

**Meaningful Use Workgroup Public Hearing**  
**Draft Transcript**  
**May 13, 2011**

## Presentation

**Judy Sparrow – Office of the National Coordinator – Executive Director**

Good morning, everybody and welcome to the Meaningful Use Workgroup. This is a hearing and we'll be having the hearing all day. Just a reminder to workgroup members to please identify yourselves when speaking, because we are making a transcript. There will be opportunity at the close of the meeting for the public to make comments. Let's go around the table and introduce members of the workgroup, starting on my left with Allen Traylor.

**Allen Traylor – ONC – Meaningful Use Policy Analyst**

Allen Traylor, ONC.

**Josh Seidman – ONC**

Josh Seidman, ONC.

**Deven McGraw – Center for Democracy & Technology – Director**

Deven McGraw, Center for Democracy & Technology and .... I'm sorry. Where am I—you guys are way down there.

**M**

You're on the right side.

**Deven McGraw – Center for Democracy & Technology – Director**

I'm not—well, I ....

**Charlene Underwood – Siemens Medical – Director, Gov. & Industry Affairs**

Charlene Underwood, Siemens Healthcare.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Michael Barr, American College of Physicians.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

George Hripcsak, Columbia University.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

Paul Tang, Palo Alto Medical Foundation.

**David Lansky – Pacific Business Group on Health – President & CEO**

David Lansky, Pacific Business Group on Health.

**Gayle Harrell – Florida – House of Representatives**

Gayle Harrell, Florida House of Representatives, and crashing the meeting. I'm not a member of the workgroup but I appreciate being included today.

**Judy Sparrow – Office of the National Coordinator – Executive Director**

Thank you, Gayle. I think we have a number of members on the phone. Karen Trudel, are you there? Judy Murphy? Anybody else that I left off? Okay, with that I'll turn it over to Paul Tang.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

Welcome, everyone. This is our third meeting of this week, which really testifies to the dedication and diligence this group puts into trying to make sure we get the right balance with everything. Farzad opened the meeting earlier this week talking about a marathon and I certainly tried to correct him. This is really a marathon of sprints. I also want to thank the panelists who really put together their testimony and are participating within really a month's worth of time in terms of notice, but that's the way ONC works. That's really a tribute to the amount of commitment that they have to this program and really to using this program to improve the health status of the population.

So that's why we've invited you all here. We've called it a specialist hearing, but really it's about care coordination and the specialist participation in that. Everyone is familiar with the first stage of the three stages as being getting the data into the EHR and this stage two is really targeting care coordination, population health, and sharing information, getting it to all the places where the patient is seen or to all the people who participate in the care of an individual patient. That is something where the EHR is not particularly well equipped in the field right now, so that is an area we want to push while balancing all the feet on the ground, as Farzad says.

George Hripcsak has taken a major role in putting this all together and he'll be overseeing the hearing today, so I'll turn it over to George.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Thank you, Paul, and thank you again, all for coming and for, as Paul said, coming to testify at a moment's notice literally. Today is a pair of hearings. The first hearing is on specialty care. The second hearing is on experience from the field. So we really put two different ones together. The first three panels are on specialty care. Remember that we had a specialty care panel over a year ago and we're not looking to duplicate that. What we're looking to do is see how the specialty care fits in the context of meaningful use and other kinds of care provided. So our first panel is about care coordination, and Michael Barr will be moderating that in one moment. Our second panel is about individual patient care, and that's where we brought in automated decision support and how meaningful use and EHRs can assist in that. Then our third panel moves up from individual care to population care, focusing especially on registries. Then our, in effect, second hearing is our fourth panel, which is experience from the field not limited to specialty care. So that's how we've organized the day.

Let me just mention a second about context. The Meaningful Use Workgroup has been working hard on the stage two objectives, it went out for public comment. We received those back two days ago. We presented those details to the Policy Committee, got some excellent feedback. Today is our hearing, as I described, and then through a series of phone calls we'll modify our objectives and present them in June, our final version for potential approval by the Policy Committee. If that's approved, that will go to CMS for the publication of an NPRM at the end of the year, public comment, and then publication of the final rule next July. So that's where this hearing fits in.

Now, because we have a lot of presenters, let me turn it right over to Michael Barr.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thanks very much, George. Thanks, Paul. It's really my pleasure to moderate this first panel entitled "Care Coordination among Specialists, Primary Care, Care Management, and Patients." And from the Perspective of the American College of Physicians, about 45% of our members are sub-specialists, so within our own house of internal medicine a lot of this activity takes place, or does it? So I'm very interested to hear what's going on in terms of the testimony we hear.

I'm also very interested in patient engagement, how do we involve patients in that care coordination and broadening the healthcare community. So we actually have more people working towards the end goals of improved care. We have five excellent folks to testify. I'm going to introduce them briefly. Ann O'Malley, a Senior Health Researcher, conducts quantitative and qualitative research on a wide range of topics related to quality and access. She's interested in primary care delivery, its intersection with specialty care and the coordination of care from both the patient and provider perspectives.

Then Cheri Lattimer is the CEO and President of Consulting Management Innovators, providing outsourcing and advisory services to the care management and healthcare industries. She serves as the executive director for the Case Management Society of America, the Executive Director for the Case Management Foundation, and is the Coalition Director for the National Transitions of Care Coalition.

Dr. Russell Leftwich is the Chief Medical Informatics Officer for the Tennessee Office of eHealth Initiatives. His primary responsibility is communications and outreach to hospitals, physicians, and other providers around EHR adoption and electronic health information exchange.

Then we have Michael Chiang. He's a Professor of Ophthalmology and Medical Informatics and Clinical Epidemiology at Oregon Health and Science University. His clinical practice focuses on pediatric ophthalmology and adult strabismus. He's a Chair of the American Academy of Ophthalmology Medical Information Technology Committee and is a member of the AAO Ophthalmic Technology Assessment Committee.

Welcome. We look forward to your testimony. Devonne Mullis is, I believe, on the phone, correct, Judy?

**Judy Sparrow – Office of the National Coordinator – Executive Director**

Yes.

**Michael Barr – American College of Physicians – Vice President, PA&I**

I apologize but I do not have a—do I have a bio for her?

**Judy Sparrow – Office of the National Coordinator – Executive Director**

....

**Michael Barr – American College of Physicians – Vice President, PA&I**

I'm sorry.

**Judy Sparrow – Office of the National Coordinator – Executive Director**

....

**Michael Barr – American College of Physicians – Vice President, PA&I**

Oh, we do have one. Thanks to George. Dr. Mullis is Physician Adviser, Indiana University Hospitals, Internal Medicine and Pediatrics. I apologize to .... Ann, I believe you're up first.

**Ann O'Malley – Center for Studying Health System Change – Senior Health Researcher**

Thanks, Michael. This is Ann O'Malley. I work at the Center for Studying Health System Change here in Washington, D.C. I'm grateful to the committee for inviting us to talk about our research in how small and medium sized medical practices use EHR vendor developed tools to support care coordination. As we all know, HIT has enormous potential to support care coordination, but at present communication between providers using different EHRs or different versions of the same EHR or no EHR at all is exclusively by paper and fax. So in response to your first question, I think it's important to improve first the timeliness, the relevance, and the accuracy of the data exchange between different types of providers so that we can encourage primary care and specialist providers to leverage EHRs for coordination of patient care. First, I'll talk about the timeliness of the data exchange.

Stage one meaningful use measures began to address the need for data exchange with a 50% requirement for electronic transfer of the summary of care record for care transitions. However, given that the practices are only required to send it 50% of the time, they may elect, and not unreasonably so given their resource constraints, to have their staff send this for the most routine, straightforward scheduled outpatient referrals. As a result, when a provider is seeing a patient with an unscheduled acute care need, for example in the emergency department, the summary is often not available. And it goes without saying that absent an EHR that's compatible, these summaries usually, if transferred at all, are by fax and often get lost in emergency departments. Anyway, in addition requiring the practice to send a copy of the

record 50% of the time in stage one for transitions and referrals, the next stages might also specify that some of these need to be for patients who are being referred with greater urgency in Stages 2 and 3.

In terms of relevance of the information exchange, it's critically important that the end user be taken into account. You asked about the referral loop for consultations and referrals between primary care and specialists, between specialists themselves and in care transitions. First, prioritization of patient problems by acuity and severity need to be apparent to the providers trying to access patient information at the point of care. Stage two and three meaningful use requirements could include tools to support providers to create concise, relevant narratives to ensure that end users trying to share care for patients have the information they need and are not overburdened with unnecessary duplicative documentation. Stage two and three measures might consider EHR functions that assist the steps in the referral and consultation process as well. So in addition to what they're already discussing, stage two and 3 may require not only increasing the percentage of records provided electronically, but also the timing, that is the sending and receipt of communications, and then the key narrative components of referral and consultation communications.

In addition, there's a need for referral tracking systems integrated within EHRs. At present very few EHRs support this and, as we know, with the patient centered medical home and in the future with accountable care organizations referral tracking will be critical. Optional eReferral to specialists and coordination of the EMR with the e-mail systems will also be very helpful in this regard.

Next, I want to touch on the second part you talked about, which is longitudinal data capture. First, I'll talk about it at the individual patient level and then at the practices panel level. At the individual patient level it is very difficult with current vendor developed EMRs to obtain a concise view of the patient's progress over time. To do this the provider needs to tab back through various old notes and screens, and therefore a management dashboard to assess progress along a care plan would be very helpful.

In terms of tracking a patient's preventive and chronic care needs, the lack of linkage between progress notes and health maintenance screens was also noted by respondents as a problem. Currently, EHRs have very limited ability to capture dynamic planning in the medical decision making process in a way that supports future coordination needs. At present EHRs focus on linear point in time documentation. When you finish a visit, you close that patient's record, and there isn't an EHR that helps keep a note open for decision support so that when things come in or don't come back to the office one is alerted. Dr. ... has suggested creating a placeholder for resumption of work around a patient's coordination needs, and I think this is one example of how that might be advanced. EHRs could have the capability of allowing the user to clearly delineate where in the record the clinician should resume work after interruption or between ....

Now, I'll talk briefly about the entire population based care for the panel of physicians, patients. Usually this requires workarounds to identify patients for whom particular population based monitoring is indicated. Given that outside results from diagnostic testing facilities and other specialist offices come back to the ordering provider as faxes or PDF files that do not populate the EHR directly, providers have a very difficult time searching the record to identify sub-groups of patients for whom services are indicated. If they want to do so, they often have to hire software engineers to modify their EHR and perform multiple additional mouse clicks every single time a report comes back to the office that has to be scanned and then translated into electronic information. So in addition to labs, other entities outside of the ordering provider or the medical home need to be able to push clinical data, such as screening tests and diagnostic reports back to the ordering provider in formats that can easily populate the patient's record. Stages 2 and 3 requirements could encourage that diagnostic reports from specialists in other facilities, such as mammograms and eye exams, are sent to the primary care practice or other ordering provider in a format that populates the EHR. I'll touch very briefly on registrations later in the panel, people will be talking about that. Respondents basically told us that registries at present are not shared –

**Michael Barr – American College of Physicians – Vice President, PA&I**  
Dr. O'Malley—

**Ann O'Malley – Center for Studying Health System Change – Senior Health Researcher**

Are we running out of time?

**Michael Barr – American College of Physicians – Vice President, PA&I**

Yes, we're about two minutes over the five minutes. You can summarize in a sentence.

**Ann O'Malley – Center for Studying Health System Change – Senior Health Researcher**

All right. I'm just going to summarize by saying in terms of longitudinal care plans I think it's critical that the care team members, and particularly the primary care physician be noted and that this is a very important thing going forward. In terms of data accuracy, problems with medication reconciliation are enormous problems, and with RxNorm still not being implemented, and I guess I can just refer you to my testimony for the minimum data set that needs to be transferred. Lastly, regarding coordination measures, I don't think we're ready yet to have quality measures at the provider level. I think most of the validated measures come from patient surveys and should be incorporated into patient portals and PHRs. Thank you.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you, Dr. O'Malley.

**M**

I'd remind the panelists that we have your written testimony also, so this is your opportunity to summarize the most important points in the five minutes. So we have read what you've sent.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you. Cheri?

**Cheri Lattimer – Case Management Society of America – Executive Director**

Thank you, Dr. Barr. Panel, thank you so much for the invitation. My name is Cheri Lattimer. I'm the Executive Director for the Case Management Society of America. I'm going to build on what Dr. O'Malley was actually speaking about. From the case care management coordination most of what we see coming about in our industry is using case care managers, who are basically nurses and social workers, for care coordination and support around transitions of care. That being said, as we look at the EHR we're very concerned about how that communication is going to be transferred between the various areas that case care managers facilitate through this process.

Our case care managers work in all areas of the care continuum and we are very concerned. We see EHRs being built in facilities and entities, yet the transfer of that information is not clearly defined. In that, case care managers play an active role in that assessment and planning of the medication reconciliation and the care planning. As we look at that, those definitions need to be clearly identified on how that information can be shared and be expanded to include the patient's preference expectations and thought processes that are going on in the division of this and the identification of that. We know very clearly from talking with our patients that oftentimes what we see as providers in the areas of care plans and medication reconciliation is not on the same plane and expectations as the patient and the family caregiver. Yet without bringing those together and being able to share that information throughout the continuum, we are going to have that gap that we see now where we drop, have missed information, and we will continue to see medical errors and miscommunication. So we were very concerned that we could see this developed in higher standards.

Also some of the definitions around longitudinal and timeliness really do need to be clarified. As I stated in what I wrote in our testimony, we see delays in action even if we have electronic medical records that can move this information quickly, if it's not clearly defined, if it isn't identified in what timeliness means, we will continue to see lags in this area. We also are looking at what is the accountability in this process of how we deliver the information we're talking about. Our concern is that just sending the information is not enough. Who is receiving that information? Is it understandable? Can they verify it? Are they able to act upon it, and have the patient and the family caregiver been included in this?

The portal for the patient also needs to accommodate the patient's health literacy and language. What we transfer as providers of care is often not understood by our patients and family caregivers. We expect them to act. We say we are engaging them, we are activating them in moving and being in self-management, and yet they do not understand our terminology and we often do not translate it clearly. This is a collaborative process. This is just not an issue for physicians. This is a team of physicians and pharmacists, nurses, social workers, allied health case managers working together. We are concerned that we do not see that information being shared clearly and concisely among the team, and I do not see how we can continue to say that we do good care coordination if that does not occur and it is not defined in a clear statement of standard and process.

I want to speak one clear point about a care plan. A care plan, from our perspective, is the treatment options that we follow through and are recommending. To give that to the patient and the family caregiver is not the appropriate care plan. A second care plan that supports our patients and family caregivers in the health language and literacy that they understand and if they are not English-speaking in their primary language that they can understand would help improve the quality and the consistency of the care that we see and we believe very strongly helps reduce much of the miscommunication that is about.

In regards to the areas that we were looking at as far as what should be the organization of information within the EHR, I put that in the testimony and I'm not going to cover that, but we do believe that there needs to be consensus across the board. We have found in many areas as we've talked with providers that we repeat and take information over and over again because we are not willing to accept trust and move forward with information that is provided to us. I think that that will be key as we go forward. Thank you.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you very much, Cheri. Dr. Leftwich?

