health Information Exchange

having to do with congestive heart failure patients.

So I'm going to run us through the results from these nine practices. I think we found just in the basic who is using EHRs, what kind of EHRs are you using, what kind of EHRs are your hospitals using, I think we got at one of the big barriers to Health Information Exchange. And in nine practices there were seven that were currently using a proprietary electronic health record, one that was in the process of purchasing, and one that actually had developed a little bit earlier on its own relational data base and was using a custom product. Of the seven who were using proprietary EHRs, six different vendors were represented. This was just a random sample or a purposely selected sample but had no idea we were going to find that much variation in vendors. And only one practice had the same Electronic Health Record System as its local hospital.

We had a Community Health Service, whose patients actually went from one county hospital to another private hospital, had really a great need for being able to exchange information but they chose Electronic Health Record for example that was advertised to them as having the kinds of reporting capability that FQHCs need. And so they bought that so that they could do their quality reporting to the federal agencies and had no capability then of connecting to the local hospitals.

As far as the types of information being exchanged, and this could be either sending, receiving or both, and some of this was web-based and it wasn't necessarily inter-operational. As I said, not all of the people that we talked to really greatly understood the concept but what they filled out on the survey was all nine were using the Immunization Registry which again has been championed by Tick. Eight laboratory test results, again talking about your Quick-Wins, that's a big pay off for radiology test results, communicating with pairs and pharmacy were all at that level. Patients, one of our practices had a patient portal and as far as other physician practices none were able to exchange electronically with their consultants at this point.

So we talk about motivating factors. We divided them in our analysis quantitatively of the key informant interviews. We divided them into external motivators and internal motivators and you can see the subcategories there. Obvious external motivators that would jump to your minds are the legislative mandates, the payer incentives that we have, and an increased expectation for quality reporting which is becoming really quite structured and more sophisticated each year in our state of Minnesota.

The internal motivators, you know I'm really pleased to report that I think whether we were talking to doctors or whether we were talking to administrators and maybe it was more on the clinical than the administrative side, but improved quality of care came out as one of the first reasons that people were going, looking toward developing their Electronic Records and their Health Information Exchange. Enhanced efficiency and cost savings were closely aligned in second place there. And interestingly talking on the ground this is something that doesn't come up a lot in other public studies and it's hard to survey, but a lot of antidotes about what it means for the public perception, for the patient's perception, when you can be in the room and have a computer and get that lab result from when they saw the consultant and you've got it at your finger tips. Or when you can bring up some patient information, self-management information, and get it to them at the point of care, they recognize that they are being perceived as up-to-date.

And as far as the generation gap in motivation, while we heard lots of stories about older physicians saying you know I'm going to retire before I'm ever going to do this stuff, we heard savvy administrators and younger physicians say the residents and students are using this we need to get it into our practices to be able to recruit them. And this is even in out state Minnesota in rural areas.

So I mentioned the requirement for interoperable EHRs by 2015. This was referred to as quote, and I'm going to have some quotes here in italics, "the legislation breathing down your neck telling you what you need to do", so it wasn't really favorably viewed but people were aware of it. There is both optional and mandated quality of reporting. We have Minnesota community measurements with sets of measures that require a tremendous amount of work, overhead, staff time on the parts of smaller practices that don't have a central core of administrative staff to do this kind of work for them. So a typical quote from a practice like that is you know "quality measures were defining the issues of reimbursement", so we felt that we needed to have a system that would allow direct reporting and sometime direct extraction from the record in order to be competitive.

Improved quality of care might be phrased this way, “difficult to achieve consistency over time with paper guidelines, people have to look things up”. And they just feel that having something that is hard wired into the practice might help them achieve higher quality and better patient safety, whether this is practice guidelines, so forth.

Efficiency, another motivator. These are like I say are tails from the front line but one administrator said to us, “prior to our electronic records, two out of every three visits, the medical record itself wasn’t available, it was in transient, at the dermatologist office, they weren’t done with it or you know we just don’t know where the record is.” Another said “you know for the quality reporting we do 2,000 hand audits a year, going through paper charts at 20 minutes per chart, you do the math for the amount of hours that are paying staff to do that.” So kind of a transition that bridges both efficiency and cost savings through electronic records and especially when the reporting can go directly through Health Information Exchange.

Cost Savings. Many folks out there think that by getting rid of paper charts is the first step toward getting into these exchanges, they can reduce the number of people handling paper and downside staff basically and we’re in an era of, have been in an era of downsizing in many businesses and medicine is no exception. They thought that would help their return on investment.

