

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

Good afternoon. My name is Brian Dixon. I'm with the AHRQ National Resource Center for Health Information and Technology. I want to welcome you to today's event. In a moment I will turn things over to Jon White, of the Agency for Healthcare Research and Quality, who will introduce our panel and get us started. There will be plenty of time for Q&A.

Well, thank you very much, Brian. I greatly appreciate your introduction. I would like to welcome everybody to today's call. Looking across the list I see people from across the country, and some folks in the office right next to me. So I really appreciate everybody taking the time to listen to what we at the Agency think is a fairly important topic. As briefly of an introduction, my name is Jon White. I am the Director of the Health IT Portfolio at the agency. What we're going to talk about today is the role of health information exchanges in helping measure performance on a particular set of measures, in this case the AQA starter set of measures which are aimed at ambulatory physician performance measurement.

The quality of health care in our country has been a topic of great and ever-increasing interest over the last several years. Many issues have already been described in the literature. Not going to go deeply into them, but one of the ways to address the issues in quality and healthcare in our country has been to try to measure the quality of the care that's provided in a particular--the performance of those who are providing it.

There are many different efforts underway to attempt to measure those. The AQA is one of those. The AQA has been in existence for the last two and a half years, and has made a fair amount of progress. It's been impressive to watch. I've been going to the meetings since the beginning, to see the consensus that has been built and the advancement that's been made in agreeing on a set of measures that define the quality of care that's provided has been gratifying to watch. So once that consensus is achieved, then we come to the more difficult task of, well, how do we measure that? And measuring that requires data, and data can come from a lot of different places. I'm sure many of you on the phone are painfully familiar with chart reviews, that large stack of charts waiting for you to go through.

Another way of getting that information has been through claims data, billing codes. And then another way of getting the information that we're hopeful is through electronic health records, electronic health information. Now while that works very well for individual providers or individual offices, often those who are measuring quality and performance need to measure it across settings and across individual institutions, which requires pulling data together from a lot of places. And many across the country, and we here at the agency, believe that health information exchange is going to play an important role in that.

So I'm very pleased to turn you over to two extraordinarily capable individuals who are really on the vanguard of efforts to measure quality using health information exchange. I'm familiar with both of them. They are both wonderful individuals, and I'm going to first hand you to Tom Fritz. Mr. Fritz is the Chief Executive Officer of Inland Northwest Health Services. I had the pleasure of going out and speaking in Spokane at one of their meetings last year, and Tom is going to describe their efforts to you, so I am not going to try to do so. He will do a much better job. Tom?

Thank you, Jon. Let me start first by just giving a little brief synopsis here of the AQA starter set so everybody's kind of operating on the same set of circumstances here. Just to reiterate a little bit, the Ambulatory Care Quality Alliance, and the American Academy of Family Physicians and the American College of Physicians, as well as the America's Health Insurance Plans and AHRQ, hold together kind of a large body of stakeholders, of represented clinicians, consumers, purchasers, health plans, and others, and have created a document that actually provides kind of that first phase in terms of providing performance measures to be used, which is why they're referring to it as a starter set, for developing measures for ambulatory care. This is probably one of the most complex areas for us to collect data and utilizing the approaches that they kind of looked at, the workgroup did consider selective measure that were based upon what seemed to be good ability to meet the certain criteria that really addressed clinical

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

importance and scientific validity, feasibility issues, relevance to physician performance, consumer relevance, and purchaser relevance.

And while the workgroup believes that this sound set of measures that meets primary goals, such as addressing the Institute of Medicine's priority areas, they continue to recognize that this is an initial step in a multi-year process and additional work needs to be done to build a more complete and comprehensive set of measures which includes additional efficiency measures, subspecialty measures, cross-cutting measures and patient experience measures as well as others. So this is really the first step of a very complex issue.

The AQA starter set does address--and I won't get into all the details, but just so you're aware what some of these measures are, there are a number of prevention measures that address everything from breast cancer screening to colorectal cancer screening, influenza, pneumonia. There's coronary artery disease issues that look at cholesterol issues, beta blockers, heart failure issues that look at ace inhibitors, diabetic issues that address hemoglobin A1C issues, blood pressure management, lipid control, asthma, in terms of addressing pharmacologic therapy, depression, which addresses anti-depressant issues in terms of medication management, prenatal care, addressing HIV and anti-D immune globulin, and quality measures addressing overuse or misuse of services.

Now these are all consistent with the national vision for health care that we should put in perspective, which is how do we reduce medical errors, create less variation in care, create consumer-centric care, and create a system that medical information moves with consumers, especially recognizing that care is delivered electronically as well as in person with new capability using the Web, and that medical records are protected from unauthorized access and usage, so that clinicians ultimately can be spending more quality time on patient care issues.

The national framework also addressed the four major goals that I believe you're all aware of--informing clinical practice, interconnecting clinicians, personalized care, and improving population health. I believe that Micky and I have kind of been addressing some of this in two different kinds of spheres, and I'll be focusing a lot of my discussion more on how we've built our system using kind of hospitals as the infrastructure for how we do that. Now certain things that we've also learned, especially with the issues down after Katrina in Louisiana on consumer surveys that recently have been released, reflect kind of interestingly what the national perspective is that consumers do expect and believe, that their primary care practitioners, all practitioners and providers, are appropriately sharing clinical information now to take care of them. And they also believe that practitioners keep all clinical records in a computer-based system.

We all know that the average adoption rate in most communities is somewhere between 15 percent to 25 to 30 percent, and so we know that that's not accurate. Consumers also continue to have a high level of trust with doctors and hospitals, managing their clinical data. So the role of health information exchanges, in terms of what we've done in preparation of implementing the AQA starter set, is kind of a key issue in terms of building a building block, in terms of sharing information across, from primary care to more specialized care and hospital-based care.

Clearly, the clinical performance measures for ambulatory care is a significant undertaking, and while we've looked a lot in hospitals, it's a small portion of one's historical life of care, and the ambulatory care is really the most comprehensive and data-rich system. Clearly, we believe that our health information technology is really the enabling tool that's going to be able to help us in terms of sorting out the complex data issues, in terms of really being able to perform the kinds of clinical measurement systems that we all would like to see, that accurately reflect quality patient care and quality clinical outcomes. And clearly the development of health information exchanges, as we've known throughout the United States and all the projects that are being done, have all created significant foundations and building blocks for clinical performance measures as they've kind of developed their life cycle so far.

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

The national strategic framework in terms of where we're moving--and it's my belief that the physician office adoption is probably the Achilles heel of our ambulatory care system in collecting accurate, comparable, and comprehensive data. This is a very, very complex issue in terms of collecting data and clearly if we were continuing to do it on a paper system, it would probably never be accurate. And as we've moved forward on IT adoption and being able to standardize and develop standardized datasets and tools, we're much better able to actually collect data from across different geographic regions and be able to compare apples to apples. Due to our particular community-wide efforts as an example, we've been able to raise physician office electronic medical record adoption in our community 40 percent. We've had a joint effort with our local medical societies to do this, but it still is a very, very difficult issue in terms of physician adoptions.

Clearly a number of the issues that keep surfacing are the cost and return on investments for physicians to invest in EMRs and the fact that the physicians do not feel that they have accurate data in terms of understanding the implications for them, as well as the complexities of just implementing an EMR, in terms of including all the office reengineering. We've been working, because of our efforts, on a number of issues that have statewide critical access hospitals involvement and AHRQ on developing appropriate performance measures unique to critical access hospitals, and we've also been participating on some issues related to looking at physicians' ROI.