**Russell Leftwich – State of TN – Chief Medical Informatics Officer, Office of eHealth Initiatives**

Thank you. Good morning. Thank you for the opportunity to present this testimony on behalf of the American Academy of Allergy, Asthma and Immunology. I will focus my verbal remarks on two aspects of information flow and transitions of care to close the referral loop in transitions of care and the longitudinal care plan that is critical to improving coordination of care. These are foundational to the practice of allergy, but are scalable to other patient-centered medical specialties. The specialist physician cannot be a black box in this referral loop. The concept of a structured relationship between primary care and specialist physician as the patient-centered medical home neighbor outlined by the American College of Physicians, is essential to realizing the full potential of this care transition, included in that structure is the commitment to exchange clinical information between the physicians involved in both transitions, that commitment is a critical element. When I entered practice in the 1980s referral was a clinical term, something you did for the benefit of your patient. Two decades later, referral was an insurance term, accompanied often only by administrative information to enable payment and very little useful clinical information.

The existing best practice workflow of information exchange between these physicians must be preserved by the model created for electronic information exchange. As second and third year medical students we learn to capture every available bit of data about our patients. Then we spend the rest of our careers learning to select the relevant and important pieces of data to communicate in order to provide optimum care for our patients. The clinical summary that accompanies a referral and the consultation summary must not be third year medical student notes. The transition of care initiative of the standards and interoperability framework, of which I am a committed member and serve as a co-lead of the clinical information model, is working to recommend standards that enable exchange of information that always includes defined core data elements, demographic data, reconcile medication list, active problem list, active allergy list, but also enables the addition of relevant data elements selected by the physician. Too much data sent at a transition of care, information overload, will have the same effect as no data at all. Because of the chronic nature of many of the conditions treated by allergists, longitudinal care plans and patient self-management plans are a cornerstone of allergy practice.

The care plan sub-workgroup of the Standards and Interoperability Transitions of Care Initiative, of which I'm also a part, is working to identify standards for data elements that would be a part of interoperable care plans. It is essential, in order to improve care coordination and improve patient outcomes, that standards be specified such that care plan elements that are part of the specialist recommendations can be exchanged between specialist EHR systems and that of primary care physicians in order to be incorporated into the holistic longitudinal care plan. The same type of interoperability is essential in order to exchange these care plan elements that are part of a self-management plan with the patient's PHR. Ultimately, these standards, or care plan data elements, are needed to enable quality metrics around care planning and patient instruction and education and to link care plans to data that patients input.

In summary, for the specialist to leverage the EHR to improve transitions of care, improve patient outcomes and patient engagement, and facilitate coordination of care requires as one of the key elements that standards be specified to enable effective information exchange and improved care and outcomes. Thank you.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you, Dr. Leftwich. Dr. Chiang?

**Michael Chiang – Oregon Health & Science University – Professor**

I want to start by saying thanks for the opportunity to be able to come here and present. I'm Head of the American Academy of Ophthalmology's Medical Information Technology Committee, and do both ophthalmology and biomedical informatics at Oregon Health and Science University, and before that spent almost ten years working at Columbia University. I really want to make two points here involving care coordination between really involving specialists, and concerning these comments keep in mind that I'm talking from the perspective of being an ophthalmologist, but I'm going to try to make points that are really generalizable to specialties beyond ophthalmology.

The first general point that I want to make involves coordination of care. It's my impression that when primary care physicians and specialists interact, that almost all internists have a really good understanding of what I'd consider mainstream medical specialties, things like cardiology or general surgery. In those types of interactions I feel like internists want to know specific details about what was the diagnostic workup, what were the exam findings from those mainstream medical specialists. But in comparison, I think that ophthalmology is a field that deals with a very specialized organ, and in a lot of ways the text and the nomenclature and the abbreviations that we use often are not familiar at all to most other physicians. I've spent my whole career in academic medical centers that focus on things like information exchange and shared medical records. It's always been my impression that the vast majority of primary care physicians do not want to try to interpret all the jargon on our ophthalmology exam notes, but instead what they want is for us to interpret the findings for them. In other words, what are our diagnostic impressions, what are our treatment recommendations, and how does that impact the patient's systemic health?

I don't think ophthalmology's unique in this regard. I think that there are other niche medical specialties like this that have their own diagnostic techniques and they deal with a really specialized thing, and maybe those would be orthopedic surgery, genetics, ENT, and urology and dentistry maybe. I think that that has implications for the optimal way that those niche medical specialties interact with primary care physicians. The flip side of this I think is that when it comes to meaningful use regulations, for these types of niche specialties there's a little bit of almost frustration with the perception that some of the regulations are perceived as being geared toward primary care—things like vital signs and immunization registries, and advanced directives that are really not within the scope of our practice. But on the other hand, there are things that are within the scope of our practice that are similar to those requirements. For example, in ophthalmology we don't do a whole lot of vital signs, but we do do ocular type vital signs, visual acuity and intraocular pressure, and many EHRs actually do a very bad job of reflecting those things. So some type of guideline forcing us to do those things I think would be a win-win type situation that would allow us to really add value to the longitudinal medical record for these patients.

I want to get into the second point, which is barriers to data exchange. The background here is that in ophthalmology we do a lot of diagnostic imaging in the office, and some of these are done by machines that generate numbers, for example, what's the curvature of the cornea. We need to do that to plan cataract surgery. Some of the machines are things that generate pictures, basically retinal images, a lot of imaging technologies. And basically every single patient gets some of these studies done on every single visit, so ophthalmologists do not send a whole lot of patients to Quest to get their blood drawn. We don't send a whole lot of patients to radiology departments for imaging studies, but every one of these patients gets these studies done and the data end up living on the image generation device and hopefully they end up in an EHR. Often some big practices maintain ophthalmology specific Pax servers to archive all the images.

The problem is that these silos often don't talk to each other at all. Ironically, we do have DICOM standards for most of the common imaging modalities, but most of the vendors do not comply with those standards. In that regard I think that we're probably where a field like radiology was a long time ago, where we have manual re-entry of data, image living in multiple places, proprietary interfaces that you have to develop from site to site, and often people end up scanning printouts into EHR to get the data in there. I think that's frustrating for a lot of ophthalmologists and some type of rule enforcing compliance with standards like DICOM or IHE profiling would be a huge benefit for ophthalmology, because I feel like it's tough to talk about data exchange outside with other people when we can't even get it right within our own offices. I think that that would be applicable to cardiology, urology, and the other specialties that deal with in-office imaging procedures.

I just want to summarize that I think that most ophthalmologists really want to be able to collaborate better with primary care physicians and the American Academy of Ophthalmology really believes that EHRs can be one mechanism for doing that. On the other hand, the way that specialists use EHRs I think is often different than the way primary care physicians do use them. I think that that really needs to be reflected in the meaningful use guidelines. There are some things that are in the guidelines that we don't do, but we also do things that are not in the guidelines where specialty specific guidelines I think would help out a lot. Thank you.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you very much, Dr. Chiang. Dr. Mullis, are you on the line? Dr. Mullis, if you are here please unmute yourself. Is she not on the line? Maybe she stepped away. Dr. Mullis? Does somebody want to pretend to be Dr. Mullis on the line? She's having audio difficulty. George, should we take a couple of questions and if Dr. Mullis joins us then we can start?

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Yes, that's a great idea.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Well, thank you very much for the four of you. Hopefully we can get Dr. Mullis on the line very shortly. Dr. O'Malley, if I may take the privilege of asking the first question. In your testimony on page two, you talk about the quality of narrative being an important part of this information exchange. I'm wondering, with all the structure of data that we're trying to gather for information exchange do you have a thought about what we're losing in the standardization with regard to the narrative, or the patient or clinical narrative?

**Ann O'Malley – Center for Studying Health System Change – Senior Health Researcher**

Absolutely, that's a commonly noted thing by providers is that there's some misuse of the templating functions of an EHR versus the free text entry function for things like the history of present illness, reason for the referral, summary of care plan. Providers maintain that those should absolutely be done in a free text form, and clearly technology, which I don't understand how that works, has to somehow then generate that into transferable data bytes that go from one provider to another. Misuse of templates for those key functions really hinders end users' ability to take the output from the EHRs when they're trying to coordinate care for patients.

Is that addressing your question?

**Michael Barr – American College of Physicians – Vice President, PA&I**

Yes, and actually I was going to turn to our sub-specialists here, our specialists and ask in terms of the patient narrative if it is being shortchanged in terms of the information exchange how does it affect your clinical care. In other words, is that something that you look for when you get a referral, Dr. Chiang, from ophthalmology, for example? How much information is being lost, or to make it more positive, what information should we be grabbing and making sure it gets to you for this care coordination?

**Michael Chiang – Oregon Health & Science University – Professor**

I think that as ophthalmologists really this information flows both ways. I think that the information that we want is really not that different from the information that everyone else wants; it's basically what's the problem list and what are the medications and allergies. Now, there is a difference in that the way that we document things is often different from the way that most other people document things. I think that a lot of physicians document in terms of text narrative dictation type notes, and we do a little bit of that too, but often what we do in ophthalmology is that we draw or we annotate with templates that are out there. I think that that's a real challenge in terms of designing EHRs that really handle that type of workflow. So I understand that's a little bit different from what you're getting at.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you. Dr. Mullis is on the line, but I want to ask Dr. Leftwich if you can make a quick response, if you have one.

**Russell Leftwich – State of TN – Chief Medical Informatics Officer, Office of eHealth Initiatives**

I think that narrative and the quality of the narrative is analogous to my remarks about being able to select the relevant and important data out of all of the data in a transition of care. I don't think you can ever automate things so that you have a data dump of all the data that's there. That destroys the quality and I don't think we can ever do without that element of narrative.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you very much. Dr. Mullis, welcome, I hear you on the line. We look forward to your remarks. Please start.

**Devonne Mullis – IU Health – Director, Hospitals Group**

Thank you. First, I do want to thank you and I want to apologize if I lose this call. I think this is probably my 15<sup>th</sup> time calling in and I'm having some technical difficulties here. I'm actually on vacation and in a very poor reception zone.

But I am the Director of the Hospitals Group for IU Health. I am, by background, internal medicine and pediatric trained. IU Health is a founding and participating member of the INPC, which helps with our Indiana Health Information Exchange. We have been working on how to basically interconnect our electronic medical records between hospitals, and now with the long term and post-acute care facilities essentially we're really wanting to try to share that information across the transition points. IU Health and Regenstrief, which is one of our largest research areas here, have partnered now with Golden Living, which is a long-term post-acute care facility network in the state of Indiana. Essentially what we're looking at doing is because those patients will transition from the acute care setting to the post-acute settings and back we're wanting to try to make that share in interconnectivity of information flawless.

Essentially what we're trying to do is assure that those loops of information—I heard somebody talking earlier when I was able to capture some of the information, talking about referrals. What this is, is obviously we have folks that will get ill in these post-acute settings or skilled nursing facilities and will be transitioned in and as an acute care provider we're wanting that information at our fingertips. Then once we have stabilized the patient and they're ready for discharge, we're going to assure that that meaningful information is getting back to the facilities. Not just in data points but in some way that is very meaningful and looking at that particular patient in regard to their chronic medical management and assuring that we have a plan of care for them that can be carried out throughout the continuum. I think that's the new key

is it's not just putting out this one fire from an acute care setting, but as well managing that patient across the continuum and developing some plans of care for that patient that can be carried out flawlessly in the post-acute setting.

Essentially some of the key points that we were looking at that we were really concerned with initially were, the med reconciliation was one of the biggest concerns, and I hear everyone saying that I want to know their problem list, I want to know their medications, and I think that's one of the key points. One of the things that we're wanting from the acute care setting was that this process is being able to help us with the minimum data sets, which the skilled nursing facilities are required to keep by CMS. This allows that to flow flawlessly into our hospital system so that we can actually see some of these things going on with the patients in regards to their general community and continuity of care as they bring in. Then of course when we discharge the patient our discharge orders, the medications and a summary will be flawlessly transitioned back to them.

I think that some of the keys of this interconnectivity is that we're having the satisfaction of sharing our summaries, sharing the conclusions, and most importantly sharing some of the other points. Not just looking at the data in regards to radiological findings, laboratory findings, but actually being able to share an ongoing continuous plan of care for a specific patient. Some of the next steps that we're working on with the post-acute care facilities, we're actually looking at ways that we can holistically approach the patient and ways that we can exchange information that will improve patient outcomes, reduce morbidity and mortality, and from a hospital standpoint as well as a patient standpoint for their well-being and safety is to actually prevent readmission. So what we're really feeling that this information exchange will help us do is really develop a plan of care for the patients that can be carried out throughout the continuum so that post-acute care facilities can provide better care for patients. Then when we're getting patients back we have the answers at our fingertips that we can provide excellent care in acute care settings.

I think that ... I'm going to actually touch on something that you were just talking about too, but I really think that this exchange through the transition will allow us to provide better safe care for our patients and prevent complications. There's lots of research looking at the complications at the transition points, and having this data and having this data exchange will help us prevent those complications and provide better outcomes for our patients. I think that's going to be a key point.

One of the questions that you just asked about were the actual data points, I think from a primary care standpoint, living in the hospital world here, the narratives a lot of times are important. We have to make sure we are getting those narratives to the patients, because it's not going to always just be these are the medications that the patient's on, but we have to be able to communicate to the post-acute settings room care orders, specific diet care, specific monitoring, physical therapy, speech therapy needs. And part of those narratives are key in making sure that the patient's getting taken care of ... in a holistic manner and that their entire needs, including ... needs and such are being really addressed in the post-acute care setting. So we're really excited about this partnership.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you, Dr. Mullis. I appreciate that, and thank you for joining us on your vacation.

**Devonne Mullis – IU Health – Director, Hospitals Group**

I am so sorry that I was missing out on all of this. I was really looking forward to hearing the entire conversation.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Very good, thank you. Let me ask if there are other questions from the committee. Go ahead, George.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Thank you. Actually, it was Dr. O'Malley's presentation that triggered this thought, but Ms. Lattimer also, actually all the way down, so I can envision what it would be like to have an information system, well maybe I can't, I don't know. Maybe I can fantasize what it would be like to have an information system that facilitates care coordination. Meaningful use, because of where we are, is necessarily a step wise

process or a stage wise process, so we're doing these things like what's the first step that's partway there that doesn't hurt care coordination lately. If we're not going to actually get to the goal in stage two, I certainly don't want to do anything that sets us back from that goal. So do you have thoughts of what's the next step that we can do? For example, I'm thinking, well, you just send some kind of document that we'll call care coordination document, and then we'll just shift that off to the next person, because we're trying to think of, well, how do you get partway there to care coordination. Do you have thoughts on how we can do this in a step wise fashion, realizing that we understand that we want to go to this big end, but where do we get to next?

**Ann O'Malley – Center for Studying Health System Change – Senior Health Researcher**

I think it would be naïve to assume that everyone out there even knows what a care coordination plan is or even cares about one. Our financial incentives certainly don't support us to think that way as clinicians. So I think at a minimum we need to have the basic elements of the continuity of care record that gets transferred well between institutions. We need to have problem and medication list reconciliation that can occur without inaccuracies happening. RxNorm or something like that, has to occur in stages two and three so that referring, consulting, and ED providers can see an accurate list of what medications the patient's on and a priority organized problem list.