Let’s turn now to some of the barriers. Again, cost was probably a huge barrier for all the practices we talked to. Interoperability equally. A lack of a shared HIE vision I think is critically important. I mean I think Mark has given you a wonderful picture of the advantages there to having a shared vision and making it work. And then we found, especially some of our rural practices had problems with just technology infrastructure like slow T1 lines for connecting. Security privacy concerns and I have already kind of alluded to the behavioral resistance to the change in the older physicians.

When you talk about cost as a barrier sometimes you would be surprised what the price tag. In the community clinic, it’s \$6,000 was a limiting factor for them, \$6,000 a year for being in a Health Information Exchange as a noun and it was going around to the clinics trying to get people to sign up and they didn’t have the \$6,000 a year to stay in it put the start up fees.

The interoperability. Everybody has a different system you have to be able to make them readable. Even with one very common proprietary record in this neck of the woods there will be proprietary record for your clinic and up at Clinic C they’ve got the same record but it is programmed slightly differently so that they cannot talk to one another directly. And clinicians are frankly really frustrated with that and they feel like they’re in kind of a consumer based society and the profit motive is out there and somebody has to have the authority to say to these companies and these vendors get together, do it, make it interoperable.

So, you know to conclude in our study there was not one practice that was fully involved in a regional HIE with multiple stakeholders according to a strict definition. Rather Health Information Exchange as a verb is proceeding by incremental stages and EHR acquisition is a first step that hopefully some of the funding will expedite. I’m happy to report that small practices do see the value of the data exchange. Most commonly and where they really see the Quick-Wins are with hospitals, testing centers and to be developed specialists with whom they interact frequently. The public health agencies and the quality reporting agencies are also really Quick-Wins from that standpoint.

Our conclusion and the way I think Mark also had a little bit of a caveat when he said he’s not convinced 100 percent about the (inaudible) models here, we had to conclude that interoperable HIE may not be the best short term model for data sharing for small practices. Until we get further development of national interoperable standards and find feasible ways that we can get around programming multiple specific interfaces to patch every institutions record with anyone that differs by even just a little bit. And security and privacy policies, we haven’t talked a lot about, but those are again issues that are being addressed on a national level and will make a big difference.

So the legislation that will help will be the ... current legislation is on a good path for that and we need more community leaders like Mark and Gina to provide meaningful interactions and really that joint vision that’s going to be so critical to get what in the clinical world can be competing partners who are a little bit turf about their information to get them all to work together toward the common goal.

So thank you very much and I will turn the ... to Gina.

ERIN GRACE: Thanks Pat that was very nice to have sort of your presentation, some of the research you've done but owned by the two existing Health Information Exchanges so Gina will be interested to hear about your model which has been equally successful but somewhat different from the Memphis model. We'll turn it over to you.

GINA PEREZ: Thank you and thank you all for participating in the call. I'm going to talk a little bit about the Delaware Health Information Networking, kind of some of the keys to success that we've identified and focus a little bit also on the sustainability of the Health Information Exchange. Let me get my slides moving here.

What I always like to do is start with "where in the heck is Delaware?" We are on the East Coast in-between Pennsylvania and Maryland. And we are a small state, first to ratify the Constitution and first to implement state-wide Health Information Exchange. So we are proud of those two firsts.

We are a public/private partnership. We have a Board of Directors so the governing is the financing and the data exchange is all both state and private as well as we have federal funding which began with our Art State & Regional Demonstration Project and also through the Nationwide Health Information Network and now the State HIA Cooperative Agreement.

We have begun data exchange in 2007 with Secure Results Delivery and that of lab, radiology, pathology and admission discharge transfer data from hospitals and national labs. We now have what we call Community Health Record which is essentially what you might have heard as the Query or the Pool Model and that is the ability of users to query a patient's centric, longitudinal health record from the Exchange from multiple sources. We are focusing now on, of course, supporting our hospitals and physicians in meaningful use as well as the requirements of the State HIA Cooperative Agreement.

We began the process of implementation with understanding our environment. So we spent some time talking with consumers, physicians, hospitals, health plans, specialty groups to understand what they wanted from Health Information Exchange. And what we heard from providers is that they want electronic results into their electronic health records, they didn't want to be scanning paper and they wanted point to point interfaces. They wanted streamlined information so they were getting labs and radiology reports from multiple sources and multiple ways and it was very hard to track them down and often when they had the patient in front of them the information that they needed wasn't there.