But just to share with you a few things that we're doing, we learned right away in terms of we have a number of hospitals in our network that are critical access hospitals that, by having them pull the same datasets that acute hospitals were, that really wasn't making sense. So we've been able to identify key performance indicators, that I'll just share a few of them with you here. Acute myocardial infarction is one that we're looking at, in terms of everything from Aspirin on arrival to beta blockers, EKGs, collection of cardiac enzymes, thrombolytic agents received within a certain period of time, and when appropriately they're transferred to a higher level of care facility. Also, community-acquired pneumonia, which seems to be very appropriate for critical access hospitals in terms of receiving antibiotics within a four-hour period of time, antibiotic timing, antibiotic selection non-ICU community-acquired pneumonia, oxygenated assessments, flu vaccinations, pneumococcal vaccinations, and smoking cessation advice and counseling.

As well as heart failure, in terms of looking at discharge instructions from a critical access hospital, elevation of left ventricular systolic function, angiogenesis converting enzyme inhibitors, ACE inhibitors, and then again addressing smoking cessation.

And just from our experience working with the critical access hospitals with AHRQ, just the data collection methodology is again very, very complex. We have to use as an example UB92 billing data, in terms of looking at patient-level demographic data. We also have to develop certain abstraction data modules so we can actually capture data from the point of care from these hospitals, and under patient-level data required for the performance measurement system.

We ourselves are an approved joint commission of performance measurement system, so we've been able to meet all the validity reliability requirements, and then for those systems that are just submitting to us, we can also collect the data via a secured Web site to be able to do that to compare the data once it's standardized.

In terms of physicians, in terms of ROI, just to give you one example of one, this is the Physicians Clinic of Spokane. It's 18 physicians. They implemented their EMR with us about the same time we did ours together, and one of the issues that clearly was helpful for them was reducing transcription services cost, which is kind of a big area for all physicians' offices when they implement an EMR. In this particular case they reduced their transcription services by 80 percent within two years, and so they were able to recover

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

the cost of the EMR implementation within about an 18 month period of time, and they also were able to reduce their number of FTEs by four, and are now significant believers in terms of EMR adoption.

Just to give you a brief update about who we are, so you understand the context of some of my discussions, we're a not-for-profit corporation owned by competing hospitals in our region, and we were kind of started in a way to create back office kind of support, and take over losing product lines that all the hospitals were losing over the years. And so we took over a number of different service lines and nine years ago we decided to share our information technology platforms, and I'll share with you an example here of why we did that. But today now we have, just so you're aware, 38 hospitals on our network where we support over 50 clinics in our particular community, about 6,500 physicians, and then wirelessly is kind of the--we become kind of wireless experts, so we have about 1,000 doctors in our community that get all their data real-time on wireless devices.

We also integrate with our Air Force base, which is called Fairchild Air Force Base, and the Spokane Veterans Hospital. We overlaid all that with a major IT service of telemedicine, so we're able to actually transform certain information from small rural hospitals to our tertiary care facilities and do such things as tele-ER, tele-pharmacy and other kinds of complex procedures that we can help them with.

This map just kind of shows you a little bit of our geography so you can kind of see the geographic coverage. We do have customers now in Alaska, and we're implementing four hospitals in Southern California right now, and so we cover kind of a four-state area right now, and continue to grow that. This graph kind of reflects why we kind of got into the IT investment, and why the doctors weren't using our system, which I think is relevant for these discussions on the ambulatory side. But the graph shows when we individually as hospitals are running our own IT, the physician usage on our network, looking for clinical information, was almost zero.

In fact, the only reason that doctors were even entering into our system was to look for billing information, and so it really had no clinical value. And it wasn't until we met with all the doctors and they really started educating us on what was needed for them to help them look at clinical outcomes, help them take better care of patients, that is when we start seeing that then we have a major increase in the middle of the graph that just shoots up, and each month the graph just gets larger and larger in terms of physician usage of the system, which is really what we want. But I think it's relevant in terms of the ambulatory side.

On the strategic focus areas that we focused on was to try to create a community-wide electronic medical record, and that was really our goal all along, and to also create structured and formatted data. And that was probably one of the major things that we did that has helped us to understand the complexities of datasets and be able to do things in a way where we can actually measure things appropriately across our system.

We also were able to use a single-client identifier in a way that wasn't done that way before, but now we have a scaleable system so you can track my record really anywhere that I go. One major area was to significantly increase physician system adoption and usage, address patient safety and public health issues, and really to address our operational efficiency, and for us that meant things like closing down data centers and only doing one through standardizing our datasets and using structured, formatted data, we were able to reduce a lot of our cost, because it reduced cost for interfaces and a number of things that we were spending an awful lot of money on. And then focus on computerized physician order entry, evidence-based medicine, and ultimately to have all the decision support systems readily available for our doctors anywhere that they're at.

Now our critical success, and our model's quite different from some of the others, is that ours is based on hospitals as the anchor tenets really can be the core infrastructure for a creating health information exchange, and that's really what we've tried to demonstrate in the nine years that we've been doing this.

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

And so what we've tried to do is leverage the assets that our collective hospitals were using, and be able to standardize those assets, tie them into the physician community, as well as reference labs, imaging centers, blood banks, so that again it was all tied into my particular single client identifier that when I needed it and showed up in an ER or my physician's office, it all would be there.

So we've tried to really create somewhat of a self-sustaining model for us that seems to work for us, and it's helped us become kind of a trusted third party in terms of protecting the clinical data, ensuring that it's only used when a patient or a physician needs it, and that we've kind of evolved into this regional accountability system that the entire health care community in our particular region has become fully dependent upon.

Now the results of community leadership we believe that clearly because of our work early on, directly with physicians and our physician leaders, was critical for us in getting physician buy-in, and really in creating the dependence upon real-time data availability of clinical results, and because of that, it's really assisted us in terms of increasing our adoption rate to that 40 percent level today. And it's our goal, collectively with the physicians, to double that in the next few years. The other issue that we really didn't realize we were doing it at the time, but it's now really strengthened our community protection role for our hospital admission in terms of serving the community and being that safety net, in terms of really assisting and providing comprehensive disease surveillance, which I'll share in a few minutes.

It's also for us created real-time data management capability that's created operational efficiencies through the usage of real-time dashboards that have assisted all of us in terms of really being more efficient, in terms of both managing our resources in the hospital, as well as working with our physicians, and then really creating an efficient, self-sustained business model.

This is an example of what we've created, and actually this we created with HRSA, and it was after 9/11 where we were able to take our datasets, standardize them, and be able to share across the state all the status of all of our ICUs, our ERs, our ORs, our medical air ambulance. We tied into the health district our central command center, so that if there really is another event, or even if there is something that happens that's a major catastrophe, all of our facilities tied in with all the doctors in the community and the statewide department of health knows exactly what's going on in our system. So we've been able to tie things together in a way that's created a stronger unified system of care.

Another example that we've been able to do, and this really has to do with the surveillance, but again after 9/11, we were then able to deploy the CDC's program called EARS, which is Early Aberration Reporting System, which is pre-syndromal reporting that we now sweep our system every so many minutes, and then we're able to sweep key ERs and key physicians' offices, and we're able to then algorithmically report those to the epidemiologists at the state and regional level that can help work with us, and then they communicate back with us and our ER docs if there's something going on in the community that we can be hopefully a step ahead in terms of looking at something that might have some type of catastrophic response. So we've been able to really again demonstrate--by standardization we're able to kind of share data in a way that we were never able to do before.