As Dr. Barr pointed out, the narrative very clearly expresses the reason for the referral transfer, a summary of findings and recommendations from consultants, and a follow up plan, and I think for acute care situations we also have to ensure that the recipient acknowledges receiving that communication. Too often primary care providers will send something to the emergency department or to a specialist that's extremely timely or urgent and it just gets lost. So I think just concentrating on those minimum data elements at this point can go a long way to helping care coordination. I don't think we need to get so fancy about some of the higher levels of coordination functions. We just need to get the data there in a way that's accurate and clear and timely.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Yes, .... Please go first and then I'll ask ....

**W**

I just wanted to build on that. I'm sorry, Dr. O'Malley, but you state it and I can just build on it. That process are the data elements that I think work in our provider community. I would like to extend that, that to the patient and the family caregiver in the personal health record we have some integration that allows them to give their expectations, their thoughts, and their processes, because that coordination is key to me, even in phase two and increasing that in phase three, that that's clearly defined. The case manager can help that patient and family caregiver, the care manager, in the advocacy role of understanding that.

**M**

So we have a document that has minimum elements, but the extra things we think we need as soon as possible—I'll put it that way—are, one, an acknowledgment that we have to see if that's feasible. Because we don't know when you're talking who you're talking to whether they have meaningful use enabled EHR, and the patient component of it.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Ann?

**Ann O'Malley – Center for Studying Health System Change – Senior Health Researcher**

The acknowledgement should not be for every transmission. That would be ridiculous. If you see some kid after hours with ... media you don't need to be bothering the PCP about it. But if it's an acute transfer and it's really critical to the ED, that's where the acknowledgement has to come in. So we don't want it to become too much work for providers and unnecessary, redundant types of acknowledgement, just when it's clinically critical. On the patient side, I think enhancing PHR capabilities, enhancing tools to support shared decision making between providers and patients is critical because the majority of what we do is preference sensitive care and patients' preferences and values are not elicited. So if we can put that in

the hands of providers, there's lots of good evidence-based tools to support that, perhaps patient preferences will be better elicited. We know that plenty of organizations like Group Health and Dartmouth Hitchcock already have those kinds of patient decision aid libraries in place and can coordinate those with the EHRs.

**Russell Leftwich – State of TN – Chief Medical Informatics Officer, Office of eHealth Initiatives**

I think that first step is the core data elements that the standards and interoperability framework has identified that should be with every transition of care. That the problem with the reconciled medications and allergy lists and the demographics, and there may be a few others that will be added to that list that have been suggested in some earlier work as ideal data elements to be included, like advanced directives.

**Devonne Mullis – IU Health – Director, Hospitals Group**

And from an acute care setting we have to have those core elements, we have to know the medications and the allergies, and the problem was we're really excited about looking for those next steps of the advanced directives of the plan of care, of their mobility, of their mentation. Those are some key things. When we receive a transfer ... in the middle of the night, we want to make sure that we have an understanding of who that person is.

**Michael Chiang – Oregon Health & Science University – Professor**

George, I think the point that you made is actually a little bit of a broader issue, that one thing that I've heard from a lot of physicians is that they go from one EHR to another EHR and they switch, and they cannot get their data out from one to the other. I even heard from one person that he went from version two to version three and the exam data couldn't transfer from one to the other. The way that I've interpreted it, at least that for ophthalmology there is no definition of a standard computable eye exam. There's no CDA or something like that that you can define. I think that something like that would be a huge benefit, at least for our field, and I assume for everybody else. The way that I would envision that is that maybe there would be different levels of granularity, like how one ophthalmologist would send data to another ophthalmologist, or how one ophthalmologist would send data, maybe less specialized, to a primary care physician. Something like that I think would make a big difference in terms of interoperability and real clinical care and coordination of care.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Other questions from the committee? Charlene?

**Charlene Underwood – Siemens Medical – Director, Gov. & Industry Affairs**

On the other end of the transaction, and you alluded to this a little bit in your testimony, okay, now the ... and you receive it into your EHR. Talk a little bit about how you see embedding that into your practice, embedding that into your EHR, what might those requirements look like, because you had mentioned that you might not trust the data coming in. So we're going to get the flow going in one direction but again it's going to take more time to look at it, so where's the value and how can we look at the other side of the transaction so that the exchange, the connection actually occurs?

**Michael Barr – American College of Physicians – Vice President, PA&I**

Cheri?

**Cheri Lattimer – Case Management Society of America – Executive Director**

... directed to me, thank you.

**Charlene Underwood – Siemens Medical – Director, Gov. & Industry Affairs**

It's going to all of you.

**Cheri Lattimer – Case Management Society of America – Executive Director**

I think from our perspective is to start with to make the electronic health record completely interactive to the full collaborative team so that we have that process, sending that information to the practice has to be, and it cannot be a long process of having to leaf through page after page after page to find what we

need. So what I would like to see is some clear standards of the key elements, and I think Dr. Leftwich talked about, our transition elements that give us what we need to be able to move forward with consistency. My biggest fear is that the EHR becomes either a Michener novel or we go the other way and it becomes an IM novel, an instant messaging novel. We have to find the equal balance here so that clinicians and patients can make informed decisions to do the things that they need to in this process of consistency.

The other point I just want to put in there is I think that oftentimes as disciplines we do not understand the roles and how they can collaborate together in the electronic medical record, and that is the key piece that is culture and behavioral change on our part. And that trusting and respect comes from really understanding that and what each person can contribute to that. Oftentimes I heard from my colleagues up here from the medical side what they need. The care management side can provide so much patient perspective into that process with them so that no one person is totally accountable for this. But we are able to work as a collaborative team in gathering this and then knowing what to transition so the next level of care can pull the key elements out to bring consistency and quality to what they're delivering.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Any other thoughts from the panel?

**Michael Chiang – Oregon Health & Science University – Professor**

Ms. Lattimer, I think you made a really important point about the Michener novel, because I think that this is another point that the way that the specialists interact is a little bit different than the way primary care people interact. But when we look at a medical record or a longitudinal care record, oftentimes what we're first interested in is what is the past ocular history or what ocular medications is the person on, and working in the centers with the Epic's and the Allscripts' they often don't work that way. Everything is lumped together. And that's exactly one of my concerns, somehow parsing out the medical record so you can look at different sections of it. I don't think we do a very good job of that right now.

**Russell Leftwich – State of TN – Chief Medical Informatics Officer, Office of eHealth Initiatives**

To the point about whether the data is trusted and how it's incorporated into the other record—I think this is the PCAST idea. That every data element should be tagged with its source, its provenance, and that should remain with that data element so that if it's an ophthalmology data element then it can be pulled up uniquely in reviewing a record.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Dr. Tang, I think you have a question.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

Thanks to the panelists. One will certainly acknowledge that we've been focusing a lot on primary care. Part of the reason is it is the biggest bucket of physicians in ... so there are hundreds of thousands of primary care and we couldn't deal with them in one effort, and also a lot of the EHRs are suited mostly for primary care. So our challenge, and thank you for your help in teasing this out, in how to deal with the specialist participation and overall care and care coordination, and that's what we put this talent together for, so there are, I don't know, 50-100 specialists depending on how you count sub-specialists, but how do we come up with the critical few. This is the challenge we have in just meaningful use, period. But how do we come up with the critical few that would enable, facilitate this healthcare team driven care for an individual and the coordination amongst all the players. So you've offered some advice already, so the minimum data set, and you've listed a number of elements. Actually, those are the same elements we have in what we call the key clinical summary that goes from either to the patient or amongst the healthcare team. And I'd be interested in your comment on that and whether that's getting at your point.

Another thing you mentioned was RxNorm. That's a way that we can make sure that the medications transfer in an understood way. A third area was DICOM because images are important to a number of specialists and sub-specialists, and that's another kind of thing that can address the needs of many specialists, including primary care. Then we also are moving into the shared care plan, and some of you mentioned that. The sharing is not only amongst the professional side but also with the patient. Now, we

get into a problem there because, one, most physicians actually don't even know what the definition is of a care plan, let alone a shared care plan. The second part we got into a problem with is how do you maintain that? So I'm not sure it would do everyone a service if we just concatenated everyone's care plan, because that would turn this list into a cacophony rather than a care plan. So any ideas you have there would be helpful. Remember, we don't have only stage two, we have stage three to work towards. And in many cases our hands are tied in the sense that we can't get out with a standard in time to have the rule for stage two, but we still want to have our eye on the prize, as Farzad talked about, and that is stage three and beyond really. So this is a journey.

Another piece, just to throw a lot of things out there, is the quality measures, and I think Ann brought this up as well. We're in search of ways that we can measure, which gives the output, the end result targets peoples' eyes and attention to the end result, but as you all know, we don't have that. There are very few, period, let alone any that are endorsed by NQF. NQF has put out a call and they have initiatives to try to enhance that, but your ideas as well on this, what does it look like, what does a care coordination quality measure look like, and a lot of that's going to be from the patient's perspective. I think Cheri mentioned that the whole PHR, and that's also in discussion, how do we elicit the patient's experience in health and healthcare. So I've thrown a lot out there, but I guess the bottom line is how do we focus on the critical few? I'm not sure we can get the vital signs for the ophthalmologists and the vital signs for all of these specialists, but is there a foundation, is there a floor that can help raise the tide for everyone. How do we approach that even, again, not only with stage two but stage three, because we're working all at the same time.

#### **Ann O'Malley – Center for Studying Health System Change – Senior Health Researcher**

I guess what I would say is given the challenges in creating those functionalities and that interoperability, I think it's just critical that every patient's EHR, when it goes to another provider, lists who that person's primary care provider is. Because when all else fails they need to know who knows the full story. I know there was some pushback with stage one or stage two suggested measures around including the whole team, so that may not always be possible given that we don't always work in teams. But when there are other critical providers involved in a patient's care, a patient with severe CHF, you want to know their PCP. You want to know their cardiologist, and you want to know who's the nurse or a nurse in the doc's office who's working most closely with them or doing home visits and who's the family member that's most important. That has to be in there so when these acute situations arise the right people can be contacted and the person at the recipient end of the data does not have to reinvent the wheel in going through years of hospitalization records and other things. So I can't overemphasize the importance of listing who that primary provider is.

In terms of the quality measures, I agree completely. At this point I think that if we can incorporate some quality measures into the PHR and to patient portals and trigger those to come up to a patient after a referral has occurred, after a consultation, after an ED visit or transition of care has occurred, that may push providers to start thinking about that. I understand that we don't have the denominators yet to do this at the provider level when it's very complicated and I don't think we are ready to go there. We need measures to be tested and developed before we push them on to providers. But at the minimum we can track whether referrals are sent and the timing of those types of things, and we have to figure out what the denominator is for that that's reasonable.

#### **Cheri Lattimer – Case Management Society of America – Executive Director**

I think to enhance that along the lines of from the point of the referral and the timeliness of those, is really that the information of that referral, that went with that referral, is appropriate. I believe that our patients and their family caregivers can evaluate some of this in much more depth than we can. I cannot tell you how many patients ... across my desk of having referrals done getting there and no records, no information, and their dissatisfaction with this whole process. Now, they're not the performance measures for providers, but they can begin to highlight and continue to focus us on where these gaps and these barriers are for individuals. The same thing in a transition scenario when they get home, we may have done everything in the electronic medical record that we think, we could have given them the clinical summary, but can they really understand it. And did we fire so much at them that by the time they got

home it hasn't been assimilated and they can't act on it. Those experiences have become key in our world as case care managers in understanding where that problem is.

One last statement, when we're looking at preventable readmissions, I have found that talking to the family and the patient about what happened at home that they thought brought them back in is a much bigger window than anything we document in a medical record.

**Russell Leftwich – State of TN – Chief Medical Informatics Officer, Office of eHealth Initiatives**

I agree probably most providers couldn't give you the definition of a care plan, but I think most specialists, probably all specialists do create longitudinal care plans for whatever condition they're accustomed to seeing that has either a chronic or long term recovery period that requires a plan for the patient. I think the idea that you assemble all of those into a holistic care plan is not too great a step, but maybe the first step is for each specialty to be tasked with developing the library of care plans around the conditions that they treat and then the next step is to incorporate those into a more holistic plan.

**Michael Barr – American College of Physicians – Vice President, PA&I**

I think Dr. Chiang wanted to comment.

**Michael Chiang – Oregon Health & Science University – Professor**

I guess I would say that, and I agreed with what you said about the patient reported outcome measures, that just to plug one thing that the American Academy of Ophthalmology had done. This wasn't my work, but there were two patient outcome quality measures that were submitted to NQF for endorsement, basically involving patient satisfaction or patient perceptions of cataract surgery, and I wonder if that may be some type of model for integrating patient perceptions with quality outcome measures.

**Ann O'Malley – Center for Studying Health System Change – Senior Health Researcher**

... thing is that I don't think that this whole shared care plan is a limitation of HIT. I think it's a limitation of the fact that we as human beings don't talk to each other. We never have prior to the existence of computers, when it was paper-based, unless you're in a very tiny town and you pick up the phone and ... at somebody in real time, we've never been good at this. So I don't look to HIT as the solution to how to get docs and nurses and providers to work together and to incorporate the patient. I think that's too much to ask of HIT. I think you make the basic data elements available and exchangeable and then you put it on us as providers to develop the care processes and the notification procedures, when they're care transitions, to talk to each other. But we can't let the EHR vendors stand in the way of making those critical data exchange elements interoperable. To me that's the bottom line. They have to work together, despite the fact that they're all in competition with one another.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you. Cheri, did you have another comment?

**Cheri Lattimer – Case Management Society of America – Executive Director**

I just want to make a comment on the performance measures. I would really like for us to look at too that we're not only talking clinical quality performance measures, we're talking process change parameters from my perspective. And that rather than create performance measures that are listed in a diagnostic state to an age, say, a heart failure patient over 75, I really would like to see these around transitions and care coordination and the experience outcome. Because those are the performance measures that affect all of us, not just the disease state, just not an older population. We have as much problem with the transition of a 30-year-old with a knee replacement sometimes as we do with a 55-year-old or a 75-year-old. It isn't about the disease, the state, the surgery, or the age. It's about a process that we need to improve.

**Devonne Mullis – IU Health – Director, Hospitals Group**

I think our patients are expecting us to have that down now. They're expecting when somebody refers a patient to me that I know their history and that they shouldn't have to repeat it. I understand their plan of care and that we have to get that down. I need to know who to contact. That was another point that I think was so vital that was made earlier, who is the primary care physician that has to be a finger click

away here and who is the family member that's most involved, who do I need to contact, who is the nurse that's been ... and providing insight to the patient, who's vital.

**Russell Leftwich – State of TN – Chief Medical Informatics Officer, Office of eHealth Initiatives**

Along those lines, the quality measures around asthma that asthmatics are only people under 50 make no sense at all to the allergy community and are frustrating and off putting.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you. David Lansky?

**David Lansky – Pacific Business Group on Health – President & CEO**

Thank you, Michael. It was wonderful testimony, very thought provoking, and, Paul, you made the same remarks I think I was going to make, but it leads me to another question I guess. As Paul suggested, there are three connected pieces of our work. There's what I'll call certification, what needs to be captured and recorded in the products. There's the functional criteria that we tend to talk about for the meaningful use criteria, and then there are the quality measures. These three are kind of in the food chain, and we've all talked aspirationally about having quality measures pull through a lot of the behaviors that we'd like to see, as the last comment you just made. I'm beginning to wonder if there's a way to, on this topic we're talking about, dropping out the middle piece and doing in some ways less work on specifying the functional capabilities of the EHR because of the complexity and variability across specialty types and primary care and communications and patient circumstances.