And what we heard from hospitals and labs was they were getting bombarded with requests for interfaces and they were costly especially around the hospitals and they didn't want to manage all those point to point interfaces. They wanted a more efficient way to get information from their sources, from their labs and radiology systems and their admission systems to providers that ordered those tests.

So essentially the problem looks like this. This is what we call the spaghetti, it's all of those organizations that serve the physician community and the patient community needing to get information out to those locations. So at the bottom we might have physician practices but we also have public health agencies, we have home health agencies and long term care facilities, and mental health facilities, all of those organizations order tests and have relationships with hospitals and labs and radiology facilities and others.

So the idea again is to streamline the process to look more like this where we've got those data sender organizations sending the information to the Exchange through one single standardized interface using HL7 and the HIE acting as the mailman or the post office to get the information out to the ordering provider, the copy to the primary care provider, the admitting attending providers. And then making that information available for authorized users to query so that they can see information on a patient who might be new to them or whom they might be seeing in an emergency situation or whom they might have received a referral on.

So we deliver those results in three ways. One is through an in-box where the user can log into DIN, they can view their clinical reports and results in an in-box kind of or an e-mail looking fashion, of course, secure. And then they can query the DIN from that location. All they need there is a Windows-based computer, high speed Internet and a

network printer if they want to print the results. They can also set that in-box to print and they can print based on their work flow and we give them out of range results and they could maybe print with all of their out of range results on top. They can also sort their in-box to do the same.

And then lastly and probably most importantly we have direct interfaces with Electronic Health Record System where that interface allows the EMR vendor to deploy the DIN data, data coming from the hospitals and labs who participate in DIN to physician practices in a streamlined, you know single interface manner. So it's much less expensive, it's much more efficient, the doctors really appreciate that and it has created almost immediate efficiencies in the practices that have those interfaces. I'll talk a little bit more about that in a second.

The other important factor is that our paper reports are all standardized as well so it doesn't matter which organization generated the report, it looks the same with the exception of the contact information and the logo of the organization. So that's a big satisfier among the physicians and in physician practices because they're able to look immediately in a certain place to identify the information that they're most interested in.

And this is the state in terms of who participates so the red stars are participating hospitals. We also have LabCorp and Quest Diagnostics state wide and we have Doctors Pathology Services which is a regional pathology lab for the state of Delaware. We have two other hospitals that we are working with to establish a relationship and we have another hospital that is in implementation and should be going live this summer. We're also working with small labs and radiology facilities to get them onboard as well.

So I already really talked about what we're doing from 2007 and 2008. I think the important feature here is what you heard from Mark and from Pat, some important common themes and that's around urgency, focus, trust and starting small and being incremental about your approach. So in terms of urgency we got the ARK contract and it gave us a deadline, we had to be live by March 30, 2007 and we were. And so that was the urgency that if we want to keep this funding and we want to meet our contractual requirements with ARK we're going to get this done. So we came live with five hospitals and LabCorp. In the following year, we built the foundation for the Master Patient Index and Record Locator Service which allowed us to do query and we started to build the relationships with the EMR vendors for those direct interfaces. We have negotiated 75 percent discounted rates on the EMR vendor interface so in other words where a physician practice might have had to pay or get someone else to pay for an interface to every hospital and every lab, that get all of that information from one interface to DIN and we've negotiated a rate for them for that of 75 percent discount off of a single interface. We also have Public Health Reporting from hospitals, emergency departments and labs for biosurveillance reporting.

And then going forward we went live in 2009 with that patient search function and brought the other data centers onboard and again started participating with the Nationwide Health Information Network. This year we're working on, again focusing with meeting, helping our providers meet meaningful use. So our data centers or hospitals have put an investment into DIN, you know they helped finance the system and as a result of that they should be getting benefit in terms of us helping them to get to where they need to be to get the incentive dollars from the federal government. So the kinds of things that we're looking at are moving transcribed reports, laboratory order entry from an EMR through DIN and into the source system so that they don't have to be able to build that capacity on their own; supporting the EMR connections; having a referral network in place so that physician practices and hospitals can move data electronically to support the movement of the patient from a primary care to a specialist to a hospital maybe to a long term care facility depending on the situation.

In terms of how we help providers meet their meaningful use, it's really about not having to make an added investment in technology, using the infrastructure that is already in place, the investments they have already made to support those activities. From the physician perspective it's giving them tools to help them incrementally meet meaningful use. Perhaps they're not ready to implement a full functional EMR but maybe we can give them some modular kinds of services that support them meeting the early meaningful use criteria.