This is an example of how we're using real-time dashboards today in hospitals, where we've been able to--and as I mentioned earlier, we've kind of reengineered all of our systems, and what we've done now is wherever we reengineer, we automate the key performance indicators that we want to collect at the time that we reengineer, and what we want to be able to do is capture data electronically at the point of care, rather than pulling things through chart reviews or abstractions, that we actually have real-time capabilities.

So this is an example from our largest system that we support, and clearly we have real-time dashboards that--and this originally started looking at our ER, because our ER waits--and as across the United States,

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

some of the ERs have really been getting backed up, and ours are no different. Our average length was about three and a half hours.

And so what we did was reengineered the ER and brought the wait time to below 30 minutes. And what we were able to do is reengineer all the process and work flow issues and automate it, that we now have real-time capture of what goes on from the time that a patient actually arrives into any of our ERs. So we can tell you down to the second how long it took for a nurse to see the patient or a doctor to see the patient, if it needed a specialist, was the specialist available, if the patient needed to go to an OR, was the OR room available, were we able to get the images on time, was the stat labs done and how long did it take the stat lab results to come back? We know our staffing components, and so we've been able to deploy a full array of real-time clinical data and financial management data all in the same kind of package. So we can track things in a way, again, that we've never had that kind of capability to do in terms of working with all the physicians that are then handling a complex case that comes into an emergency room.

So another example is just how we've redone med error rate reduction. This is an example where we implemented barcode scanning, and were able to then see immediately significant reductions in terms of med error rates for patients in the hospitals. This is clearly an important issue, and is one of those that's obviously an important issue in the Institute of Medicine report. These rates near the top--on my graph I can't see them, but they were around 6.2 for 100,000 dosages. And so they're now down below a one per 100,000 dosages, and the kind of errors that we get now are not wrong medications, they're timing errors generally now. So if the doctor wanted the order to be there at eight, 12, four, and eight, if the medicine got there at 12:03, we know now that it got there at 12:03 and that's considered a med error. But again, the kind of issues that we're looking at are no longer the wrong medication being given to the wrong patient or the wrong dosage, and so it really has protected us in terms of the five rights for medication administration.

The other thing that happened out of this ER issue, just to share with you, we were diverting a lot of patients--that was our other major concern--into this major trauma facility. So what we were able to do by reengineering and using these dashboards in this particular manner, we added no additional staff, and actually we actually reduced cost in it, and we actually last year admitted 1,000 additional patients to that same ER with the same staff, using a reengineered process with real-time dashboards. That has a number of implications because it means there's more revenue to the hospital, the physicians weren't diverting their patients to another facility, it didn't mean an ambulance had to drive somewhere else or an air ambulance had to fly somewhere else. So we really were able to manage the regional health resources in a much different manner by being more efficient and using real-time data analysis.

This is an example of how we're using similar data with our State Department of Labor and Industries. In some of your states it would be called worker's compensation. What we've done in this particular context is taken clinical algorithms that address what 90 percent of the claims are based upon, such things as carpal tunnel syndrome, low back pain, hip/knee joint fractures, replacements, and we've kind of mandated that the physicians, and in our particular state, all chiropractors, have a right to see an injured worker by state law. So we had to include all the chiropractors on the panel as well. And then what we do electronically is we're able to track compliance with the plan of care, and that's--we track the physician, the chiropractor, the patient, and what we've been able to do is demonstrate a much lower cost in terms of using an electronic tool this way.

The state, as an example, using a case management ratio of one case manager to 100 cases. Right now we're managing about 30,000 cases using two and a half FTEs, and what we've been able to do is color code this in a way with real-time dashboards so we know we only have to spend time on those particular cases that are non-compliant and so we don't have to defer a lot of our attention to those cases that are fully compliant. And then what we're able to do is if everybody does everything right, and what we do is we authorize a small enhancement of payment for the physician and chiropractor for complying with

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

standards of care. So this is a really good example of value-based purchasing, but also another really good example of using clinical indicators and key performance measures that are instrumental.

Now the key issues on this particular case are very important, in that we reduce the total cost per claim for the state substantially, but most importantly we reduce the total number of claims for people that file chronic disability claims, and that's really the key driver for people that raise the premiums for workers compensation plans all over the United States. The University of Washington just issued an independent study on this which was very, very favorable in terms of how this particular methodology being used with physicians directly, and hospitals, has demonstrated substantial savings in getting people back to work who were injured on the job.

We've also been able to address things in terms of creating what we call a virtual case manager, that we're now starting to use, that we are moving into. And this particular example is addressing pain management, but we want to move this into really more chronic care management so we can track all the key indicators that we know we need to track in order to really address the key issues in the protocol and be able to get the best clinical outcome with the most efficient form of care.

Now one that I'm very proud of that I think also shares with you kind of the complexity of what we're doing, but with the development of rapid response teams that we've created in our tertiary care trauma facilities, we also offered those out to all of our rural facilities. So using our telemedicine network we actually deploy a rapid response team even in our facilities that helps a small rural hospital, and in this particular example it really is a door-to-balloon type of example where we actually--and I actually manage a multi-state regional air ambulance as well for our hospitals, that we could see that, for a particular case that comes into a small rural hospital, if they do everything right there they still need to get the patient to a tertiary care facility to be able to get to the cath lab.

So what we're able to do here in this particular case, and our standard here is looking at no greater than a two hour period of time, from the time that a patient would actually enter a small rural hospital, say 100 miles away from us, by the time they'd get worked up and be picked up and flown back into our facilities, no more than 120 minutes. In this particular case we did it in 61 minutes. So as you can see, we're able to track rather efficiently all of the issues for the system in terms of how we do the vesting in terms of improving life safety issues for us, in terms of critical care management and transport.

So kind of what have we learned all this? I think clearly working with AHRQ and HRSA and the Joint Commission and CMS, our issue has been that the more we've been able to standardize and do things in a way to create datasets that we can share with one another has been a godsend really for us, in terms of doing much improved patient care, especially recognizing the complexities as to the multitude of tradeoffs that occur for a patient, going from their primary care doc to their specialist, to another specialist, to a hospital, back to the specialist, in terms of really being able to ensure that that consistency of care, over time from both outpatient and inpatient, really occurs.

We've been really able to maximize our savings due to standardizations that have really been a godsend for us, and create really value-added services to address these quality reporting mechanisms for the doctors, to make sure that all the assets are there when they need them to be there for a patient, and that they're able to do the right thing for a patient at any time, based upon appropriate quality issues.

And also, just to integrate our technology and to do that in a way that creates cost savings for everybody in terms of sharing assets and doing things as more of a community good issue, rather than a marketing issue for a particular hospital or system.

We've also learned that clinical data needs to be shared and made available electronically, to be the most useful. It really, especially for us being tertiary care facilities and trauma, if the data isn't there, it really hinders and hampers our ability to sort things out. If we show up at an on-scene and we can't tell if the

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

person's allergic to something or what their blood type is, those kinds of things cost us valuable life-saving minutes. And we also know from our experience that it's really saved us collectively millions of dollars from our community system by being able to share these assets and do things in a way that create the community-wide EMR.

I do think though that as you do this, in addition to having a strategic vision with leadership that we've also learned that we need to have a discipline to really kind of keep this morning forward, and it's real easy with many of the road blocks and barriers that you run into that you can be diverted, and it's very important to, as a group of leaders, to be able to move this forward, is that you have to have the discipline to make it happen and really kind of move things forward as a community.