So, for example, we've talked a lot about the shared care plan as a goal. We often get hung up thinking well how do we specify a shared care plan for the enormous variety of patients and specialties and care situations that exist. We don't want to be in the business of specifying for the professions 50 or 100 or 1,000 care plans and then monitoring whether or not they're being used and so on and so forth. So instead it's attractive to say that there may be patient-based measures of successful care transitions and care coordination and maybe they're provider-based measures as well, clinical outcome measures that would capture the successfulness of hand-offs. And there may be the need, as some of you have said, to establish a clear data set at the certification end, if you like. But in the middle we perhaps can be silent and say, if you had taken the availability of the necessary information and you've somehow successfully handed it across the various members of the care team to achieve an outcome that reflects successful care coordination transitions, we have achieved meaningful use.

That leaves out the question of how much specifying we need to do to the vendor community and to the providers who implement those tools in the middle. Does that get us through some of the problems of over-specifying for every specialty those middle processes? Or, is it necessary for us to be more precise about what happens in the middle in the functional criteria of the products? Does that question make sense to anybody?

**Ann O'Malley – Center for Studying Health System Change – Senior Health Researcher**

That's really hard. The value of the care plan is enormous, but at the same time we don't, as you say, want to be overly prescriptive, and there's not a common care plan in one specialized field versus another. But for that unique patient there is a common care plan that all providers caring for that patient should acknowledge. Our ... of care haven't gotten there yet. They may have in some big, integrated delivery system, but in your average run-of-the-mill typical practice that hasn't happened yet. So, yes, maybe EHR vendors can be pushed to develop a capability that a care plan can be incorporated into the EHR, but I think in terms of measuring providers we have to be very careful at this stage of the game and not expect all specialists to work in the same way. I think, as you said, and everyone has said, the minimum data elements just have to be present and that this all has to be accompanied by payment reform, because no provider's going to spend time on a shared care plan and talk to other providers until they get reimbursed for it.

**Michael Barr – American College of Physicians – Vice President, PA&I**

... a lot of card raising here on the committee, so I think, Paul, you're next, and then George, and then Christine.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

Just like my comment stimulated David to build on it, I'm going to build on that and a combination of what Ann said. So in a sense we got stuck trying to think you have to specify the whole thing. Now, in fairness it really doesn't help our end user base, either the vendors or the providers, if we don't specify it. But it hangs us up. So when we started out with the healthcare team, well, that seemed like a really good idea. Then everybody asked, well, how do you know who's still active? Then we got stuck in that, when actually humans are pretty good at dealing with that problem.

So, your comment, Ann, about saying well, let's get this important data around and humans can deal with it may be the turning point. So, for example, the healthcare team, even if we had a list, just like in our own organization, you can see all the folks in our own organization that have seen this patient. What if it was just everybody who saw this patient? Humans can process that, know the timeliness, well, that's not very relevant, it's five years ago on this specific problem, but you can start at least to be armed with that information. Similarly, the care plan, although I made a joke about concatenating all of the care plans, maybe all it is is the care plans under each provider. Again the human can deal with it, and even the patients and their caregivers can know this is who I saw and for what. All of a sudden we have not an overly specified but it may be a very helpful thing for the entire continuum of the providers in the patient's care, as well as the patient and family and caregivers.

So what David started out with is if we stop trying to over-specify things and just get information to the places that it needs to go, including the family and caregivers, that that would be a big service. Then over time we, the professional will figure out what is a reconciled care plan, what is a reconciled problem list, and so on and so forth. Some of the concepts that we started working on but because we couldn't fully define we sort of stopped and maybe that's getting in our way, so it would be interesting just your general impression of that kind of approach.

**Russell Leftwich – State of TN – Chief Medical Informatics Officer, Office of eHealth Initiatives**

I think, though, it is important early on to identify what the data elements are that are in a care plan and what standards encompass those data elements and specify what standards should be used when care plans are exchanged.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

We came up with a pretty short list when you talked about the shared data, the transition, and it matched our clinical summary very well. So even if we pass that around, it might go a long way.

**Russell Leftwich – State of TN – Chief Medical Informatics Officer, Office of eHealth Initiatives**

I think it would, but I do think there are data elements that are unique in care plans that usually aren't part of other clinical documents that do need to be addressed in enabling this and probably sooner rather than later, lest we're just exchanging PDFs.

**Cheri Lattimer – Case Management Society of America – Executive Director**

I would agree with that. I think from the standpoint of the care management, care coordination some of the issues that we don't see in the standards are things that are key in working with patients and family caregivers, health literacy, the components of the patient's expectations, their advanced directives, the things that we need to really incorporate. Now, that can be in a phase as we're moving forward. I do like the idea of not specifying to the ... and allowing us as providers to do that. But I encourage us as providers to make sure we incorporate the patient and the family caregiver in this process, because I, as one really want our patients to begin to say I really understand that. I know what I'm supposed to do. You have no idea the number of times a case care manager is sitting there listening to I have no idea what the doctor was talking about, and how many times your patients that you treat tell us I'm not even sure what I'm being treated for. So those are the things that from the ... of a care plan are big concerns in the care case management area, especially when you're charging us to be responsible for transitions in care coordination, how do we pull those pieces together.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you. Christine Bechtel?

**Christine Bechtel – National Partnership for Women & Families – VP**

Thank you. This is exactly the same line of thinking. We've been doing some work to try to really souse out how to do this. There are a lot of things in stage one and stage two where we're asking for very specific pieces of information, including hospital discharge instructions. We know that hospitals also do pre-visit planning, mostly not shared with the patient, but if we could link pre-visit planning with discharge instructions and share with the patient we've got, I think, some interesting makings of important information. So as I think about our conversation today and continuing in the vein we're already on, I want to suggest and get your reaction. So we've been thinking about the fact that a lot of the elements that you guys have talked about in your testimony that are the basic elements of a care plan, problem list allergies, med lists, etc., are part of the CCR or CCD standards.

So if we were able to pull the basic information from that, I think what's missing is the plan part of the care plan. But we're also asking for electronic progress notes, and we've just talked about the narrative and how you lend that human judgment and human story to it. So we could have a piece of it that is actually just the narrative. We've asked, in stage one, for patient education resources already, we can pull those potentially into this care plan notion, and we've also talked about including at least the primary care provider on a care team list in stage two, although I think Paul's suggestion for who saw and what the date was, that might be even better.

So if we pulled those things together, we'd have a pretty interesting and pretty, I think, and I want to know what you think, core set of information that begins to formulate what a care plan is. I think it needs to move through the healthcare system potentially using either the NHIN Direct exchange, or through an HIE. But the idea that Direct is a set of standards and protocols that are already available seems to me to be not as hard—now, maybe I'm naïve on that, but we'll find out in a minute—then of course a copy to the patient. And given that we have secure messaging and we have patient portal, I think there are multiple options for how we could deliver a copy to the patient. Now, what I think is missing is what Cheri's talking about. I'd love to find a way to do it in stage two but I am thinking it's probably at stage three, which is once we get some experience with is this minimum data set useful and the functions that go with supporting its transmission to both the care team and to patients and whether the patient education resource link in stage two is enough. Then we can begin to look at health literacy, primary language, and patient preferences.

But it does occur to me that if we give a copy to the patient and we have suggested that secure messaging is part of the core requirements for stage two, that the patients can actually use secure messaging to correct information or to ask questions or to ask for more information. So I've just vomited a bunch of stuff out, but it's pretty specific. So what am I missing? What's wrong with that? Would that fit for both specialists and primary care providers?

**Russell Leftwich – State of TN – Chief Medical Informatics Officer, Office of eHealth Initiatives**

First, Direct is the standard for sending the messages, and I think it really does enable a lot that hasn't been possible before. But it's the Standards and Interoperability framework that's the standards for what's in the message, and I don't think we're there yet with that. But I think the idea that the direct messaging will include patients and their PHRs is very important to all of this. I think it's a slam-dunk that the core data elements are going to be useful. The question I guess is what's next, and I think the patient education may well have been intended to include care plans, but most providers don't make that connection at all.

**Christine Bechtel – National Partnership for Women & Families – VP**

Right, and I'm saying, speaking to Cheri's point, in order to understand what is in the care plan that you would link patient education resources that are condition specific. So they're not resources necessarily about the care plan as a thing, but rather the contents of the care plan as a first step.

**Michael Chiang – Oregon Health & Science University – Professor**

I do like what you just proposed and also what Dr. Tang had talked about, about being basically overly prescriptive about things. I think that one concern that I have a little bit is that I feel like the word out on the streets among practicing physicians is that we're in a transition point where people are going from paper to electronic systems. There are a lot of people out there who feel like they're not taking as good care of patients as they used to from an individualistic point of view because they can't get that contact or they can't get the same data in there, or that the EHRs contain all this data that is not really usable to them from a clinical decision making perspective. I'm a little bit concerned about that, just in the sense that I feel like every new thing that we ask people to do means that they can't do one thing that they used to do with the patients. You've got these practices where you get some physicians seeing 80 patients a day, and it makes things a little bit tougher. So I guess it's easier to point out problems than to come up with solutions from these lines. But that is one of my concerns a little bit, how to make all of this work within the normal workflow of how people take care of patients.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you. Gayle Harrell?

**Gayle Harrell – Florida – House of Representatives**

Thank you very much. I like the direction that David is going down, and that whole concept of not being so overly prescriptive. It's kind of like when you see it you know what it is. But what happens and how do we establish parameters around measurement and how at that point, if you go down that line what do you see in evaluating whether you're getting there? And we have no quality measures established around care coordination. How do you then say you're meeting a standard or you are there? When do you know you're there and how do you measure it? That becomes somewhat problematic. What would be your suggestions on that? When you see it, you know it, but how do you measure it?

**Ann O'Malley – Center for Studying Health System Change – Senior Health Researcher**

I'd say for starters the acute care transition, so when a patient is sent to the ED to ensure that that transfer information was sent and when a patient leaves the hospital that the discharge record is out to the outpatient provider in a timely fashion. Those are, I don't know the technology but it doesn't seem that hard to measure to me and that is the most critical thing. I think right now timing of transfer of data is probably one area to focus on. I'll stop there.

**Cheri Lattimer – Case Management Society of America – Executive Director**

I would agree with that and I strongly believe, going back also to what Christine was asking, that the ability to use the clinical summary would absolutely make sense, to have the patient's experience that they got it. One of the questions in the measurement for that is did they understand it, and I would really, because I don't believe that that really occurs.

The last thing I would really like to say is I think this is a great opportunity for us as a community to change a terminology that I believe sends the wrong message. When you say the word "discharge" in most people they're thinking about they've gone out the door, I don't need to worry about that. You're not talking about that in electronic medical records. You're talking about a transition summary. You're talking about something you want our community to use over and over again and build on and go forward. I would encourage you to look at some of these terms that actually set a different expectation, because if you send an electronic discharge summary, your thought process is I sent it. I'm done. I am challenging us, we are not done until we know that the receiver got it, can read, understand it, and act on it, whether it's a provider, a patient, or a family caregiver. And I think we've done a very poor job in being able to do that. That is somewhat personal on my side, but it also, as most case managers would say, we hear every day how bad of a job we do in this.

**Russell Leftwich – State of TN – Chief Medical Informatics Officer, Office of eHealth Initiatives**

I think the obvious metric, one, was the information sent at all, and as Ann says, in a timely fashion. Did it get there? Was it there when the patient was? I think that's a very important metric, to my point that referrals are now payment enablement documents, they're not clinical information sent to the other provider. I think that's a very important metric.

**Devonne Mullis – IU Health – Director, Hospitals Group**

I'm sorry, I can't see anything. But I think something else that is key and has been mentioned too, if we do have a plan of care and to the point that was just made about the "discharge," it really should be that when somebody transitions into the inpatient world what should be a key measurement is that their plan of care has been reviewed. So you know that I received it, I looked at it, I somehow auto verified that I have viewed this, and then upon transitioning them back out of the acute care setting it has been updated and shared. So that if there is anything that changed in regard to now the patient's on a special dysphagia diet, those types of things, that that would be a care measurement that anyone who has touched that patient in such a way. And to somebody's point earlier, maybe it won't be for an otitis media and a ... clinic, but anybody who's had a referral from a sub-specialist standpoint has at least had the option to review that and if there's a specific area that needs to be updated, they can update that, and that that would travel with the patient. They would be involved in that and that would travel with the patient and you could measure it for every time that was interacted on. The question I think is who owns it, and I think it really is probably the primary care physician, but there's going to be a lot of people that will be interacting at that point of care.

**Michael Chiang – Oregon Health & Science University – Professor**

The point that you made about quality is really difficult to measure. It's tough enough to decide who's a good surgeon or who's a good nurse. I think those are things that we know when we see it. But I'm not even sure we're doing a very good job at quantifying simple things like that. When it gets to coordination of care I feel like this is an issue that I'm not sure we know how to define that, let alone look at an outcome measure. If I had to come up with a stab about things that I've seen where things go right or wrong there may be multidisciplinary, for lack of a better word, types of things that happen. In ophthalmology it's, do patients fall? And they can do that for multiple reasons, one of them being vision, or it may be are they taking the right medicines. They can be taking the wrong medicines or being noncompliant with medicines for many reasons, one of them being because they can't see the pill or recognize that it's the correct pill, maybe trying to come up with some outcome measures like that, I think that's a very, very tough problem.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you. Dr. Tang, you'll have the last question or comment since we're coming up on the hour.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

At the meeting earlier this week when I was looking for one of the panelists, Micky Tripathi, and I was looking in the audience when he was sitting right at the table, and he made a comment of being hidden right in plain view, which I have this disability in front of a refrigerator too. But I wonder if the answer's starting us in the face, and actually it's come out of the panelists in terms of what do we ask. So it was brought up that patients don't know what am I being treated for. If there was one question, what am I being treated for and do I know what I'm supposed to do next, that's a pretty darn good outcome measure for the experience of care.

The other thing was mentioned about do I have the information when I've got the patient in front of me. That could be for the specialists. It could be for the patient. Does the patient know what to do next? There are a lot of simple questions that, again, put in front of a human it's a really good test and that's the end game anyway. Do the people who are next going to participate in the care have the information they need? We've been trying to specify, oh, let's make sure it's in 36 hours, or is that 72 hours when the end test is does the next person have the information and does the patient know what they're supposed to do next? In this new world, with the PHR we can probably assess that kind of stuff, and in the EHR we can find out whether the information and the knowledge of what to do next is there. That automatically takes into account literacy, for example, so instead of designing a test for health literacy and making sure that we have, just doesn't work for the next person, which includes the patient and caregiver. So there might be a whole new way of looking at some of these outcome measures. As we struggle to create care coordination measures, they might be standing in front of our face.

**Michael Barr – American College of Physicians – Vice President, PA&I**

I think that takes us to the top of the hour. Dr. Tang, thank you so much, you didn't have to ask another question. I thank you to the panel for excellent comments. Dr. Mullis, sorry you weren't here, but enjoy the rest of your vacation. Thank you. We'll move on to the next panel.

## **W**

I've actually had the opposite happen, where I knew what was going on but the provider that I was seeing made me fill out a form that asked me whether I was present at the visit even though it was follow up and they had been requested to make the appointment. Why are you here? Because you told me to.