And then the kinds of services that look at supporting non-priority providers such as mental health, home health, long term care, radiology facilities in order to get them to a point where they are interoperable even though they don't or can't participate in the federal incentive.

In terms of DIN's success, we have over 60 percent of the physician practices that are participating with DIN, you can see that it's a broad array of specialties which participate in it, very consistent with the population of providers in the state.

This just shows a little bit of a scale of when we went live with the Patient Search Function in June of last year, you know we had about 685,000 (inaudible) patients and you can see the users that participated and you can see how that has increased very significantly just in six months because of the value that the users get from being able to query the system. You can also see here in terms of usage so before when we were just distributing results log-ins were low, a lot of the practices had auto print so they never needed to log into the system but once we implemented the query function log-in has sort of gone through the roof because there's a real value to log into the system and to query for patient information. And by the way, we do monitor those queries so we know when it's appropriate or inappropriate use and there are processes in place to question and terminate use when we have any concern.

This was just a graph of the transaction volume. We move about 15 million transactions on average a month so that's information processed through the system which is pretty significant.

And in terms of governance we do have a multi-stakeholder approach to governance. And we talked about the public/private partnership. You heard from Mark about this is a trust project, it absolutely is and for us it's also a consensus project. That largest hospital has no more authority or no more say in how, what functionality gets implemented and how the HIE is operated then the very smallest of organizations so it's very much consensus based. And we do, again, have representation from all of the stakeholder groups on all of our committees and I won't get into kind of what all these committees do. But you can see there's a lot of diversity in terms of looking at the kinds of users or benefactors of the HIE and making sure that they are all part of the decision making process and providing advisory capacity to the decision makers.

In terms of I think the keys to success, it's very important for Health Information Exchanges to engage the leadership at the organizations that participate. When you have the IT folks at a hospital participating and committing to it that's great, but if the CEO and the CFO and CIO aren't fully engaged in the value that the HIE brings it's not going to necessarily be a priority and those folks can get easily pulled off on other projects. So there really has to be an organizational commitment to the Health Information Exchange and then dedicated resources to ensure that project management at each of the contributing organizations is strong, that there are testing resources allocated to make sure that data integrity is absolutely the number one priority. And then for our approach we have our funding as (inaudible) federal, state and private so the financial commitment of the private sector is very, very important.

Again, moving forward with sustainability, for us it has really been kind of building that strong foundation, starting incrementally, understanding the needs of those involved in Health Information Exchange and building the functions that provide value to them so (1) they will participate, (2) they will financially support it, and (3) they will remained engaged because as we build the foundation we build it with an incremental approach and then add the fixtures that add value to the other so that there's an ongoing dynamic approach to looking at the environment, what's happening at the federal level, what's happening at the community level, what the needs are of the organization and being nimble and flexible in addressing those needs.

This just shows you a little bit more about the funding which I really have already talked about. I think the important part here is that for our state dollars we have leveraged other sources of funding. So for every dollar in state funding we've leveraged almost \$4 in other funding sources which is pretty significant and again shows that there's a very diverse approach to financing.

And with that I will turn it back over to Erin.

FEMALE PARTICIPANT: Who I think is going to turn over to Collin.

COLLIN: Yes, thank you and in a few moments you will see a survey come up on your screen. Please take a few moments and complete that, we really appreciate getting your feedback and we're also going to move now into the Q&A. Remember just click on the Q&A tab there at the top and you can type your question in and I'm going to turn it back to Erin.

ERIN GRACE: Great, thank you. And we have just a few questions right now so I hope as we start moving on with those questions that will jot some more ideas down, otherwise I always have a bunch of questions to ask which I'll be happy to do. Our first question came in, I think this came in during Pat's presentation but I think that actually any of the three of you can answer this and may have a different spin. But the question was, have you considered a focus on transitions of care between nursing home residents and the ER or the hospital and if not where is this on the priority list?

FEMALE PARTICIPANT: I can speak for Delaware, we do have a continuity of care work group which essentially is transitions of care and we are looking at how the HIE can support those activities. So the first step was getting the long term care, home health and ED folks using the system and then bringing them and giving them several months to get use to it and to understand it and to think about in terms of their own workflow. So this summer we're going to be pulling them all back together to talk about, okay now that you've used the HIE, how do you think it can support those activities better and there are a lot of nuisances, I'm sure you know, in terms of what information needs to move back and forth for Medicare payments and various aspects of the care process. So we really need to take all of that into consideration as well.