We've also not been able to do it without broad community involvement, and we've really included everyone at the table to make sure that they were there with us. That's ultimately created just an extremely strong technical expertise for our community as a whole. We also learned that we couldn't do this without physician champions, and I think that's the same issue on the ambulatory care side. They're critical for sending out the issue of acceptance and adoption, and we definitely need to have physicians that are able to talk about how it's improving the quality of their care, for their particular patients, or making their life more manageable in terms of being more structured and organized.

As an example, when a doctor comes into any of our hospitals on their PDA, we help them do the rounds. They already know where their patients are by room. We can walk them through the floors of the hospital, so it's very efficient in terms of just giving them road maps from which room they're going to go to to another, so that it can reduce lost time, and if they can move in and out of the hospital in, say, 15 minutes, it's a critical issue for them to go back and see a few more patients in their office. So we've also been able to demonstrate trust in data management, integrity and security, and they kind of become the neutral trusted party in terms of this.

Now the challenge, I think, for outpatient providers, is that they're going to need to address all the process redesign as you implement electronic medical records. It is a painful process, and it's the most painful process that you could have to go through to automate, but once it's done, the physicians will tell you they never could go back to a paper-based system again. And for systems like ours for increasing physician adoption, we're really ready to track physician performance. We have all the hospital utilization, all the procedures, complications, death rates--all those issues need to start being integrated so we can really understand the real issues of the full continuum of care.

It's our general belief that over time we're going to be able to see that the right things happen in terms of chronic diabetic care management, where we're able to keep the person out of the ER so we didn't have to do an unnecessary amputation because of chronic wounds, and be able to do things in a way that goes right back to the original primary care physician's office.

The other issues, I think value improvements will no longer be discretionary or optional. We really need to move ahead with this. It's clear as systems like ours and Micky's has shown, that when you do this, you do in fact see improved clinical care. So there's no longer going to be a discretionary or optional way for us to avoid developing an IT infrastructure. And really the best reward for the outpatient clinicians when all this is done is that those that do well are going to get more patients referred. They're going to increase their critical mass, do even better care for their patients, and be rewarded greatly in terms of financial rewards. And so with that, I'll conclude my remarks and turn it over to Micky.

Thanks, Tom. This is Jon White again. Just want to thank you so much for your presentation. We're really pleased to have been working over the past few years with Inland Northwest.

With that, we will turn to Micky Tripathi. Micky is the President/CEO of the Massachusetts eHEALTH Collaborative. In contrast to the kind of slow growth forest of the Pacific Northwest that you just heard

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

about, Micky is undergoing kind of the Big Bang, and continues to undergo the Big Bang, but there is some really fascinating work that's happening there, and we're waiting to hear about it.

Great, thank you, Jon, and thank you, Brian, and thanks to AHRQ and to NORC for the invitation, and also thanks to Tom for setting the bar real high here. There's terrific stuff going on at Inland Northwest that we're hoping to try to get to that point on the ambulatory side, as I'll describe. Our focus is the ambulatory side here. So let me just launch right into the collaborative. What I thought I would do is first walk through a background of the eHEALTH Collaborative, and I apologize to those of you who have seen parts of this presentation before on the background, but I want to make sure that everyone sort of has the same understanding of what we're doing, because it's important to understanding the infrastructure we're building, to then really understand where we're headed on the quality measurement side, which is what I'll take up after going through sort of the background and the status.

So the eHEALTH Collaborative roots are really sort of in two kind of threads. One was a very strong role played by the Massachusetts chapter of the American College of Physicians, which was led at the time by Dr. Alan Goroll, who was an internist at Mass General, and also Dr. David Bates, who many of you may know from Brigham and Women's Hospital, who together pushed through the Massachusetts chapter a platform on sort of their annual priority list that focused on universal adoption of electronic health records in Massachusetts, and in particular, focused on a project plan that they called Mass Safe, which was literally about getting ubiquitous adoption of EMRs in the state of Massachusetts.

That plan didn't have any funding attached to it, and so they started walking around trying to identify funding for it. At the same time, BlueCross BlueShield of Massachusetts was coming forward with a financial commitment to some type of health IT project, which they hadn't yet sort of identified, but they wanted to lay a significant amount of money on the table, namely \$50 million, to try to jumpstart a statewide health IT activity, which would be about improving the quality, safety, and efficiency of care. And so it was really the coming together of those two significant initiatives that led to the launching of the eHEALTH Collaborative.

We are a not-for-profit registered in Massachusetts. We were launched in September 2004, and we're backed by 34 significant health care stakeholders in the state. These organizations on the board, and you may notice the disconnect between 34 organizations and 33 here on the title--that's because CMS listed there at the bottom is a non-voting member. They are the regional administrator for CMS. Charlotte Yey is on our board, but because they are a federal organization, they themselves aren't allowed to vote, by their own criteria.

But the two things I like to point out on this slide are, one, that we did make a very deliberate attempt to reach out and try to represent every part of the health care delivery value chain that we could in Massachusetts. So you see hospitals in the hospital associations, large institutional providers, health plans, purchaser organizations, as well as patients and consumer representation, to the extent that we could. That's always a challenge, and so we did try to reach out and do that.

The second thing that I like to point out in this slide is if you look at, for example, health plans and payer organizations, or the large institutional providers, we did deliberately try to get every large competitor to sit down at the table. So you'll notice here even though our funding comes from BlueCross BlueShield, Harvard Pilgrim is here, Tufts, Fallon--all of their main commercial competitors are here sitting at the table. It is one organization, one vote, because the idea was that this is a systems problem that requires a systems solution, and all the significant stakeholders needed to set aside whatever competitive conflicts they might have, and sit down at the table to try to work through a long-term solution for this. So we're not a BlueCross subsidiary. We are a separate company. As I said, I report to these 34 organizations, and indeed, I don't even get my health care from BlueCross, so that is how separate we are from BlueCross.

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

What we did is we decided to have a request for applications, which we announced to in a press conference on December 6, 2004. We had a press conference at the EcoDome at Mass General Hospital, and announced that any community in Massachusetts could apply to be one of three pilot projects where we would essentially wire health care on the ambulatory side and connect in the hospital, in these three communities.

So we got 35 applications, which are represented by the red dots here on the screen, and after a lengthy sort of written and site visit type of application review process, we selected Brockton, Newburyport, and North Adams to be our three pilot projects. The overall mission of the collaborative, though, I should add, is to facilitate ubiquitous adoption of EMRs from the state of Massachusetts, so we really do see these as pilot projects that are just the beginning of what will be a statewide strategy to get 100 percent EHR adoption.

So the scope and the scale of the pilot projects are that there are roughly 450 positions. They are depicted on the left. Most of the positions are in Brockton, which is the biggest community, but roughly 450 physicians participating. Another 100 or so mid-levels on top of that, which is nurse practitioners and physician assistants who are licensed users of EMRs. So it's roughly 550 clinicians who together take care of roughly half a million patients, to the best of our knowledge, across those three communities. And they're in over 200 office settings. This slide just needs to be updated, but it's roughly 215 office settings. So it's roughly 550 clinicians in over 200 office settings who are participating in the project.

In terms of what we're doing, I like to break it down into four main pieces. Starting at the bottom, where it says clinical IT implementation support, that's the office-by-office, practice-by-practice, physician-by-physician hardware/software installation with the training and support around that. So it's the site assessments of each of those, over 200 office locations, installing the hardware, getting it up and running, then getting the EMR application installed, and then post-implementation support. And then the trainings and the installation for that, and then the post-implementation support for those stand alone EMR systems.