### **George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Okay, very good, we'll begin our second panel. First of all, thank you, again, to our previous panelists. That was wonderful. Our second panel focuses on electronic health record support of specialists in the point of view of individual patient care. For this panel we actually have two things going on. We have a requested presentation followed by a panel, so our first presenter is not a panelist, but a presenter, and that is why that person has slides and has ten minutes instead of five minutes. The additional panelists have five minutes. I apologize that it appears unfair, but in the scheme of things that's how we've done it.

I'm going to introduce the five of you as if it were five panelists right now. Dr. Schneider, you're welcome to stay for the panel despite not formally being a panelist.

### **Eric Schneider – RAND Corporation – Senior Scientist and Director**

Thank you.

### **George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

There you go. You can make anything work. It's just like ... meaningful use stage seven. Dr. Eric Schneider is Senior Scientist and Director of RAND in Boston, and Associate Professor of Brigham & Women's Hospital at Harvard. He's the ACP performance measurement chair working on this initiative "Advancing Clinical Design Support" about clinical decision support for specialists.

And that's our presentation, followed by Dr. Virna Little, who's Senior Vice President for Psychosocial Services and Community Affairs, responsible for administration delivery of behavioral health in 19 community health and mental health centers in New York City and the Hudson Valley region, representing mental health.

On radiology, Dr. Dreyer serves as Vice Chairman of Radiology at Massachusetts General Hospital and Assistant Professor of Radiology at Harvard, but presenting as Co-Chair of the American College of Radiology's IT and Informatics Committee. Then we have on pathology Dr. David Booker, Board of Governors for the College of American Pathologists. He's also Chair of Pathology at Trinity Hospital in Augusta, and Clinical Professor of Pathology at Medical College of Georgia, also an HL-7 IHE. And finally, Dr. Jon White, for Children's Health, Director of Healthcare Information Technology at the Agency for Healthcare Research and Quality, and is presenting the AHRQ/CMS team's Model EHR for Children.

Those are our first five panelists, and Dr. Schneider, would you like to begin?

### **Eric Schneider – RAND Corporation – Senior Scientist and Director**

Thank you very much. Thank you for the opportunity to be here. I actually am Chair of the Performance Measurement Committee at ACP but I'm representing a projects team at RAND Health Partners, AMA/PCPI, to present some work that Doug Ballast, as PI, has organized on advancing clinical decision support and defining, and specifically meaningful use objectives for clinical specialties. This is work funded by the Office of the National Coordinator. What I'll do in the ten minute presentation of this fairly complex project is briefly describe the challenge, the goals of our project, which is named Task 6, talk about the representation of CDS opportunities, an expert panel protocol that we've developed, present some high level results from that panel and talk about future opportunities. This is going to go very high level, so don't worry, we'll get through the ten minutes.

The challenge that was put to us is the desire for specialists to be more engaged in meaningful use and the specification of meaningful use objectives, particularly around clinical decision support. There are a variety of issues with instituting clinical decision support in meaningful use, specifically the relative paucity of CDS tools for specialists and in some ways a lack of a framework for how to develop those and prioritize them. The goals of the advancing clinical decision support project were to develop a protocol for engaging specialists in the development and prioritization of future meaningful use objectives and measures related to clinical decision support to pilot the protocol and identify candidate CDS priorities for four clinical specialties. In order to tackle that problem, which actually turns out to be fairly complex, we had to develop a framework for thinking about what it is we're presenting to the panelists.

We actually wanted to use a modified Delphi process and a structured rating protocol, but the panelists had to know what it was they were being asked to discuss and rate. So we defined something called a CDS opportunity, which is represented schematically here and in the slides in your packet. It consists of a clinical performance gap, a set of actions to address the gap, a set of CDS tools and potential CDS tools, and the associated information knowledge needed and workflow insertion points, and then finally, candidate CDS meaningful use objectives can be generated out of that CDS opportunity.

There are two things I really want to emphasize here that I think are important for this going forward. The first is that we've specified a clinical performance gap rather than a quality measure as the starting point. Now, quality measures, especially nationally endorsed quality measures are a fairly constrained set of clinical problems or clinical issues in quality that are actually able to translate through specification into meaningful quality measures that can be used to detect differences among providers. But it turns out that because of data constraints it's difficult to specify national quality measures that address the range of problems that could be addressed by clinical decision support, so we actually identified three sources for understanding clinical performance gaps. The first is quality measures. The second is the peer-reviewed literature, which identifies quality problems, which have not yet been specified as clinical quality measures. The third is clinical practitioners themselves observing the quality related problems in their day-to-day work and identifying those as potential clinical decision support targets. So that addresses the first issue in the clinical performance gap and why we chose to specify that.

The second is the CDS tools. We use the plural "tools" because we don't want to give specific applications to the panelists. We actually want them to think broadly about a variety of possible tools and applications that could potentially be developed by vendors to address these problems. The CDS opportunity combines those two notions.

Now, what that means in terms of panel protocol, as we translated that, was that it's actually a two stage rating protocol. I won't go through everything on this slide, but what I want to emphasize is that the first stage the panelists consider the clinical performance gap and we have them rate the importance of clinical performance gaps. At the second stage the panelists consider the clinical decision support opportunities or tools associated with those clinical performance gaps and they actually rate the importance of those tools in the second stage. It's a modified Delphi, so there's a rating followed by discussion, followed by re-rating, and then there were two waves of that in this process. What comes out the other end of that is a structured, prioritized list of clinical decision support opportunities.

Here's a high-level summary of the results of that process for four panels. We addressed oncology, orthopedics, cardiovascular specialty and pediatrics. The other issue that comes up here is how to best specify the content area that the specialists will focus on, because many specialties include a variety of different types of care. For oncology we focused on breast and colorectal cancer; for orthopedics, hip and knee surgery; for cardiovascular, PCI, percutaneous coronary intervention; and then for pediatrics we actually went with a more general panel. You can see that if you take the CDS opportunity sets, that's actually the number of clinical gaps, performance gaps that were considered, it varies from 6 to 15, and you can see that the orthopedists, there were fewer clinical performance gaps identified.

In terms of rating the full clinical decision support opportunity sets, for the oncologists 14 of the 15 opportunities that they considered actually were high priority out of the rating process, whereas, for pediatrics only 3 of the 11 opportunities they considered were high priority. On the right side of this slide you can see what we call CDS opportunities. That's actually a variety. We actually experimented with

having the panelists rate all of a set of more specific tools, not fully specified, within each gap category, and you can see the numbers are larger because they're considering multiple possible tools related to a particular gap. And again anywhere from a quarter to a third of those actually come out as rated high priority. This just gives you a little more information about how the rating process works.

First, there's the rating of the importance of the clinical performance gap. In this instance there are three gaps identified, which I can't read from back here, but they are in your paper slides. Then the second part of this is we give the panelists examples of clinical decision support tools, have them rate those as well, and anything rated from a seven to a nine with agreement is considered meeting the threshold criterion for inclusion in this exercise.

What we haven't done yet is to go across, which is a lot of data here, but to go across the panels and try to see if there are common themes that emerge as you look across the panels. So for example, here's the PCI, the top two gaps and opportunities that were identified. For the ... cardiologists nearly half of patients with a STEMI received no reperfusion therapy or received delayed reperfusion more than 12 hours after the onset of symptoms. That was one gap they considered. There are some tools there that they considered and the CDS opportunity set and the categories of those tools are represented there. In this process we have now long lists of these opportunities prioritized and we can also look at the CDS categories and say are there specific categories within which CDS tools could be developed by vendors. This gives us the example for orthopedics. Patients are not always assessed preoperatively for their bleeding time and VTE risks, resulting in prophylaxis that doesn't match the patient's risk. Actually, both of their top priorities were about the risk of thromboembolism. That could actually be applicable across many surgical specialties. For pediatrics the two top issues were immunizations and the notion of monitoring children with asthma. There are a variety of CDS opportunities that the panelists rated as highly important.

In conclusion, I think we've been able to demonstrate that the panel protocol is feasible. It does identify what are the top performance gap areas for the specialists. The specialists involved in the panel are able to interpret relatively abbreviated materials on the clinical decision support opportunities and actually imagine new opportunities. What the panel protocol depends on is the availability of CDS tools and also an evidence base for those tools, and the development of clinician friendly formats for conveying these CDS opportunities to panelists. There are a number of panelist specific, or panel construction specific issues, that I could get into here but probably in the interest of time I'll pass over those and maybe if there are questions we can come back to them. Thank you very much for the opportunity.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Thank you very much, Dr. Schneider. Because the presentation fits so well with the panel I think we'll go on and just have our questions at the end, because it's actually directly relevant. Dr. Little?

**Virna Little – Institute for Family Health – Vice President, Psychosocial Services**

Thank you. I want to thank you for the opportunity to come this morning and represent the mental health community. I also want to perhaps advocate for mental health to be considered one of the critical specialties. That was mentioned earlier, and I felt compelled to put that in there. There's a lot of work going around the country now to really integrate health and mental health, and we know some of the benefits of collaborative care. I do a lot of work with primary care organizations expanding their ability to provide mental health services, and one of the things we know is that a large amount of the country's mental health services are going to be provided in health settings and they're going to be one of the larger employer of mental health providers. So I really think it's important to have the discussions and answer some of the questions that we're hopefully going to try to do today.

I also think that these efforts have been against what's been going on in the health information technology community and the mental health providers have been left out. What's happening is that a lot of the community mental health providers really don't have systems that are developed or they're at the very beginning of implementation, and a lot of those systems don't have the capacity to do some of the things that you're talking about today in terms of not having patient portals, not having physician portals. What that does is it really leaves them out of the ability to participate in some of the clinical home initiatives and

the ACOs and to really be able to do some of the longitudinal care planning that we're talking about. They don't really have the ability to share some of the data.

For the mental health providers that are practicing in the health settings, they are really trying to fit that square peg into the round hole and really trying to figure out how to incorporate their line of business and some of the things that they need to do into the electronic health records. There's been a lot of creative ways to do that around the country in terms of putting things in as vitals or as lab values, but it's really been a very difficult challenge. There are significant barriers to doing this and I think in order to really go ahead and have conversations about mental health and trying to provide care coordination, we're really going to have to address some of the issues around confidentiality, which is much different than some of the other specialists. I say that because recently at two national summits, confidentiality came up as a huge issue around care planning and data sharing for mental health providers, some of which, I have to admit, is perceived and some of which is actually real in terms of some of the state requirements and some of the things around the 42 CFR and some others.

I think also it's important to really think about, I guess I wanted to share a story because you have the testimony, and one of the things I know sticks long term is this story, and I really want you to be able to see what the potential is here. There are a group of patients that we are currently working with who are developmentally disabled, have chronic psychiatric and medical illnesses. The ability to use a portal to be able to share information has started to impact how community residences where they are housed, staff and emergency room and hospital visits, because the people in the community residences are able to access the health records, as are people in the emergency room. It's really made a huge difference in the care coordination.

So I really wanted people to start to understand what's possible if we're able to bring mental health providers into these sharing systems and also to think about—there's been some talk about how does information come out to providers. For mental health providers, many of the people who provide mental health services are non-physician counselors, social workers, and they haven't really been trained to interpret and apply research and much of the research happens in academic settings. There's a huge gap, as in other specialties, before it finally hits the field. I think the ability to be able to use the health information technology to bring some of that research in to be able to build clinical decision supports that would be standardized across mental health systems or across care providers would really allow the opportunity to both participate in research and also to be able to bring research into the field. And even to be able to give the provider some access to the research that supported the clinical decision support.

I think it would be also important to incorporate tools. There have been some tools that have really come into the primary care world around depression or anxiety that are very standard. For the mental health providers these tools are really new, we haven't really been trained in many cases to quantify outcomes, and so the ability to incorporate these tools into the electronic health records for mental health providers would be critical for their ability to move that forward. It also creates the ability for providers across disciplines to speak the same language. Somebody mentioned silos before, and I think using the tools allows people to communicate and to be able to track outcomes.

Lastly, I think that for mental health providers we are continuing to work towards implementing evidence-based practices. The ability to build these into the electronic health records to be able to utilize them with some standardization would allow for us to be able to not only implement them quicker but allow for us to really be able to coordinate services across the system. So I want to thank you.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Thank you, Dr. Little. Dr. Dreyer?

**Keith Dreyer – Massachusetts General Hospital – Vice Chairman, Radiology Informatics**

Thank you very much. I apologize. I'm going to read most of this because I want to make sure that I get most of my time in the five minutes, but I'll be happy to interact afterwards. As was mentioned earlier, I'm representing the American College of Radiology here, or the ACR, which is a professional organization representing more than 34,000 radiologists, radiation oncologists, and others. In this discussion I was

hoping to focus on how EHR technology can contribute to the appropriate ordering of imaging exams by referring physicians, and to the patient care provided by radiologists.

So to the first question regarding how EHRs can facilitate specialty care of individual patients, it's our feeling that patients' records must provide access to diagnostic images and related imaging data, including radiation dose and urgent findings discovered during the imaging interpretation process. As my colleague at MGH and Former National Coordinator, David Blumenthal, stated a few months ago, we can't have an effective electronic health information system that can't move images, and we couldn't agree more. This type of access to diagnostic images significantly benefits patients by reducing duplicative tests, reducing radiation exposure and healthcare costs.

In contrast to Dr. Chiang's discussion about ophthalmology, the vast majority of U.S. medical facilities today have radiology departments with digital infrastructure for imaging capture display and archiving well in place using DICOM standards. Many of these facilities utilize simple Web protocols securely for the integration of these medical images into the EHRs, which now is considered essential for patient care. The challenge, however, today, is incentivizing the remaining facilities to integrate images into their EHRs as well as incentivizing the exchange of image data between medical facilities and between external physician offices, as well as, most importantly, the patients themselves.

Also, to facilitate imaging care EHRs need to electronically capture and transmit relevant clinical information at the time of ordering. There were discussions I heard earlier, in listening in to some of the sessions, about stopping the electronic transmission at the point of the EHR and then allowing paper and fax to move to the departments in radiology. There are some challenges with that. For example, the information that's extracted is critical to decision support systems, as well as for examination protocol, which can further help to reduce unnecessary radiation exposure and inappropriate tests.

Also, the EHRs could facilitate specialty care much more efficiently if there were meaningful use measures focused on improving imaging care, such as structured radiology reporting, communication of critical findings, access to digital image data, recording and monitoring of radiation dose, and several other measures described in the submitted background material. CMS should require that radiologist EPs use these specialty objectives in place of other meaningful use measures that have no bearing on radiology practices today. Likewise, we feel the ONC should include in their regulations appropriate requirements for specialized imaging EHR technology such as radiology information systems, Pax, and structured radiology-reporting systems, which are prevalent today.

The second question, how do we currently support decision making in our practice? Since 2004 at my institution at MGH we provided physicians with CPOE decision support for imaging based on ACR appropriateness criteria guidelines and integrated into our EHRs. The results have been dramatic in terms of quality improvement and cost savings, and as an example, since its implementation our growth rate for CT, normalized to patient encounters, has decreased from 12% per year to now less than 1% and continues to stay that way. There are increased examples of imaging CPOE and decision support systems throughout the country, including the recent statewide initiative in Minnesota.

Additionally, CMS is now conducting a two-year demonstration project on the topic "Utilizing the ACR Guidelines." How does our specialty generate new knowledge? Since 1993 the ACR has developed and maintained transparent, evidence-based appropriateness criteria guidelines designed to assist ordering physicians and other providers in making the most appropriate imaging or treatment decisions. They encompass all organ systems, contain more than 850 clinical scenarios with appropriateness ratings for each imaging modality. All rules are continuously reviewed and updated by expert panels comprised of members from over 20 professional medical societies using modified Delphi approach following a detailed evidence review.