ERIN GRACE: Pat, I know your study was focused obviously on the primary care setting but are you doing or planning any work looking at transition from care specifically related to nursing home residents?

DR. PATRICIA FONTAINE: You know we definitely asked all of our – in all of the practices we asked them what kind of connections they had with their nursing homes. And in some of the smaller towns as you can imagine the long term care facilities may be part of the hospital or right next door to the hospital and the clinic may be right there on campus as well. So you would think that the transition in those three arenas would be some of the long hanging fruit to try to accomplish and yet they could be geographically right next door and have two different records because the clinic bought one and the hospital bought another. One of the big problems was who could afford what, and also there is a proprietary product as I said that is very common here that won't go out to small practices. So when I hear, Gina's talks about how they are actually helping with the programming of the multiple interfaces from one setting to the next and are actually bringing state, federal and private money together to make that possible, I think that's exactly what needs to be done to make it even possible to study those transitions in care.

And certainly I agree with whoever asked that question you're onto really a hot button topic because medication reconciliation between the hospital, the ambulatory practice and the nursing home is a big area that is time consuming, complicated and an area for where patient safety is important.

ERIN GRACE: Thanks. Mark, how about the work that, I know you guys are in the early stages of this, but I think you have definitely considered nursing homes, how is that working Memphis or in some of the other exchanges you have been involved in?

DR. MARK FRISSE: Well, I'll speak about how we would do it in Memphis, we haven't. We've stayed, again, very focused, I need to emphasize that the goal the last five years was to address certain specific problems and not them all. Nursing homes obviously were high on the radar screen. In terms of the way it would work in Memphis in the current architecture, we would have data sharing agreements with the nursing homes and have (inaudible) authentication pass the web browsers in the nursing homes very quickly, we could put basically a resident census on there that could serve as an authentication for making sure they only selected records of nursing home residents, we would have auto logs and all that stuff. Getting information from the hospital and nursing homes is pretty easy.

In our architecture right now, we don't explicitly the discharge medication list. We would separate the medication reconciliation problem, which is a national problem that kind of stands on its own both in terms of nursing home medication dispensing systems, specialty distributions and other resources to link that up. And you know when we talk medication reconciliation we always forget herbals and over-the-counters and non-prescription drugs. We think that's a whole separate kind of issue and may have a different kind of solution. So even though it's very important, sadly it's a fine example where the financial incentives almost argue towards admission in many places and not watching their, but it's definitely, again, it's a great question and I think the good news is a lot of the high tech provisions are going to make it a lot easier for our communities to connect to another and transmit some of the basic information sooner than

later.

ERIN GRACE: Thank you all of you. Gina there was a specific sort of technical question for you asking if you could explain a bit more about how the provider accesses the Health Information Exchange or I guess maybe the data from the Health Information Exchange and get that information securely.

GINA PEREZ: It is web-based, it is secured web-based. So each user has a unique log-in and password and there are some protocols around the password, protection and changes and all of that good stuff. So they log into the Exchange, they access their in-box and from the in-box they can query. Now if they query a patient that is their patient that they're going to see their data so I liken it to the paper chart if you think about a person working in a doctor's office, opens up the paper chart and can see what's in the chart. So that first level of query is for what is that practices' information.

The next level of query requires a break glass component so if the user wants to see what other provider information is available in the Exchange, they would establish a relationship with the patient beyond their information, with the information that they have received on the patient. They have to give a reason why they're looking and they have to give a perimeter for the time frame that they're looking for. That gets audited, monitored, reported on, on a regular basis.

So that is primarily how the portal is used. For providers who have an EMR that is connected with DIN, the data goes directly from the Exchange in real time to the EMR and is deployed into the patient chart. It sends an alert to the provider to let them know that they have new information on their patient.

ERIN GRACE: Thanks Gina. Now we'll jump from the very specific to the very broad and I think, you know any of the three of you can address this. How do you think the current ONC initiative might have changed your work or is there something that you might have done differently? I think assuming that the ONC initiative you had been starting your work after the ONC initiatives were up and running.