The second piece is connectivity, which is three standalone health information exchanges. So each community will have its own health information exchange, which is about the sharing of patient-identified information, accessible in real-time, at the point of care for treatment purposes, and I'll describe that in greater detail in some successive slides.

The third part is about evaluation, and so we have a fairly large evaluation project, led in part by Dr. David Bates from the Brigham, and one part of that that I'll zero in on for this discussion is the quality measurement piece, because integral to that is the quality data warehouse that we're creating. And then finally there is a management and coordination piece, which is not about significant money per se, but it is about significant responsibility, and each of the three communities--we've stood up a steering committee that, as the health information exchange gets launched in each community, we call a community network organization, which is really kind of the community board that's overseeing the activities of that network that we're managing in each of the three communities, and that's not a trivial responsibility. Because there are privacy and security rules that--while there is a standard that we certainly set across all three communities that has to do with federal and state law and eHEALTH Collaborative mission and what we'd like to see in those, there is also a little bit of community flavor around that as well, that we want to make sure that we incorporate to get high adoption among patients as well as providers.

And also a little bit of rule-setting around what are the rules of the road for a health information exchange in each of those communities. Because HIPAA and Massachusetts state law does not provide enough guidance on that, once you get down to trying to understand what are the real rules about health information exchange, of patient-identified information. So we've worked a lot with our statewide organizations like MA-SHARE and the MassHealth Data Consortium. But also brought to bear our

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

understanding of how that works, along with the community input, to get what we think are a viable set of processes, procedures, and rules for each of the three communities for that data exchange.

So in terms of the overall timeline, we launched the pilot projects really in May of 2005. We had a press event in Brockton with David Brailer and Senator Ted Kennedy and Governor Mitt Romney were there to sort of launch the pilot projects for us, and that was the formal start of the pilot project. Now we're here in mid-2007. I'll show you the status of the EHR implementations in a second, but the idea that we said back then was to try to have everything up and running by mid-2007 so that we would have a full year at least of data collection in anticipation of mid-2008, which is when the pilot projects formally end, which means that's when the Mass eHEALTH Collaborative stops paying for the operation and support of the infrastructure that we put in place there.

There is a pilot extension that continues through July 2010 for practices who are willing to stay on with us for data collection purposes, which doesn't involve our paying for anything, and I won't go necessarily into the details unless there are questions about why they might want to do that, but that said, the formal pilot project does end in mid-2008. And we are largely on track to have the EHR implementations and the beginnings of the HIEs launched. So the EHRs, we have almost all of our physicians up and running on the EHRs that we started back in March of '06, the first practice went live, and by the end of this month we'll have almost every practice, save for a few, meaning like two or three out of those over 200 locations, up and running on their EMRs. There are a couple that are going to slip into the end of the summer, and in terms of the health information exchange, that health information exchange that I'll describe in a second is up and running in North Adams, and in Brockton/Newburyport, we're hoping to get that up and running by the end of August, is kind of the current timeline there.

And I'll describe now in more detail what it means to have a health information exchange. I'll zero in on North Adams, but generally the same structure or the same infrastructure applies across all three communities, albeit with different vendors. But this is just an excerpt from a front page story in the Boston Globe about North Adams kind of blazing the trail here for us with their health information exchange. They're going to be unique as far as I understand in the country, in that they'll be sort of the first community where every physician, every ambulatory physician, has an EMR and, save for one or two practices who aren't participating, but the vast majority of practices will have an EMR up and running which will be 90, 95 percent of the physicians in the community, having an EMR connected with the hospital, all with an ability to share information among themselves--that is practice-to-practice, as well as practice-to-hospital.

And as I said, that is up and running now. That is live. That's kind of had a soft launch, where we're kind of building practice-by-practice, as they come alive, bringing them on, and I'll show you some screen shots from that in a second. And the largest practice in the community is about to go live on the health information exchange in the next couple weeks here, and at that point we'll have basically all the practices up and running on the health information exchange.

So there are a couple pieces to the health information exchange that I'll just describe at a high level, and then I'll dive down a little bit deeper into the data side of it. But there's a whole patient recruitment piece to this, because we're doing these health information exchanges with a permission-based model, meaning that it's an opt-in model, meaning that we won't exchange any information over the network until we have a written consent from the patient that allows us to exchange information over the network. And the opt-in experience, to date, is that of roughly 6,000 patients who have been asked, something on the order of 94 percent have opted in, which we consider very good news in terms of the opt-in process. So, so far so good in that community. As I said, there's one more practice to go, and that is the largest practice in the community, so we'll get a lot more patients who are getting consented at that point, once that practice is in, and we expect the numbers to jump up dramatically in the next month as that large practice comes on. That's a primary care practice as well, so a large fraction of the patients in that community are coming in through that practice.

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

The health data exchange that I'll describe in greater detail in a second, is essentially a repository posted at the North Adams Regional Hospital, of a subset of the information that's contained in all of the electronic medical records deployed across the community. There's an electronic referrals management function that will allow physicians via secure e-mail to exchange referral and consult information back and forth, and will also allow electronic tracking of that, so that they'll be able to, at any given point in time, track what referrals they've made and how many outstanding consults they have, and vice-versa if you're on the specialist end of that, how many outstanding you have to deliver.

And then finally we hope to launch before the end of the calendar year a patient portal, that I won't go into detail unless there are questions, but the idea there is once you've built the clinical infrastructure, to allow patients then to have sort of an untethered view of that across the community. So regardless of which provider they are associated with or wherever their records are, they'll be able to view some portion of that clinical summary that we're creating, and then have some type of administrative functions on top of that, like appointment requests, things like that.

So let me now dive down a little bit into the eHEALTH summary, because that's critical to understanding the clinical data warehouse that resides on top of that. So what we've done--and this is a snapshot of sort of the schematic that we've produced for the patient brochure in North Adams--on the top you see sort of a stylized view of the individual EMRs that are held at each of the practices, and those are brought together--a subset of that information from each of those is extracted or really pushed--it's extracted at a local level and then pushed to the center every night or in virtual real time, and made available in this snapshot.

There's some information that only stays in the record and will stay there forever, but is only available at the practice level, and those are primarily things that are text-based in non-structured data. So the private office notes sort of the text blobs that a physician might dictate into the note part of the EMR, those will stay in the record. Consult letters, scanned reports, non-consented items, meaning--and I can describe that in greater detail later--but anything like that, as well as hospital documents that are kind of a scanned document or a text blog type of document, again, a pushed to the physician offices, but they stay at the physician office, and they don't go to the center.

What is available as a persistent sort of data repository are some of these--this is just a partial listing of the information that's available. So it's structured information that we kind of characterize as vital information that we think that the patients will feel comfortable, having this subset of information available to all the providers and all the authorized users in the network for clinical purposes. So it's medication lists, problem lists, procedures, and you can read down the list. But basically the idea was to create that subset that balances what patients on the one hand may genuinely feel is private and personal, which is partly about what is legally required, but also about what is genuinely sort of private and personal, and so might make them feel uncomfortable when you think about the opt-in process. Trying to balance that with what's clinically meaningful, and what will physicians feel like I really need to have that information in order to get a sort of clinically meaningful picture of the patient. And that's obviously a balance that needs to be struck, I think, in this era where we are trying to give greater patient empowerments, but also exchange data that is meaningful, and that is the whole purpose of this health information exchange activity. So this is the balance that we've struck in this community to try to get that done.