How do we disseminate this new knowledge amongst our specialty? The ACR appropriateness criteria are freely available via the ACR's Web site, and AHRQ's national guideline clearinghouse. The ACR also collaborates with industry to make these guidelines available via EHRs and consumer mobile devices.

How do we incorporate new knowledge into EHRs? Several HIT vendors have integrated our imaging decision support into EHR systems. These systems are widely available, but in a payer environment fraught with third party benefit management solutions incentives such as inclusion in meaningful use would rapidly enhance market penetration. Recently, at the request of EHR manufacturers, healthcare providers and plans, the ACR recently created a far simpler mechanism for direct electronic access to decision support rules from EHRs via Web services. This system provides ordering physicians access to continuously updated context aware decision support knowledge directly within their EHR products. For meaningful use ACR recommends that the CPOE explicitly involve imaging decision support based on National Physician Society guidelines. Appropriateness based imaging decision support tools have years of supporting evidence behind them and are ready for primetime in stage two. Thank you.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Dr. Booker?

**David Booker – College of American Pathologists – Board of Governors**

Thank you, and I'd like to say I appreciate being able to speak here on behalf of the CAP and our 17,000 physician members. We strongly support efforts to foster widespread use of EHRs. Pathologists are among the first to widely embrace health information technology. When I started in private practice in the 1980s the use of sophisticated lab information systems, or LIS', which are essentially the EHR for pathologists, had been well established for many years. Perhaps the largest volume of clinical data in the EHR is lab data imported from the LIS. Pathologists don't need an incentive to use interoperable HIT systems. We've been doing it for decades. It is therefore ironic that under the MU rules pathologists will be financially penalized for failure to comply with requirements that are unnecessary, irrelevant to our practices, and impossible for us to meet. Since pathologists work in the lab information systems they cannot possibly comply with the requirement to maintain 80% of patient records in an EHR and the objectives and clinical quality measures, which are clearly and appropriately intended for other physician specialties, do not relate to pathology and many lack exclusions. Therefore, we urge this workgroup to recommend that pathologists be exempt from these penalties.

This does not mean that pathologists do not plan to support and participate in the use of EHRs. Pathologists frequently use EHRs to access important clinical information that they need during pathology patient consultations. Unfortunately, some pathologists are not allowed access to EHRs to the detriment of patient care. Pathologists oversee the interpretation and testing of lab tests and render definitive tissue diagnoses, for example, biopsies in cancer patients, and it is really inexcusable for pathologists to lack access to EHRs. Furthermore, pathologists are the leading experts in optimizing the transmission and display of lab data, but are often not consulted during the implementation of EHRs. This has often resulted in inaccurately or poorly displayed lab data in EHRs that increase the risk of incorrect diagnosis and treatment. Please see my written statement for examples. Pathologists must participate in all lab related EHR processes or the EHR will diminish rather than improve the quality and efficiency of patient care.

I'll now address the questions that are the focus of this panel. First of all, how can EHRs facilitate specialty care of individual patients, including the use of clinical decision support and specifically how do you currently support decision making in your practice? Again, we use LIS for decision support as pathologists primarily and we do so in a number of ways, and I'll list just a few now. They involve the creation and use of rules to generate interpretive comments on complex tests, automate reflex testing, identify critical lab values in life and death situations that must be immediately communicated, flag abnormal results and ensure that they're properly displayed. Incorporate practice guidelines such as the CAP cancer protocols, and to LIS' improving reporting to physicians and registries, ensuring quality control, and optimizing test selection and assisting in test interpretation. I have specific examples in my written testimony. Due to time constraints, I'll only briefly discuss the questions regarding the generation, dissemination, and systems incorporation of new knowledge such as clinical guidelines.

Pathologists in the CAP are leaders in this area, with numerous programs, including its cancer protocols and laboratory accreditation program, which are internationally recognized standards for cancer care and lab quality. Materials from these programs are available in electronic form for use in information systems.

CAP provides extensive educational materials to pathologists, other physicians, and patients, and is involved in many standards organizations and efforts, including HL-7, IHE, and the ONC Standards and Interoperability laboratory-interfacing framework. For additional examples, please refer to my written statement.

In conclusion, pathologists are key to the success of interoperable EHRs and must be included in all of their processes related to lab data, and pathologists must have access to patient data in the EHR. Improved standards need to be developed to improve the quality and affordability of interfaces between EHRs and LIS', and pathologists' participation in this process is also vital. In summary, pathologists' involvement in all of these processes will be necessary if the meaningful use goals of improved quality of care, efficiency, and interoperability are to be met. Thank you for this opportunity to share our views with you today.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Thank you. Dr. White?

**Jon White – AHRQ/HHS – Director IT**

Thank you, Dr. Hripcsak. Well, good morning. As I look around the table, it is my great pleasure to note that I've worked with all of you I think, except for Gayle, in previous circumstances, so most of you know me as a mild mannered public servant. However, what you may not know from my murky and troubled past is that I am a family doctor and that I used to round in the newborn nursery. I used to stick spinal needles into intervertebral spaces of febrile infants in the middle of the night and deliver well child care and all that other sort of stuff, so I'm here to—that and I stayed at a Holiday Inn Express last night. So I'm going to talk to you about the information needs of children's health and a particular project that's going to be of interest to you.

The old chestnut of course is that children are not little adults, so you shouldn't treat them like that. It's an old chestnut because it's true. The health needs of children are different. The health issues that confront them, developmental issues, the types of illnesses that they're subject to, the different social environment that's around children is just different than adults, and that's the way it works. The folks who care for and deliver care to children and who are responsible for the care of children are different than the adult population. So it goes without saying that the information needs for children's health is different.

The problem with that is that it requires extra work and thought to give you the good information tools that you need to be able to deliver that good health to kids, and I'm not going to go into things like calculating medication doses and drug charges and stuff like that. You all know about all that, so I will not belabor the point. But the main issue is that most of the products that are out there have these tools but they're not necessarily complete in terms of what you fully need to optimally take care of kids. I'll also offer you thought of the slightly more nuanced issue that the tools that we do have in our information systems now may work well for adults but we may unintentionally use them to try to take care of kids and introduce elements there that we wouldn't want otherwise, or not necessarily what we best need for the care kits.

The project I'm going to talk to you about today is the Model Children's EHR format. Now, George mentioned at the top that I would talk to you about the children's EHR that CMS and AHRQ are developing, and no, no, no, we're not doing that, so relax. The 2009 Children's Health Insurance Program Reauthorization Act directed the secretary to establish an EHR format for children and to test that in Medicaid programs, so grants have been awarded to Medicaid programs to implement and test a Model Children's EHR format, and AHRQ and CMS are working together to develop that.

Now, the way we've done that is we've led a contract for it. There's an expert panel, which consists of a number of smart folks, but most specifically and importantly has representation from the American Academy of Pediatrics, the American Academy of Family Physicians, and the EHR Association, and a number of other folks that I won't list out for you. But there are key folks at the table. They've done an environmental scan and a gap analysis about what's out there now, and they're trying to address then what do we need in terms of a model format to be able to do a good job of taking care of kids.

The term “format” is not necessarily one that’s fully well described, so let me just list for you what that means to us. It means a minimum set of data elements necessary for care of kids, applicable data standards, so those data elements where there are standards that exist identifying them, and then requirements for usability, functionality, and interoperability. So all these are being worked on and the model formats will be available this fall, so not ... right now, I’m very sorry, but that was the timeline of the project, and keeping in mind too that this came about not through the Recovery Act and HITECH but through a different legislative vehicle. So those will be available coming in the fall and we hope that they will be both useful in terms of ongoing discussions about meaningful use. But also for certification, some of the standards discussions, and that we also plan to work closely with our vendor colleagues to say, okay, here’s what we’ve got, here’s what we think you need, how do we get to there? So there are next steps beyond just the development of the model formats.

As a note ... in my remaining 50 seconds, I would also like to mention that there are other projects relevant to this out there. Actually, in particular AHRQ and CMS have been working on trying to identify and address barriers to meaningful use in the Medicaid programs. We’re actually working with OMB now to try to set up focus groups for pediatricians, also come the fall, and we will hopefully have for you some better information about barriers to achieving meaningful use for pediatricians that can hopefully inform things as we move ahead.

The last thing I’ll mention is that Judy is graciously, thank you, sending out my written testimony, so all of this, slightly less colloquially stated, is in the written testimony. So thank you and I look forward to your questions.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Thank you, Dr. White. Okay, we’ll be opening it up for questions. First, a comment. I think the first theme of the panel is broadening, and I’ll give two concrete examples. First of all, when we often say clinical decision support or automated decision support we’re thinking of a program and it sends a reminder and you either acknowledge or don’t. But our goal is supporting decisions, and what supports decisions for mental health and what supports decisions in the field of radiology are two different kinds of things because they’re doing two different kinds of things and we need to make sure that we’re broad enough when we say decision support that we’re not just thinking reminders. Now of course you can go too broad and say well meaningful use is decision support because what are we really trying to do here. So there’s hopefully some happy middle ground.

The other broadening, Dr. Booker’s testimony, you have to define who’s an eligible professional somehow, and there’s no perfect definition. So there’s this funny balance between well, you might get incentives but you might get penalties. The broadening lies in your statement, however really the goal is to engage everyone in successful healthcare, we shouldn’t treat anyone unfairly. It’s not actually the Meaningful Use Workgroup’s job to figure out who’s in or who’s out and that’s stipulated by law and then by CMS regulation, but our goal is to think broadly about how do we engage everyone. Whether they happen to be named and eligible professional or subject to penalties or not, we should be thinking how do they participate in this large care coordination process that we mentioned in the previous panel. So I think that’s what we have to be careful about. David?

**David Lansky – Pacific Business Group on Health – President & CEO**

Thank you to the panel. Dr. Dreyer, I want to focus in a little bit on the appropriateness criteria that you’ve talked about, and ACR’s done a lot of pioneering work in for a long time. In general, in meaningful use we’ve had a struggle both with appropriateness and efficiency of concepts that we can translate into specifications using the functional criteria or the quality measures, and it does seem like the work that you’ve all done, it would be a real opportunity for us to leverage that, and you say that in the written testimony. That’s my two questions about that for you, and I’d like to come back to Dr. Schneider for another round on the same subject.

On the issue of example of the example of low back lumbar spine appropriateness criteria and whether that could be introduced in a generalizable way across other specialties or into the meaningful use program, it does seem that there is an NQF measure that corresponds to that. But I haven’t quite come

up with a way that we could make this a more generalized criterion for the eligible, as George said, we've got a broad range of professionals and hospitals. Is there a way to reflect the criteria that have been developed there more generally across the meaningful use program and specifically you've encouraged us to do so but I don't exactly know how and where we would do it? That's one.

The second question, and I'll kind of lump them together, is around the availability of prior imaging studies. There have been some suggestions that it's a great efficiency measure and as you've cited some data, there would be an opportunity to reduce unnecessary radiation exposure and testing and costs if we could ensure that the prior studies were available to the referring physician, as I understood your suggestion. That seems like a great opportunity, but I don't quite know how we would execute it with the tools that we have in this program. So is it a quality measure that we might introduce that there be a metric of repeat imaging studies done unnecessarily, or is it a functional criterion, a delivery on information exchange criterion, that the prior test results be available at the time of ordering. And as I take it that's not a measure applied to the radiology profession, it might be a measure applied to the ordering physicians, is that right?

**Keith Dreyer – Massachusetts General Hospital – Vice Chairman, Radiology Informatics**

Yes, I think you're describing this exactly right. I also was in the audience when you talked about maybe skipping the second step, which has been a challenge for me to try and think of, to your point, how do you get radiology to fit into this big box of physicians. The same thing to Dr. Booker's point, it really doesn't apply really well. There are ways to do that, and rather than create 25 new measures for radiology and then go through all the sub-specialties, your point touched on something that thought well, if we focused on quality measures I think there are some core things you have to take into account. Like to Dr. Chiang's point earlier, if you don't have DICOM you can try and create structure but it would be chaotic structure at the end of it.

So I think to get more specific to your two questions, the first one, there's an advantage of focusing on decision support from an imaging standpoint. I'm at an institution where Blackford Middleton is focusing on a lot of areas around decision support and going down pathways of care where we have the advantage of imaging to say the buck stops here for anything that gets ordered that has to do with any kind of discipline and let's try and organize the use of imaging procedures in that way. So I think I can extrapolate low back pain, your quality metrics there, to other imaging modalities and use cases for imaging, and the way I would do that is by looking at some of the criteria coming back, because what we did to look at success is are people ordering inappropriate exams or appropriate exams, that's step one. That's not really the outcome, but it's a good step as a measure. Because when we first turned on decision support we saw 25% of our physicians were ordering in the 1, 2, 3 out of 9, and now we're at about the 3% rate out of that range. So if that's a metric then that's a quick way to go from back pain to CT for headache, etc.

Your second point was—

**David Lansky – Pacific Business Group on Health – President & CEO**

Access to prior imaging—

**Keith Dreyer – Massachusetts General Hospital – Vice Chairman, Radiology Informatics**

That's critical, so I think the number one thing, I hear this again and again, is somebody goes to order the exact same CT of the head on a patient, the MR is available but they don't even know it was available, it's at a different institution. So I think rather than going on about how important that is and the studies are showing how you can reduce radiation, the question is how do you oppose that? Well, to your point, if you tell radiologists that they have to make that available, that's one thing. But that becomes a specific measure for, I wouldn't call it radiologists, I'd call it image producers. Image producers have to make the data available. So when you look at some of the requirements that you have on reporting imaging data, it says report, report, report throughout all of the measures. I would probably add report and images into that, because right now there's no requirement for us to put images out there, just reports. So that would change everything and it's just adding a quick pen addition of images versus just images and reports. I know it's not simple, but at least it's not adding new measures.

On the other side, I think people have to have the ability to receive those images from various organizations. Some of that may come through HIEs, but you also have to describe the ability to, if you're receiving reports you also have to have the ability to receive the images. I'm trying to fit what needs to be done inside of the existing infrastructure measures around MU. Then I would create the quality measures around that to say, how did you receive images, what was the volume of which they came in, were they available from other institutions, as well as measures to say when you demonstrate that you can communicate to another institution, have you done so with images as well. To add a few of those things in would make a big difference to solve some of the points you raised.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Dr. White?

**Jon White – AHRQ/HHS – Director IT**

To briefly follow up on that, you're talking about some very specific stuff. If you dig into it and you find that it's too hard for right now, there are other ways to get at that, which might be even just knowing that the person sitting in front of you has been in three other emergency rooms in the last week. So, Christine, I think you were going to mention HIE as when they need to get out, even if you can't pass the images, reports which I'd want in my hands before I actually did any of this, just saying, by the way have you been somewhere else, have you had other studies done, might be a way to start.

**David Booker – College of American Pathologists – Board of Governors**

I'd just like to agree with that. There's not a day goes by when I didn't wish that I had access to a pathology report and in most cases the actual slides. We're a little envious of our radiology colleagues in that we haven't been able to digitize most of our work yet, but we're working on it. But if we had access to those, and of course patients go from institution to institution so we have many important previous pathology that's been done at some other institution, if we had ready access to that in our EHR that would be a tremendous benefit to pathology practice.