DR. MARK FRISSE: This is Mark, I can start with that maybe first. I just have to give ONC credit for doing an incredible job in my view managing high tech because again a lot of this is Congressional actions that are setting rather ambitious goal. And what I have seen come from ONC in response to the high tech legislation are a bunch of issues that are going to make it simpler particularly for the nursing home problem, the small medical practitioner, and a number of other things to make it easier and lower that interface cost and all those other things until it's just something expected. It's like in the old days with the PC, you bought a personal computer then you paid extra for an Internet card, it's now inconceivable that an Internet card wouldn't be bundled at a very low cost into a PC. We're going to see that same issue evolve with I think interoperability.

Second, there has been a lot of work over the last four or five years for standards. Those are coming to fruition and in particular there has been some movement in terms of what Dr. Blumthal and others have called data liquidity to make sure that pharmacy data and laboratory data and other things are going well. I think the allergies are still a problem but there is starting to be more work on that, which is comforting. I think the (inaudible) architecture are nice pieces. So I think that's all the good news.

For people again who – I think when you compare that with Section 3013 in the state grants, there's some real ... there's a tendency for some to think that this is an either/or situation that somehow all of these byway connectivity things jeopardize a specific organization like a Memphis or a Delaware. I actually think they make their job easier and allow them to focus on where the real value is to their community.

So I just think, as I say, if the ice cream truck is coming your way you don't have to run to the ice cream truck. And a lot of the good things that we always wanted to do are going to be made a lot easier because of ONC.

ERIN GRACE: Thanks. Pat or Gina anything you want to add to that?

GINA PEREZ: I would just say that we had a very long defined road map and everything that ONC has in the State and Regional Demonstration Project Requirements was on our road map so that was very encouraging. The timing of

it, however, is what we changed. So we moved some things up that we had further out and put some things off as a result of that so and by the way we were pretty clear in our, in responding to that our stakeholders needed to be brought into that so they were part of the decision making process of yeah we're willing to put this off and move this up because it's part of the greater good.

ERIN GRACE: Great. Moving back into some of the specifics of Health Information Exchange, we have a question here, has anyone addressed the issue of preventing data errors? And the example that was given here incorrect test results and how do you correct the errors? Or I guess maybe a different way to say it is data integrity, maybe what kind of systems do you have in place to ensure the highest data integrity? That you're not attaching the right test results to the wrong patient as an example.

DR. MARK FRISSE: This is Mark, I can answer it. First in terms of the matching algorithms, we did a lot of work generating kind of the equivalent of a receiver operating curve and sat this thing down so that we would miss some true matches but at the expense of not having as many, not as much risk of a false match. Secondly for our browser you can always see the complete demographic file for any data item. So every institution, if you're saying hmm, that looks like the wrong person, you can go down and see what was her name and address and check that. That has never really been used there has never been a problem with it because of the way we set it. We spent a lot of time on key way for the (inaudible) obviously and the finally thing is everything in our system has a property called non-reputation, you can roll back the system through the audit log and see what the results were then and if there's a change to it it's updated and it's a temporary result it's an update in real time like any other HER.

DR. PATRICIA FONTAINE: Hi, this is Pat, I can just give a little bit from the qualitative side, again from the physicians standpoint. We hear a lot about patient safety and how it can be improved by medical records and I do believe it can. Some of the antidotes that we heard were that, you know for every problem they take care of for you, for instance your drug dose now with a click of a button you can choose the medication and have it sent electronically to the pharmacy. But there is another type of error that can creep in which is, you know the cursor slip so you accidentally send the next med on the alphabetized list for the patient instead of the one that you needed. And so for the built in flags that are there to guide clinical practice and make it safer. Please don't prescribe this drug because it will interact with something that is already on the medication list. That's only as good as having the medication list updated and in addition when there are systems where the flags are coming fast and furious and you've got a busy practitioner, we heard stories of many of them just kind of turning off the flags or ignoring them because they just didn't really give them critical information that was going to impact their practices.

ERIN GRACE: Gina, anything you wanted to add about preventing data errors?

GINA PEREZ: Well we have kind of multiple layers. I think the first and foremost is going back to the model of the post office is that the source system sends us the result. Now suppose they go back and identify that there has been an issue with it, when they send an update it updates the DIN system as well. Again, there is all the auditing that goes along with that. There is a mechanism for information to be moved from one patient to another or change in the HIE by the source organizations. So suppose one of the hospital sends information, it attaches to the wrong patient, there's an application that they can go in and move it from one patient to the other, so those mechanism are in place. Thirdly, we have what we call the HEMS Committee and their job is to manage, review, evaluate the integrity that goes from the master patient index down to very specific clinical data and there are all kind of processes involved with auditing the system for that and then addressing, you know there's a date of birth off from this organization or this organization will figure out which is the right date of birth and then that source system will go in and correct it. So there are a lot of activities and mechanisms that used to address that. But it's the number one priority for us.