So this is just one screen shot of what that looks like, that health information exchange. And this is being created for us in North Adams by eClinicalWorks, the EMR vendor who some of you may be familiar with. Because every physician in that community chose eClinicalWorks as their EMR, eClinicalWorks is building the health information exchange for us as well, and they've developed this health information exchange portal that basically is for the various types of information that we just talked about. It updates it as sort of a line item, updates the information from each of the records out there in the system. And in this case, unfortunately this doesn't show multiple providers, so this just shows from Dr. Herzig's office,

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

here are the procedures that have been updated from Dr. Herzig's office, and here is the medications. But if there were other providers on this screen shot, you would see Dr. Sinclair or Dr. Turning, different line items on this. It's basically the CCR type of style sheet summary view that we've modified a little bit in terms of clinical data items there. So I think for most people, there's probably a fairly familiar view. But the innovation, I think, is bringing it together in real time from all of the various providers.

So in terms of the quality measurement initiatives, which I think is the real point of interest for most of the people on the phone, what I thought I would do first is just give you a sense of the data warehouse flows. What are the flows of information here, because it's fairly complicated, and I think it is critical to understanding of how the data warehouse is built up from the bottom up. So we have what I just described to you, which is the provider level EHRs, and the eHEALTH Collaborative is deploying four systems--NextGen, Allscripts, GE, and eClinicalWorks. I just showed you one community that has all eClinicalWorks, but in Brockton and Newburyport we actually have all four of these vendors, so we need to think about how to integrate those. And then we had a couple of practices who had EMRs already.

One had Physician Micro Systems, which is now McKesson. The other had an eMDs practice, and then of course we have Meditech systems, which are the hospital systems. So the health information exchanges are bringing together information from all of these platforms, and putting together in three standalone health information exchanges. I just described the North Adams one to you, which I said is being run by eClinicalWorks, but then we have one in Newburyport, one in Brockton, and there's a company named Wellogic, who many of you may know, based in Cambridge, Mass, who are the HIE vendors for Brockton/Newburyport, and they're the ones who are putting together the information across all of these vendors for those two communities.

And then what we're doing for the quality data warehouse is extracting limited dataset information out of each of these health information exchanges, which as I said, there is a clinical data repository there, extracted out of the EMRs. So then we're pulling a subset out of that to create the quality measures on the quality data warehouse that the eHEALTH Collaborative is using, really for two large purposes. One is for outcomes analysis. So for the evaluation program the eHEALTH Collaborative has, to try to start to answer some of these questions about how health IT can facilitate quality improvement in a community, and then the other is benchmarking data, which is using the AQA measures to provide feedback back to the physicians, and the Mass Health Quality Partners and CSC are working with us on that. The Mass Health Quality Partners, many of you may know already do public reporting on HEDIS claims data measures now in Massachusetts, and so we've partnered with them to develop from this clinical data measures on the AQA recommended starter set, to provide backup positions for the pilot project.

One of the things that we've done in doing this, though, is tried to grapple with the privacy and the data identification kinds of issues here. So while the data is, as I said, it's flowing up from the EHRs, and it is consent-based--so I described to you the consent process, the opt-in process for the EHRs--that is consent-based, patient-identified information that's going into the health information exchanges. And then we're extracting limited datasets out of those for the population of the quality data warehouse. And then assigning random number identifiers to that information there, with the idea that we can then individually re-identify the information as necessary.

So there's no patient-identified information in the quality data warehouse, but it does preserve an ability to re-identify as necessary for benchmarking, because we consider that feedback loop back to the physicians critically important to quality improvement, and you can't do that unless you can identify for the physicians who are the patients that we're talking about for the numerators and denominators, because I think many people on the phone are much more expert at this than I am. So I guess we recognize that, and that was sort of, I think, a significant breakthrough in terms of the processes and in figuring out how we could have patient-identified information here for clinical purposes, create a quality data warehouse that doesn't have patient identifiers, or at least facial patient identifiers on it, but then be able to re-identify in some way back for an improvement in quality.

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

So these are the measures, the AQA recommended starter set. So we're taking that clinical data superset, as I described, from the health information exchanges, and then creating to the best of our ability these measures. Most of you are probably familiar with the recommended starter set, so I don't have to go into detail there. But there are certainly some challenges in doing that, and I won't go through each of these points. I'm happy to answer questions on any of these that anyone might have, but at each level, what I want to represent here is there are significant issues. You start at the bottom and there are significant issues about just is the data being entered in the right way to begin with, and that's about process at the physician office level, and how you can enable getting that entered in the right way. Are they comprehensive, consistent are all of the things around proper and accurate numerators and denominators there.

And then at least what's sort of specific to our project is can the health information exchange support the required privacy model, and the required extraction, robustness as well as the frequency? Are we gathering the right information at the health information exchange level to populate the numerators and denominators that are required for those measures? And I think we're now going through a certain amount of iteration to ask ourselves, for each of those measures, are we collecting the necessary data, and do we have to go back and perhaps make the health information exchange a little bit more robust to capture that data? It doesn't necessarily mean that we make that data available in the health information exchange, but we only want to extract data once out of the EMRs, so we are trying to piggyback as much of this as we can on the health information exchange to do that.

And then finally, the issues around the data warehouse itself, which again, I won't go into the detail as part of the formal presentation but I'm happy to answer any of the detail in the Q&A piece of that. I will say that I think, like Tom, I think that in order to get sort of a next step up in quality improvement, I don't see how we can do it without IT. But that said, the IT is not a no-brainer. It's not as if you can just hand this to physicians and the quality data will spontaneously get generated out of those EMRs in a way that's meaningful to everyone and meaningful to the physicians and patients themselves. So that's where we are, and that's sort of the challenges going forward, I think.

So let me stop there, that's the end of my presentation, and look forward to the conversation going forward.

Well thank you, Micky. This is Jon. Thank you so much for that wonderful presentation. I love hearing about that. I never get tired of seeing the slides that you have at the beginning. So with this, we'll turn to the audience for questions. I think this is a great time, and I'm hoping you all have generated some good questions. I'm going to start with a quick question of my own that I'll ask each of you in turn. Given the amount of work that you've put into this, are there things that are happening now that about, or things that you think should be happening, to make this easier for the rest of the country, that can translate the work that you've done or the work that others have done and make it more broadly accessible and widely used?

Tom, do you want to go first?

Sure. Well, yeah, I think there's a number of things. I think we've been doing things--or we didn't have any road map. I think some of the things that we have through eHI in terms of road maps and some of the shared experiences that we've all tried to share, clearly people don't have to reinvent the wheel like all of us. I think products are a lot better. When we first started, we didn't have--Micky even talked about like secure e-mail messaging; we didn't have that a few years ago. So now that those kinds of things are standardized, we can use standardized products in a way that make it more efficient in terms of us actually creating exchange and actually complying with all the laws and regulations addressing privacy security.

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

Yes, this is Micky. I mean, from my perspective, I think some of this stuff is underway a little bit, because I know from Jon what's going on at AHRQ. But certainly as great as the work has been that the CCHIT has done, and I do think it's fantastic and has really been a significant step forward, I think it's also just pointed the way to how much more work is required, and one of the things that we're finding, even--we're working with a terrific set of vendors, and if you look at that list, they were among the first to be certified by the CCHIT. But we're still finding significant variation among the vendors and the actual implementation of it. It isn't as if any of that stuff that gave them a certification is readily available or just something that they've flipped the switch and you're able to get the data out in the way that we all want to.

So it's significant work, and it's individual work with each vendor to get that done. But I think getting more traction on that to certification about actual capability, as opposed to what is represented at this level--and again, I don't want to demean the work that's been done, I think it's just we're on the beginning of a journey here, and we've taken some great first steps. But I think those are the real next steps.