**Keith Dreyer – Massachusetts General Hospital – Vice Chairman, Radiology Informatics**

I'm just going to add one other comment. The other critical part about having images access, and I'll get selfish for a second, as a radiologist when you're creating a report you create a pretty poor report when you don't know the imaging history of the patient, and say it could be this, it could be that if images were available. Whereas, if you have a longitudinal record of images across different facilities, you can be much more specific in your diagnostic results, and that also decreases your imaging subsequently.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Charlene and then Michael?

**Charlene Underwood – Siemens Medical – Director, Gov. & Industry Affairs**

I just wanted to add a couple of clarifying questions, or maybe you can just help me understand. One of the pushbacks we get in this space in terms of sharing images is that there's a lot of freestanding imaging centers out there. And as you look at the framework that regulates the legislation, again, you're going to get some gaps, right? So how would you approach that element, because many of the images are done outside of hospital centers or providers, professionals that are under the domain of the legislation.

**M**

I think that challenge is the problem. So if you look at our facility, a large percentage of exams are performed outside of our facility, and now we're unfortunately importing CDs in the hundreds of thousands per year and trying to manage this manual process of transmission is going to make the matter somewhat better and somewhat worse. So the way I would think of it is as image producers and image consumers and those that produce images have certain requirements that they have to meet. There are tremendous inconsistencies throughout imaging producers of whether they even store images in DICOM, they distribute images, they make them available to the ordering physician, and maybe as a radiologist who just sees images all the time I don't know how you can perform that care and not provide that image data back. So I would specifically look at some regulations or measures that can require those image

producers to have requirements to make data stored, make it available to the ordering physician, and make it available to the patient.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you, George. Thanks for your comments. I was struck by, a couple of you mentioned the lack of access to information ..., you talked about not having access to the electronic health record, and Dr. Little, your comments in your testimony were about the shared information between a mental health provider and a primary care clinician, or the lack thereof. Both obviously are critical for clinical decision support to take place, and it doesn't seem to me that that's actually a technology barrier. It's more of a cultural one in terms of making those connections. So I wonder if you would like to expand on your remarks and your testimony, and if you've seen any good examples and how it might work, if it would work appropriately, and of course anybody else can comment on that.

**Eric Schneider – RAND Corporation – Senior Scientist and Director**

The access to EHRs for pathologists, I agree, it's not a technological issue primarily. It's more of an issue of how these systems are implemented by various organizations. I think somebody commented earlier that it's easier to identify problems and solutions but certainly, we have to identify the problem before we have a solution. I think in the general context, and this really goes beyond pathology, I think any physician participating in the care of a patient should have full access to all of their medical records. I think that's a very simple thing. Now, how do you get there? It may be a little difficult because of HIPAA and because of certain institutional rules, but the general principle should be supported, that a physician taking care of a patient should have access to all of their records. We can't do a good job without it.

**Virna Little – Institute for Family Health – Vice President, Psychosocial Services**

I think in the mental health community there certainly is a culture that has been prohibitive to sharing information and I think that certainly there are confidentiality guidelines that need to be taken into consideration. I think a retraining and some discussions in the mental health community about this traditional psychotherapy note versus a progress note, which is more able to be shared and some of the other myths around the ability to share the progress notes. But I also think that in many organizations the mental health providers have been left out of the implementation because people are trying to use resources to meet meaningful use to get incentives and medical homes and to do some of those things. So the mental health providers will say, well we'll do them at the end, and I think what happens is that that has really left people out of the loop. Because what happens is the mental health providers aren't at the table at the beginning of the implementation and so it gets built without them in mind and what they need to do, and that is really problematic. I think that's a huge barrier that we would need to try to think about.

**M**

Can I add one more point, back to Charlene's question, if I could, because I understand you're asking about those imaging centers and how do they participate, and the interesting thing is, whether it was intentional or not, over 90% of radiologists are now considered EPs. All those radiologists that are at those freestanding imaging centers have imposed upon them to comply with meaningful use, so if there's any kind of additional things to talk about imaging that has to do with that, that will also affect those imaging centers as well.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Deven and then David?

**Deven McGraw – Center for Democracy & Technology – Director**

I just want to respond a little bit to the notion that HIPAA is a barrier to information sharing among providers. I think this is maybe one of those ... issues we need to press on because HIPAA could not be more permissive for information sharing among providers for treatment purposes, with treatment defined, actually in a fairly broad way. Now, I hear this from people other than you, Dr. Booker, so this is in no way a concern about testimony that you've raised, but we have a huge amount of work to do to educate providers about what they can and cannot do with health data. Because it looks like at least where treatment is concerned, in fact, HIPAA is no obstacle to getting this done.

The mental health side is a little bit different of an equation because there are some state laws that create some additional hurdles to sharing data and for sensitive health conditions, and if you are subject to the regulations under part two there are some additional requirements to sharing data there as well. But even with respect to those categories of information where you're talking about treatment of the patient the rules are actually much more permissive than people believe with respect to information sharing. So I think we have some work to do.

I would love to hear more from the mental health community, quite frankly, about ways that we can structure meaningful use in order to encourage their participation at the table in discussions about EHRs. To the extent that there are some gaps that need to be filled in terms of protecting patient confidentiality, I want to hear more about that too. Because mostly what I'm hearing with respect to state health information conversations is that a lot of times the data is just purposely being left out of exchange because there are some perceived limitations in the technology to accommodate the additional requirements that might need to be fulfilled with respect to the sharing of that data. I just feel like we just have to find a way to not push through this like ignore it, but to create the policy environment that actually allows that data to be shared, because to me it's just unacceptable to say, well, there's confidentiality concerns so we're just not going to do it.

**Virna Little – Institute for Family Health – Vice President, Psychosocial Services**

I think what has been probably the largest barrier. There really is a need for a document to go out to be able to provide some overall guidance that with a consent, with this and while some of it is cultural, but I think we're not really going to be able to take on the hurdles, and I agree with you. So I'm glad to hear you—

**Deven McGraw – Center for Democracy & Technology – Director**

We had a consent technology hearing almost a year ago where we talked about, and there were folks from the mental health community who actually demonstrated the use of the technology, where they were marketing to providers who are covered by the part two rules, which do require patient authorization. They had figured out some way of getting it done in that provider community because they had to, and not only that they said 80% of the time patients actually do want this data to be shared. But they like being asked first in that context so I'm still struggling with continually getting this feedback, confidentiality issues are holding us back and we just have to find a way to get rid of that.

**Virna Little – Institute for Family Health – Vice President, Psychosocial Services**

I think there was some discussion recently about trying to find model programs in the various states so that as some of these issues come up we can say well, this group of providers in your state has actually overcome this. That those providers would then be resources to be able to help other organizations over this hurdle and in that way it would be state and maybe even community specific. Unfortunately, as a mental health provider it saddens me to say that a good bulk of my profession is a little stuck and so that's definitely going to be a hurdle.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Dr. White?

**Jon White – AHRQ/HHS – Director IT**

One on the mental health issues, when you all eventually get there, we actually recently had an expert meeting on mental health and mental health IT that we did in collaboration with SAMHSA, so I've got some resources that we can plug in yet. On the HIPAA issue, just to back up Dr. Booker a little bit, I've seen this from both sides, from the bureaucratic regulatory side, where I agree with you, there's absolutely no obstacles, and I've also seen it from the hospital side when I was in practice, where it's not Dr. Booker is the problem, it's the privacy officer. It's like no, I am not getting caught with my pants down, so nobody is sharing anything. And I know this is an issue, but it's not the good Dr. Booker that you've got to hammer on, it's the—

**Deven McGraw – Center for Democracy & Technology – Director**

I didn't mean to hammer on—

**Jon White – AHRQ/HHS – Director IT**

Okay.

**Deven McGraw – Center for Democracy & Technology – Director**

And in fact if you're risk officer was here I would hammer on them. It's—

**Virna Little – Institute for Family Health – Vice President, Psychosocial Services**

It's quite a big deal.

**Deven McGraw – Center for Democracy & Technology – Director**

It's a huge deal. It's risk tolerance, varying levels of risk tolerance that sometimes cause people to say no, because the path of least risk is no exchange. But we have to create the countervailing tensions I think on the other side of that, because that doesn't work for patients either.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Okay, yes.

**M**

I agree with everything you said about HIPAA ... and with what has been said. My problems have typically been from other organizations misinterpreting HIPAA, making it difficult for me to access patient materials and information.

**M**

I'd like to come back to Dr. Schneider's opening presentation on the CDS strategies and how to set the priorities and how to encourage participation from other specialists. The examples you gave for orthopedics and PCI, particularly, it seemed like not necessarily the targets that are going to come out of the process that you showed here weren't the highest value, most controversial, highest impact opportunities for clinical decision support. That the process, for whatever reason, didn't encompass societal values and policy objectives if it took up some important process improvements within the professional ... and so it's partly a governance question of how do we infuse into those processes of identifying the implementation for CDS, whatever someone collectively proceeds to be the highest value opportunities. And to us I think in particular we've had this placeholder of clinical decision support and functional criterion in the meaningful use stage one and we're wrestling with what to do with it in stage two, and I don't think we're there yet. So I guess ... those two points, I'm wondering what you would suggest to us as a better way to populate and encourage clinical decision support in meaningful use programs in ways that don't suboptimize the opportunity but actually encourages the professions to come together and identify high value CDS opportunities that could be generally implemented across the country.

**Eric Schneider – RAND Corporation – Senior Scientist and Director**

Yes, that's a great question, and I was reflecting on it even before we got up here, because you've introduced this as a coordination day. What you observe in those panels is our attempt to experiment with a variety of specialty specific arrangements. What comes out of that with respect to coordination that's interesting is that within specialty issues of getting information across settings, which have been discussed on this panel, if the issue is coordination and efficiency involving multiple specialties and a condition, for example, the way to constitute these panels is actually quite different from what we did. It would be to give them a charge or a scope that's relatively narrowly defined, I mean, coordination is actually narrower than what we were giving the panels. We were saying, tell us about everything in this specialty related to a procedure, or related to the care of a patient with breast cancer. If you constitute the panels around a charge that addresses issues of efficiency or coordination, then you actually have to bring in other individuals.

And our oncology panel is a good example of that. We had pathologists, radiologists, medical oncologists, surgeons, all on the same panel, and actually questions were raised about whether that was the wisest approach, but that panel actually came up with clinical decision support tools that I think are

probably higher value in the sense of fostering coordination. Whereas, the panels we constituted around a specific procedure, as you note, sort of identify opportunities for process improvement but they're for a relatively narrow, I mean, these are high volume procedures but they're for relatively narrow situations. I think setting up a structure where you might include primary care physicians, for example, and mental health professionals on a panel to work through the issues of what are the priorities for clinical decision support tools that can make this process work more effectively for patients with a condition, I think is the central utility going forward. The panel protocol we've designed is actually flexible enough to accommodate those different potential approaches.

**M**

To follow up on specifically any advice you'd give to the meaningful use rule making process. How could we either incent, encourage that kind of process you just described or what mechanism can we employ within the structure of the objectives that we put into our proposals that would bring forward more rigorous CDS adoption?

**M**

I think—and if I'm understanding your question correctly, this is another thing that we wrestled with was this two part process in our panel of looking at clinical performance gaps and then looking at CDS opportunities. There was some debate about whether to just put those two together and say well, we need to define whatever the opportunities of CDS, what's possible should guide the definition of clinical performance gaps, and I think that's actually not the right approach. We probably need a larger panel independent of the clinical decision support panel to determine these priority areas, that would have the greatest societal leverage, etc. That panel could produce output that then would be adopted by the types of panels we structured and say, okay, here's your charge, it's actually to address this topic area for patients with this condition or for a particular problem and the sharing of information. Then I think the specialty panels could be constituted around that goal or objective and it wouldn't necessarily be just orthopedists, it would be this mix. But I think having that first step of identifying the high leverage meaningful use opportunities would actually help this process and make it more focused.

**M**

You asked for specific advice about this, so I'm going to channel Jim Walker for a minute, so I look prescient when he says this on the 19<sup>th</sup> when we discuss it. I don't know how you bake this in or how you incent this, but you're not going to have good or rigorous adoption of clinical decision-making before without consideration of clinical processes and workflows. We can have all the great information tools that we want, but if they're not baked into our clinical processes that work well then they'll be viewed as a pain in the you-know-what. I don't know how you do that, but it's just something to chew over for the next week.

**M**

And actually it's reinforcing the two-stage nature of the process. In fact, these panels that establish the priorities probably should include patients and other stakeholders in the system. The panels that we designed helped deal with that problem how do you translate that into a process ... so that the clinical decision support is actually meaningfully supporting whatever the meaningful use objective is.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Paul?

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

I just have a clarifying question for Dr. Dreyer in terms of the radiologists. You made the statement that Pax, I think are widely available and I presume you mean in the hospital setting and not as well in the medical—

**Keith Dreyer – Massachusetts General Hospital – Vice Chairman, Radiology Informatics**

It's estimated that about 90% of all imaging centers, 5,000 imaging centers, 5,000 hospitals have—

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

Okay. Then what you're suggesting is that your goal is to have images available through an EHR uniformly using DICOM and not suggesting that Pax be available. You're saying you're not trying to promote broader dissemination of Pax, you're trying to make images available through EHRs using DICOM ....

**Keith Dreyer – Massachusetts General Hospital – Vice Chairman, Radiology Informatics**

Yes, I think again different than ophthalmology, as was discussed earlier, radiology has this advantage of 15 years of DICOM involvement, and so Pax is kind of done. I think we're over that hurdle. But now all of these images live within a department of radiology. They've matured to the point where they live within a facility and it's usually not DICOM that pushes those, it's just a Web URL call securely giving SSL access to those images from the URL context of the patient. But now the challenge is millions of CDs are pushing back and forth that you can't open and the data gets lost and no one has the information, so NIH funded the RS&A, a radiologist society, to take five major institutions and demonstration that they can use IAG standards to push these images around. It worked successfully. I think it's because DICOM was so well entrenched for so many years, to move images is not a complex issue anymore. It's just there's no incentives to move images amongst competitors—

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

... specific, so I could be sending, I mean, moving images, meaning that it would go to the EHR and then I need to keep it in the EHR as a record of something that I showed to my doctor, or I'm sending the URL to the EHR and over the Web I'm going to the Pax system in the background.

**Keith Dreyer – Massachusetts General Hospital – Vice Chairman, Radiology Informatics**

This is why, to David's point earlier, do you really want to specify that in a measure. It works both ways. If I'm in a hurry, I'm in the ER and I want to look at an image, I can, if I can quickly have access to that I can just do a URL and view it. That's what happens in most facilities. Now, when you step across a facility, to make that access available from a URL through all the security and HIPAA requirements you have to do—typically a packet gets transferred to the other facility. Now more and more there are cloud solutions that are making it available through patients' PHRs that will allow access to other facilities to have those images without having to have them downloaded. The payload is lifted out of the one facility, stored in a PHR of the patient, and now made available at the patient's request to other facilities. So there's multiple different mechanisms that are competing today for this transmission capability, but it was my hope that this group could look at that and say all of those should compete but the idea of doing that is really good and needs to happen.