ERIN GRACE: Thank.

DR. PATRICIA FONTAINE: And Erin, this is Pat. If I could just add on top of that. I think it's going to be very interesting as we actually study these systems and watch the (inaudible) and see if we can reduce medical errors because I'll really be interested to see some of the data that Mark is going to be coming out with. I think that the overall benefit will outweigh the kinds of anecdotal stories that I'm relating and I just don't want to leave that hanging out there. But I think it's going to take those studies and getting that data out there and it will be really interesting to

watch as it comes out in the next couple of years.

ERIN GRACE: Thanks for that comment Pat.

DR. MARK FRISSE: Pat, also just so you know, we in five years a lot of use we still won't be able to demonstrate any impact on medical errors, the numbers are simply too small and the analysis is too hard but we can just address the cause. I wish that were the case, but I think it's a further, I think that's further down the road and it's going to be more drilling down from an institution using an Exchange rather than an Exchange per say, my two cents.

DR. PATRICIA FONTAINE: Thank you.

ERIN GRACE: Alright another sort of operational question that seems to be at the top of everybody's minds. Is there a patient opted in or out process? How do you handle patient consent?

GINA PEREZ: Are consent model is opted out. The patient has the option to be basically all in or all out and if they opted out then their information is not available for query even by their provider.

ERIN GRACE: Thanks. Mark.

DR. MARK FRISSE: This was a nine month process working with about 50 or 60 people in the grassroots. Again Vicky (inaudible), a lot of people were there, but it was really the leadership in Memphis that did it. It's an opted out model, the opted out rate is just slightly over one percent it's a little bit different in urban and suburban hospitals. There are specific policies that are cross the Exchange but the actual notification and how that is done changes from institution to institution. You will find if you're dealing particularly with National Healthcare Organizations that there are certain limitations about how you can and cannot do that. So everybody has to be notified, everybody has to have certain abilities to do things and then but how it's actually done is at the institution level. Also, when you opted out, you opted out for the institution you don't opt out global across the Exchange the way we built it, good and bad. And the other thing that worries me a great deal is that people somehow think that if they opted out of the Exchange their information is not shared anywhere and, of course, through health plans and everything else it's part of their fiduciary responsibility. I always worry that people that opted out have the false sense of illusion when actually their data is all over the place, who knows where it goes.

GINA PEREZ: I agree and that's actually part of the education process that we go through when a patient would attempt to opt out. There are several steps they have to take and part of it is education of what does it mean to opt out.

ERIN GRACE: Those are all good points and just from my perspective there aren't too many Health Information Exchanges that are out there that I know of that are doing opted in. Rhode Island has chosen that method and can provide you with a lot of learnings in terms of what that means from a technology perspective, but also their rationale for why they did it that way which included having a lot of community involvement in making that decision.

The next question I'll try to ... I'll read it and then I'll try to maybe translate it, is that it appears that historically the interoperability issues have been paramount to Health Information Exchange and the interest/participation by providers to get involved. Other than somebody do it how is this issue going to be solved? And so I think maybe the person who asked this question is getting at the fact, you know and Pat you talked about this in the communities that you looked at were, you know everybody had a different electronic health record and so then you have to, you know do have develop a separate interface for every single one of those to even participate in the Health Information Exchange and then if the providers bear that cost, you know that was certainly a barrier to being involved. So I don't know if any of the three of you have thoughts on how, what you know about how this issue is being solved currently or ideas on what might be the best way to go about solving that issue. Or is solvable?

DR. MARK FRISSE: I'm having trouble still getting my head around these (inaudible) issue.

GINA PEREZ: I am too.

DR. MARK FRISSE: Can you take another stab at the question?

ERIN GRACE: Yeah, I'll try that and Randall if you're still on, at your computer and want to type in some clarifying remarks. I guess that interoperability is still a key part of Health Information Exchange and interoperability at large we don't have a nice easy solution because even Electronic Health Records that are out there and placed into the interoperability you still have to build interfaces and maybe that's just a part of Health Information Exchange. Or is there an easy way to begin to ... or is there work going on that's going to make interoperability a much smoother in the real process, I guess?