And then also turning that into--and I think this is having greater overlap with the HITSP, CCHIT, and the AQA or other quality organizations, to say, all right, how do we now talk about getting those measures implemented in an EMR, where you can push the button and get out whatever the latest set of measures is. And again, that's not an easy or a simple thing to do, and in part there are some things about numerators and denominators that are very tricky, like exclusion criteria, for example, that aren't obvious and aren't an obvious part of some clinical measures, but are absolutely required if you're going to get good numerators and denominators. And some EMRs don't necessarily capture them. Some practitioners may not even put those in unless they know that they have to do it and there's a field for them to put it in.

Great answers, thank you to you both. Brian, I noticed there are some questions. Would you like to address those?

Yes, this is ML with Howard Balsham at Odgen. We use FX system, we're about 20 organizations out here, and so we have their master patient index. I'm especially in that responders from Massachusetts and Elliot Stone actually helped us years ago set up ours. About how far along are you in terms of seeing, in fact, that all the information is actually coming from a specific patient and only that patient?

So is this really a question of how accurate the patient matching is?

So for instance, we, in terms of the patient matching, use a common or shared electronic health record among about 100 different sites with 20 different organizations. So we've got about a third of a million people in it, and we've never been able to get our master patient index much below about 200 duplicates in any one week, which people tell us is pretty good, but we're just wondering with multiple EMRs, how are you going to be able to get it to a level where the providers are going to be pretty confident that the information is on that patient and only that patient?

Yeah, so we haven't launched it yet in Brockton/Newburyport, so time will tell, and we have launched it in North Adams, and my understanding is so far it's working quite well. So I think there are two pieces to your question. One is just about the patient matching itself, and we have a benefit in Massachusetts of having a MA-SHARE, which you mentioned Elliot Stone, was one of the things that he founded before he unfortunately and sadly passed away, which is sort of our statewide RHIO, who have one of the national health information architecture grants, and they've developed a whole set of principles around patient matching that we're piggybacking on.

So with that said, I think a part of it is also an ability of a practice to, in an easy way, check with that MPI to see if there's something there that they can quickly and easily as a part of their workflow, incorporate into their EMR and not feel the need to enter their own patient data because it's too hard to access the

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

center. So far we have that ability in North Adams, where practices are doing that. They are checking and then downloading demographics and making the matches to the extent that they're able to see that. But it is still very early, so I don't want to promise too much on that, and I'm happy to check back with you later or if you want to check back with me later, once we have some real data on the table on that.

Great, thank you.

Thanks for your question. Our next question is from AM, are you there?

Yes, and we've also submitted a question online, so I'm sitting here with a team from Arizona, working on the health information exchange and electronic health record under a great, on the Medicaid Transformation Grant. First of all, it was a wonderful presentation, and our team has asked if the slides will be shared--when and how--and you may have made that comment earlier but we're a little late getting on board. The second question is the patients who opted out in the first model, if there were reasons and if there were lessons learned from that process. And then our third question, which is written, is about the technology used.

So this is Micky. I don't think I remember all your questions, but let me take the last one first, and then you can remind me of the others, or if there's one that's more for Tom. On the opt-out--that was my slide and data--for obvious reasons, we don't chase down patients to find out why they opted out, which would obviously violate the privacy principle that we're trying to establish. But one of the things that we feel very good about in terms of what we've heard from the practices, we have gone back to the practices and asked them, in general, without revealing any specific patient, are you seeing any trends or any themes, and why they're opting out.

And one seems to be just around a certain set of patients who are genuinely much more private than the rest of us, and who even right now don't like revealing very much, and the practices seem to have a hard time just getting the basic information for regular TPO functions under HIPAA. And so in a way, what we've heard from the practices about a subset is, well, we're not surprised because we struggle with that, even just getting their insurance ID numbers from them on a routine basis.

The other, it turns out, and it may be unique to this community, is a set of patients who aren't really a part of the community. North Adams is kind of a rural community, so you have a lot of people who, for example, might be getting their primary care in Southern Vermont or in Pittsfield, which is a larger city to the south, but the only neurologist or psychiatrist, say, in the western part of the state happens to be in North Adams, so they travel to North Adams for their specialty care, but they're not really members of the community. So they either opt out, or sometimes the practice will say what, this may not make sense for you because you're not a member of the community, and then won't even offer them the form.

So far, that appears to be what's driving that five to six percent, which as I said, makes us feel pretty good, because we think that may be a unique thing having to do with rural community, and not anything large and systematic that we're worried about right now. We are doing focus groups--just a last point on that--in Brockton and Newburyport. We've hired a professional brand management firm who have done--now we're on our second round of focus groups, so we've done segmentation of the patients in each of those two communities, and have done focus groups, and the feedback we've gotten has been very positive about patients' willingness to participate in this, subject to some information that they want, which is how is the data going to be used, and perhaps critically important, how is it going to be protected? They seem to understand the risks and are comfortable with that, because maybe that's the good side of all of the data spills that they've heard about, is that they seem to understand that when my data is available online, there is a certain risk of data spills, but what they want is an understanding of how are you protecting it, and what institutions are standing behind this to protect it?

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

Why did you opt for a smaller grained community-based model, versus a wider state model for next year's hearing? Is it somewhat easier?

Well, I think for us, the issue is just more locally for us. Ours was done before the whole RHIO concept and things were even discussed, and before Brailer's office was even thought about, so for us it was really more of a natural market movement, because of the unique nature of where we're positioned in terms of being a large regional medical hub for a multi-state area. So our other colleagues and partners really on the other side of the state, really were not able to even be in the same kind of discussions. And even today, just like Micky alluded to some of the products and some of the things, we still have some issues.

Even at our state, where I've been involved in the state commission to try to address statewide data exchange, we still have some parties that still believe that their IT systems are proprietary, and they still assert in kind of inappropriate ways that they're not going to share data. So I do think you do get into the nuances of intensive market competition with people that feel that holding onto their data (inaudible) that gives them market value, and so we as a community have kind of created kind of a different view, which is it's our responsibility to share the data and it's a community expectation that we all ensure that we share the data. That was one of the goals that we had envisioned all along is that the community would accept it.

I think you get to the same issue then, if you do it that way--we have very few people that opt out. We do, like you guys have talked about, do have, because of vendor issues, do have certain dupes that you got to work out every month, but we consider that inconsequential to a certain degree, knowing the full volume of transactions that you're doing. But it does address key issues that Micky talked about.

So from Massachusetts, I think one point that Tom made was most salient for us, and it was about that market component, that health care is more dense--the level of transactions are more dense the more local you get, and so for us, trying to sort of figure out what is going to be that market, that medical trading market, that will make sense from a sustainability perspective going forward, where most of the patient transactions happen. I'm also on the board of MA-SHARE, which is this statewide kind of "RHIO" that we did sort of build as a part of that one of the four prototypes for the National Health Information Network.

So the architecture is actually there and the spec is there. It's out on the Web, and it demonstrated it with Massachusetts, Indiana, and Mendocino, California, who are our partners. So all of that is there, but one of the things that we've found at the MA-SHARE level is that there's not enough market for it yet, that there aren't enough communities who are willing to demand that statewide connectivity to make that a viable enterprise. We're hoping, and this is yet to be proven and hasn't yet been proven, except in Indiana I think, and Cincinnati to some level, that there is a sustainable model at the local level, where in our view, for example, in Brockton, the positions have enough transactions at that community level, where 80 percent in Brockton, 80 percent of the medical encounters, happen within the community of Brockton, that they will see enough value there to be willing to pay a monthly fee to sustain this going forward. That's a part of the experiment here. We don't have it, but I will tell you from what we've seen, there is absolutely no business model for a physician to support a statewide infrastructure. They don't see enough value in that.