DR. MARK FRISSE: Okay. A couple of principles, first, make it incremental, don't try to be all operational, interoperable to everything. Look for example at the Regan Street Institute which has got one of the best Exchanges around, a lot of it is delivered by fax. I mean, you know interoperability is a technical goal it should be secondary to getting information to where you need it. Also, understand that some of these things are going to come in automatically like I said, like Shore Scripts or Medication History Services and e-prescribing and so I think the people who are going around and charging everybody \$25,000 to do the same interface over and over again for every customer, that's going to be a dinosaur strategy over time. I just think that if ... one should just be patient and not panic and try to make all things interoperable to everything else. I think to go out right now and try to do a lot of kinds of interfaces to automatically incorporate all of your data into your system a 100 percent of the time because the clinician rightfully don't want to look at two interfaces, well, you know you can do that or you can just say that usually clinicians don't need all that information and some of its there and kind of wait and kind of find a secondary approach. For example, you can incorporate information, match it to the right patient and just take all the PDFs and keep it like an external correspondence like a PDF document, there are some intermediate strategies you can employ. But I think this is a find example of trying to get lost in the weeds of a Version 6.0 before you got the basics right. And I would just urge patience with this.

GINA PEREZ: I totally agree and our approach has been meet them where they are. So if they are a totally paper based practice, put them on auto print, they don't ever have to log into their computer it's going to print and they're going to get everything they need and it's going to be streamlined and they're going to be happy. And then work with them to move to the next phase and the next phase. But you have got to keep it simple and you've got to meet them where they are.

DR. PATRICIA FONTAINE: And I'm just going to echo what both of you had said. I think the quote was from a clinician who was like the, actually the IT champion at his group and he was just frustrated with the proprietary products and the kind of attitude that Mark alluded to which is that they will make Product A different from Product B just by a little bit because they do that that way they sell their product. Sell a new product and it works for the vendor but it doesn't really work for anybody else and so that's why I say that full interoperability isn't really the best model for small practices now. That frustrated person I think they just wanted a federal authority to take the vendors and regulate them or something and yet that may not be the model that works the best in this country. So another model that works well is what Chick has done with the immunization registry and it has to do with those alternative ways of getting information to people that Mark and Gina have mentioned. It just started out as a web-based where each practice could log in and put immunization information into it and get information back out from just through the web. And now it has gone incrementally with the incremental improvements to developing interoperable interfaces so that they can talk directly to one another. For the average practitioner do they, does it really register to them that they're using web-based interface versus a different interoperable direct interface, probably not.

ERIN GRACE: Thank you. I think we have time for one more question. I take actually a stab at this question and the rest of you who may or may not know about this initiative can correct me or jump in. But the question was does anybody know about the initiative in Western Colorado in the HIE called QHN? And is this the same effort that each of the presenters is involved with in their state?

Quality Health Network, you're correct is in Western Colorado and the focus of that as I understand it, the focus of that Health Information Exchange is on the western slope in Colorado and is an example of what is going on and many states have multiple Health Information Exchanges that have popped up at the community or several community levels and that actually is an independent organization that started a number of years ago and was not part of the State and Regional Demonstration Contract that were provided by ARK. So in terms of from a very literal sense is that the same effort that each of the presenters have been involved in in their state. It's similar in that it's a Health Information

Exchange but it was part of the State and Regional Demonstration Project through ARK.

I don't know if Mark or Gina, either of you know any more that you think would be important to talk about QHN.

GINA PEREZ: I really wouldn't want to speak for them.

ERIN GRACE: Yeah.

DR. MARK FRISSE: I just think the idea of pulling people in is something I think needs to be done very early.

ERIN GRACE: Okay. Well, my computer says 4:30 on the nose so I would like to thank everybody for your participation today. Hopefully you had an opportunity to fill out the survey that should have been on your screen. The feedback that we get from that is very important. I would like to thank all of our panel members, Dr. (inaudible), Dr. Fontaine and Ms. Perez and that you've got their names and information on the last slide on the screen and I would encourage you to look out for future events including our next event which is Webinar Examining Health Information Technology and Quality. I don't think a date has been set yet for that but ARK will be sending out some information on how to register for that in the near future.

So Collin, I'm not sure, Will, if there is anything else that we need to say before we sign off?

COLLIN: I don't believe so. Again here's that slide on what is coming up next and just we want to thank everybody for attending this AHRQ event. We also thank you for your feedback and we want to thank all of our presenters and our moderator Erin for being here today. This does conclude today's event, you can close down the window, thanks and have a nice day.

END TRANSCRIPT