Our next question is from NL.

With the QI measures, I think we will be able to easily share that information between sites eventually. My concern is medical information. We currently have access to Hospital patient information. So if a patient goes into the hospital we can see the HMPs and things like that. They do not have access to our EMR and would love to have access, however, with the laws in Massachusetts, you have confidentiality for HIV, behavioral health, adolescent care, and my question is, how can we pass that, or present that information? Even if I sent a med list to the hospital, if they're on an HIV med, they're going to know their

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

diagnosis is HIV, or on a behavioral health med, they're going to know they have mental health issues. And I know there are states out there that actually block that information before sending it out.

So what we've done in Massachusetts, the requirement is really about--so the issue of disclosure of clinical information is largely based on case law. There's a particular case that at least lays out some of the parameters on it. And there is a "sensitive categories" list which has all of the normal categories that you would expect, plus some ones that you may not expect like mammograms, things like that, that do require a separate consent. So in Massachusetts, in order to disclose clinical information you need a consent, and then a separate consent for the sensitive information.

What we've done--then let me just describe the third layer, which is there is a statute. So what I've just described right now is covered by case law, so there's a lot of interpretation that ends up having to unfortunately go with that, and then there is a statute that specifically identifies test results from HIV tests. It names the tests such as Western Blot, and genetic test results. So it specifically says that you need a per event consent for disclosure of test results of those specific tests in HIV and genetic tests that are listed in the statute.

So that's kind of what the law says in Massachusetts, and the way we've dealt with that is that--and obviously it's a little bit unwieldy trying to apply that to an electronic world, because they weren't designed for an electronic world. So what we've done with that is we've said that our consent that I described to you, the opt-in consent, covers those first two categories--the sensitive areas and the general clinical--with one consent, and it's all-in. So we do on the consent represent to the patient that you have to understand that we don't have the ability to screen right now. Physician practices don't have the ability in terms of their procedures and processes to do it, and the technology isn't quite there to screen all of that, that we can tell you with assurance that we can screen out the items on the sensitive list. So as a patient, you need to understand that everything is in when you opt in.

Although we do--and again, I didn't get into this detail but I'm happy to answer sidebar questions if people have further questions and want to talk directly. But we do allow entity-by-entity opt-in. That means that I can opt in for my primary care physician, but not opt in for my psychiatrist. So we allow that flexibility, which is a practice cut on it rather than by clinical data type. We do have a separate, per-event consent for those two areas that I said are covered by statute, because they are specifically laid out in the statute, and we have worked with the EMR vendors to produce a per-event consent if any of those things get flagged as a part of an encounter. In North Adams we had a group of physicians go through the ICD9 code book, the CPT code book, and flag any items that were associated with genetic tests or HIV tests that will trigger that per-event consent.

We're seeing kind of an interesting trend that's somewhat interesting from our perspective. When we first set this up, we did all the integration and all the EMR products, and we took a position that it really didn't matter to us what physician products were used, even if they were homegrown. We would build the interface and make it work, so we'd do that. So what started happening was doctors would come to the hospital, and then the first phase was, well, they wanted to look at their own EMRs. So then we permitted it so that they were not only just looking at ours and other issues, then they could also open theirs up concurrently on the same computer.

So as that's kind of evolved, it's been kind of interesting because now the doctors are looking at the hospital episode of care as just part of their own EMR, and so they're almost wanting to come in and saying, well, I'm going to open up my EMR from my office, and I'm the only one that has access to it, and now I want you to populate my EMR with the hospital data. So the treating doc really has all the information rather than others really having everything that's exposed in that EMR. So it is kind of an interesting phenomenon, and we're not even quite sure anymore which EMR the docs are going to be in, but we do think over time it's going to be the ambulatory EMR.

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

I have a question. We have an integrated EMR, so our behavioral health problem list and med lists are integrated with the medical. So we don't have an easy way of sort of eliminating pieces, currently anyway. My other question is, how many people actually opt out, what percentage?

Well, for Massachusetts so far--as I said, we've just started in North Adams, and about 6,000 patients have been asked, and 94 percent of them have opted in. So we're at the beginning of the beginning, but anyway, that's the data that we have so far.

Yeah, and I don't have accurate amounts, just because we've got so many hospitals and clinics, but our numbers are relatively small in terms of opting out.

What access do providers have for Massachusetts eHEALTH Collaborative members when they leave the state of Massachusetts and need health care? So, Micky.

Yeah, that's a great question, and I think that's probably something that will work out and we'll see how this gets developed. So the models you could think of--let's assume that there's no statewide grid that gets created and we just have these three standalone health information exchanges. I could certainly imagine one of them setting up a way for an authorized physician, or perhaps for let's say a hospital in Florida or something, to call them and say, hey, this patient is here, we need some information. And then with some type of authentication back and forth, they say, okay, we'll give you a username/password that has 24-hour accessibility based on the authentication that we have from you, something like that. But I think it's going to be something that we develop over time.

Are INHS physicians sharing a common EHR like Massachusetts, or are they on multiple EMRs?

They're pretty much on every product that's available in the market.

A variety in the Inland Northwest, okay. For both of you, what technology is used in the implementation of health information exchange and EHR (Microsoft or non-Microsoft)?

Well for us, we use probably about over 200 different products. We use Microsoft, we use Sisco, we use pretty much any kind of product that any of the customers want. So we definitely are a Microsoft shop for things like Word and other things like that.

We're Microsoft, too.

What is the status of development and level of EHR implementation in California? Now I'm sure that's a broad spectrum, but maybe if you can speak to what you know.

Well, in terms of what we're doing, well, we're kind of replicating the model with four hospitals down there right now. We just brought the first one on on June 1, and we have another one coming on here in a few days, and then every 60 days we'll have another hospital come on. And then what we'll do is work with them and their physicians, and connect up and kind of replicate our model in a larger, high-density population area, to do things in a way that we're doing it.

Okay, this will be a fairly quick one, I think. Is anybody including any oral health measures as part of the QI measure set?

We're not.

No, we're not either.

National Web Conference  
The Role of HIE in Helping Providers Assess  
Their Performance on the AQA Starter Set  
June 11, 2008

Okay, and I'll speak more broadly. I'm not aware of any oral health measures in the different quality indicators that I've seen around. And finally, this looks like a slightly longer answer. Micky, can you provide more information about how and why you made the choice of an opt-in method rather than opt-out? So if you could keep it short, great, but if you can't, I understand.

It was really a combination of where we saw--as I described Mass case law is a little bit ambiguous and vague on this point, but it's certainly a higher standard than HIPAA. So it was our reading of the Massachusetts law as well as Massachusetts convention, and I think everyone knows what Massachusetts is like in terms of privacy standards and general consumer empowerment, and also the eHEALTH Collaborative feeling very strongly that we have--we're a large-scale mission, a big public transparent type of organization, and so we wanted to do this in a way that put the burden on us to build the trust of patients as a more firm foundation for all of this going forward.

That's a great answer, well done. Well, that looks like all the questions that we have. I want to thank the approximately 100 people that have hung on here beyond the end of our conversation, and I really want to thank Tom and Micky. I think that was a great conversation. More health information exchange-flavored than perhaps purely quality management, but I think that's great, and I think that's a great exchange of information. I appreciate everybody being on the call, and with that, I'll turn it over to Brian to finish this up.