**M**

.... If we could end up with a measure that fosters the effect without specifying because I don't want to accidentally say that you have to be able to insert a terabyte of images into your single practitioner EHR. And now they have to maintain this because they need a legal record of every image they looked at from within their EHR, I don't want to have to accidentally do that in my stipulation. So what exactly would be a measure that doesn't stipulate, I have to think about—

**M**

A simple one that was in our stage one MU measure was the ability to demonstrate that you can transfer information across two enterprises, but it doesn't specify images. If that specified images or the ability to move a pointer to an image then that would get folks moving in that direction. Right now people look at meaningful use and say it doesn't apply to images.

**M**

When we do do that at whatever stage it should image or pointer to images or information necessary to actually access the image.

**M**

The ability to visualize images, I think is the key.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Christine?

**Christine Bechtel – National Partnership for Women & Families – VP**

I have a broad question at the highest level about the approach that we take for specialists. Stage one, as Paul noted earlier, there is a distinct focus on primary care providers, although there are lots of things in there that a specialist can do. But as we think about stage two, in my head anyway I'm just not settled on what a better approach might be. So I can think broadly about a couple of things that either have occurred to me or other folks who have said, and I think one is that—and I think George and I may disagree on this. That we might make a recommendation for CMS/ONC to do whatever they want with, that certain specialists who don't use an EHR, don't buy an EHR, shouldn't be eligible for incentives and therefore penalties. So that's certainly one approach.

Another approach that I've heard people talk about is specialty tracks, right, so if you're primary care this is what it looks like, but if you're a cardiologist this is what it looks like, and if you're a radiologist this is what it looks like. On the other hand, I can see the compounding complexity of that very quickly and what a probable nightmare it would be from an administrative standpoint.

Another approach might be to have, almost like we did with the quality measures in stage one, to have a limited set of pretty universally applicable core requirements but a much larger set of menu requirements that would include a lot more things that would be specialty specific. Again, I think it's complex, but it probably gets to a little bit more individualization and customizability that I am hearing the panel need in terms of being able to see ourselves in the approach. There may be more, but I'm just trying to settle around what is a better approach that might incent broader participation by specialists. In my personal opinion, every single specialty does not need to necessarily be part of meaningful use for lots of reasons. But I think the more the better, and certainly when it comes to information exchange. But my sense is that if we can move 80% of the market, that would be a big step. So can you comment on the big picture approach that we might, if there's anything that we should do to adapt our approach for specialists?

**M**

I'll jump in with a comment. I think one of the things we've learned out of our panel process is that any incentives you create for specialties to get together and solve problems jointly actually it could be construed as this is all about primary care. But actually there's an interface there with all the specialties that the more you incent cooperation of those specialties with primary care just to come up with solutions or joint solutions to clinical decision support problems, I think the better that is in terms of creating incentives. It actually reduces the problem of the duplication and multiplication of administrative complexity. I'm not sure all the specialties will like that, by the way.

**Keith Dreyer – Massachusetts General Hospital – Vice Chairman, Radiology Informatics**

My opinion is I think the worst thing you can do is make a one size fits all without any exclusions, because then you're going to get a lot of resistance. If you add exclusions you're going to go down a pathway of having to continue to have exclusions and I think you're going to have to add in measures, say, for people that generate images. For me to have to worry about body mass index but not worry about storing terabytes of image data by some requirement just doesn't make sense. So the problem is with exclusions, from what I've seen today, as a radiologist I may be able to live with 12 measures, but I have to buy technology for all 25. So I have to buy to comply with the complete EHR solution to even be eligible for this. I have to go out and buy a huge amount of resources, of technology that I have to implement or at least possess and I'll never use it. So that's the biggest pushback that we're seeing from our folks. If we could in lock-step say we will be excluded from 15 measures and then maybe 5 new measures that make a lot of sense to us coming down the road, but we don't have to waste our dollars and resources and energy re-buying all this technology that we know we'll never use. We'll always be excluded from, that's the big challenge on everyone today.

**David Booker – College of American Pathologists – Board of Governors**

I would say you'll have no trouble getting pathologists to participate in any processes that are developed to create any types of menu items or objectives that would relate to use of pathology data, importation, exportation, display of pathology data in EHR. We would love to work with you on that and we're actually

here pleading to be involved in that process. I think that what the panel can do on a very high level is to simply recognize the role, and I understand the goals of this were mostly clinical decision support, but some of my comments were to lay the groundwork and put everything in context. You need to know how things are actually happening and the fact that we really aren't given adequate access to these processes. So we're simply asking to be part of the process.

As far as the incentives for actually interacting with other specialties, the incentives for most of us are already there. We want to interact with the other specialties. For pathologists, and I suspect for a lot of other physician specialties, we can't really dictate what clinical decision support capabilities our systems have. Most pathologists don't purchase our systems, somebody else does. It might be a hospital. They may have some different goals for what they want, and so the vendors typically respond to the economic buyers of these systems. In fact, there are many guidelines and protocols and algorithms that exist that could easily be turned into decision support that would affect a large number of patients. It's a matter of getting those tools actually created.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Good, and not by design but coincidentally the last question will be from Dr. Tang.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

I'm trying to work on this imaging problem and knowing what we just went through in terms of lab, which is a similar thing where the criteria is on the provider and not the provider of the data, how do we deal with it, and hearing the questions that will be asked trying to ask your help in how we would answer these things. So first, I certainly appreciate images. I work in a satellite clinic so that I read my own playing films before it's done anyway, so it's got to be done. I see that a lot, the value. Now, we have a couple of problems. One is, we don't have levers over the imaging center, just like we don't have it over the lab. So we applied the criteria to the source when it is a hospital, because we do have a different lever there and we tried to ask them to, one, provide it electronically; and two, attach it with LOINC. Now in the lab, unlike the images virtually all the physicians do read the lab result and interpret their meaning. That can't be said for the majority of folks and for the majority of imaging. How can you help us, one, deal with the don't really have the lever over the sources of the image generators; and two, what percent of the receivers of raw images would find them useful?

**Keith Dreyer – Massachusetts General Hospital – Vice Chairman, Radiology Informatics**

These are great questions. I look at it a little different, the first part of that, is that those imaging centers all have radiologists, and all those radiologists, particularly the imaging centers, are all EPs. They all can be imposed by having certain guidelines that are specific to them. I'm trying to think of not saying if you're a radiologist then, but if you're producing images then you have to make them available, you have to do this. I think there's a possibility to do that and it's even broader than just radiology, because everything else creates image data.

On the other side, the ability to receive image data—what was the second part of your question?

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

Is the value there? It goes back to we're trying to find out how does it make the system work better and how many of the ordering physicians need to have the raw images in order to get the most value out of the data?

**Keith Dreyer – Massachusetts General Hospital – Vice Chairman, Radiology Informatics**

What happens, what I hear is some people are just happy reading the report. When a patient gets transferred they never want to read the report. They always just want to see the images, because they don't necessarily believe what was—and there's a different clinical history and they're looking for different things, right? So if you're looking at specialists, it's a high percentage of folks that want to see the images. If you're looking at GPs, there's a lot of desire that I hear from patients wanting to be able to receive and see their image data that they can't get from a report, and oftentimes the GP wants to be able to see key images. On a CAT scan they don't want 10,000 images that we read, but they want 3 or 4 of the key images to show the patient what's going on. So I wouldn't say it's 100%, but it's a significant

enough number that we hear from. For example, when we have challenges with visualization inside of our institution, for example, if something goes down I instantaneously get calls from everybody saying that they can't function anymore. So I think that need goes outside of the organization as well, and there are mechanisms to allow people to have access from the imaging centers to their offices, all through securely over the Internet.

So it's the three of us, to Dr. Booker's point, we'd be more than eager to do things that are appropriate for radiology and for imaging to help to comply with meaningful use. I think that's what was the most exciting part for us was that this is going to clean up some of the problems that we know exist from an imaging standpoint. But the worst thing that can happen is that doesn't happen and then we have to worry about other stuff that we just never do on a day-to-day basis. So there's an opportunity, I think, to clean some of that up.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Thank you very much, panelists. This has been a wonderful panel. Thanks for your time, coming in and doing this at the last minute.

**Judy Sparrow – Office of the National Coordinator – Executive Director**

Thank you very much.

**David Lansky – Pacific Business Group on Health – President & CEO**

All right, are we having a little break?

**W**

....

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

No, we don't have time for a break, so, David, carry on.

**David Lansky – Pacific Business Group on Health – President & CEO**

We'll encourage everybody to take a 30 second local break while we re-settle people. ... break for us .... For those of you on the phone we're taking a minute standing break in place and we'll come back.

(Break)

**David Lansky – Pacific Business Group on Health – President & CEO**

We're going to try to get started again for the benefit of everyone's schedule. Let me ask the panel to reconvene and the committee to reconvene and drag in people from the hallways if we can. Well, thank you all again. Thank you to this panel for making adjustments to your schedule to come and join us today on short notice. I really appreciate it. I appreciate written testimony as well. Let me just briefly introduce our three speakers. We have a smaller panel today, so we'll have a little more time, or else we'll have lunch a little early.

Dr. Campion is Director of Provider Programs for Outcome Inc. in Cambridge. Outcome Inc. is known to a lot of us as a provider of clinical registries and Phase IV studies for hospitals and medical groups. He's also involved with the Department of Population Medicine at Harvard Medical School and was Director of Clinical Information Systems at Harvard Vanguard Atrius Health involving the rollout of Epic Care, so he has a lot of direct experience in the clinical side as well.

Don Detmer is known to all of us from long experience with AMIA and the IOM and many committees involved in rolling out HIT. He's Professor Emeritus and Professor of Medical Education in the Department of Public Health Sciences at the University of Virginia, and involved as well with University College in London.

Our third presenter today, Michael Stanley, is a Neonatologist and serves as Pediatrix Medical Group's Regional President and is also Medical Director at the Neonatal Intensive Care Unit in Fort Worth, Texas. Thank you all for joining us today, and we'll start with Dr. Campion.

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

Thank you. I'm very pleased to be here today. My name is Francis Campion. I'm a Medical Director with Outcome Sciences, a company focused on patient registries. Our comments are based on the experience of Outcome over the last 13 years, working with over 30 medical and surgical specialties through a variety of national programs and research programs, as well as the professional associations and patient organizations. I'm going to describe three of our national specialty programs and have some of the representatives behind us, and I'm really grateful for their support today.

As we know, our professional societies represent a key and trusted constituency that bring expertise and infrastructure, content and professionalism, and a real track record to using data, both for population management and for performance improvement. My comments on EHRs will focus on providing standardized methods for interoperability, which have been referenced earlier today. Because we believe this can accelerate the reach of these clinical registry programs and make them the norm, we specifically recommend the rapid adoption of the HITSP TP 50 and related interoperability standards for EHRs. This will enable the current continuity of care document to be used for data interchange in a real world manner.

The American Heart Association's Get with the Guideline programs began over 10 years ago and now includes three different registries: stroke, heart failure, and cardiopulmonary resuscitation. Over 2,000 hospitals participate and we have over 2 million patients in the registries. AHA and the ACC also participate together in the action registry Get with the Guideline, which focuses on myocardial infarction. Hospitals and physicians compare their performance to national benchmarks and seek improvement in care. In well over 80 publications, these programs demonstrated the sustained improvement in a broad range of quality measures and they are exemplified through a few, thrombolytic therapy and acute stroke care, lowering the 30-day readmission rate for heart failure, and improving airway management for resuscitation.

The second society I'd like to mention is the American Society of Clinical Oncology and their QOPII program. QOPII stands for the Quality Oncology Practice Improvement Initiative. This registry includes modules on lymphoma, breast, colon, and lung cancer, and it now includes over 700 oncology practices, and these represent 25% of all oncology practice sites in the U.S. The program includes more than 100 clinical measures in pain management, chemotherapy, administration, and end of life care, along with cancer specific measures. ASCO has created an Oncology Practice Certification Program to wrap around the QOPII registries. This is now recognized by Blue Cross Blue Shield Association, Anthem, and other insurers, and they've taken these results and applied them for their own quality incentive programs.

The third association is the American Society of Plastic Surgery, which began the TOPS program, which stands for Tracking Operations and Outcomes in Plastic Surgery. Hundreds of plastic surgeons since 2002 have been using TOPS to improve practice and complete their own CME and maintenance certification requirements.

All of these programs have been successful, but hold even greater promise for widespread adoption across the specialties, and we think there are two key issues that can be addressed by this committee. Those are provider incentives and data interoperability. These programs have really flower and meet their true potential if they were designated as meeting federal and state requirements for performance improvement and in particular meaningful use quality reporting, and there were requirements for EHRs to use interoperability standards for data transfer.

I'm going to illustrate what the use of interoperability standards can do in a patient setting. So take the example of a patient who enters the office exam room of Dr. Jones, and Dr. Jones is using his EHR and begins to initiate the record for that visit. A trigger during an episode of care based on either a diagnosis code or a test result alerts Dr. Jones that the patient is eligible to participate in a national registry. If

needed, Dr. Jones gets permission from the patient, and then clicks on the blue hyperlink, which essentially brings the electronic form to become visible within the EHR. It's pre-populated with data from the CCD of the patient's electronic record. Dr. Jones only needs to complete any non-standard data elements, and if all the elements are standard there's no additional work at all. He reviews the form and with the stroke of the keyboard submits it in a secure and standard manner to the national registry data center. The integrated registry forms can also bring real time links with decision support, patient education materials, and even benchmark reports on the physician's practice. We know this scenario already exists and is in practice. This is what members of AFPS are doing with the TOPS program who are using the NexTech EHR. The physicians report that their time for data entry has declined by 80% for completing those electronic forms.

**David Lansky – Pacific Business Group on Health – President & CEO**

Dr. Campion, since our time is really short, I wonder if I can encourage you to get to those concluding points.

**Francis Campion, M.D. – Outcome Sciences, Cambridge – Medical Director**

Sure. We'd like to encourage the committee to do three things: recognize these provider programs and enable them to fulfill the requirements for meaningful use quality reporting. Two is to create a mandate that the EHRs would implement these specific open interoperability standards for data interchange; and then thirdly, recommend a process by which the CCD can be updated on a regular basis, probably annually, that will be particularly focused on the needs for specialty data elements. Thank you.

**David Lansky – Pacific Business Group on Health – President & CEO**

Thank you very much. Dr. Detmer?

**Don Detmer – American College of Surgeons – Medical Director, Advocacy and Health Policy**

Thank you for the opportunity to testify today to this distinguished group. I'm talking on behalf of the American College of Surgeons. It's great to be here. My name's Don Detmer and I'm currently Medical Director for Advocacy and Health Policy for the American College of Surgeons. This has been an excellent morning thus far, and as somebody once noted, "Almost everything's been said but not by me," so some of what I will be saying will clearly build particularly, for example, on Dr. Campion's comments. I think we have submitted lengthier comments, but I want to focus on immediate concerns of the American College of Surgeons Fellows' with regards to the proliferation of health IT and the HITECH initiative.

There continue to be significant concerns that stage two and stage three meaningful use objectives will make it difficult for specialists to comply in adopting the meaningful use of electronic systems. After discussing these concerns in a bit more detail, I'd like to provide comments on the ACS population data collection efforts, and the value we believe those efforts bring to bear on today's discussion and the critical national priorities to improve quality and safety while containing costs.

First, and most importantly, throughout the national discussion about the benefits and adoption of health information and communications technology the American College of Surgeons has supported the adoption of EHRs and the widespread information exchange to improve care. With that said, we continue to feel that there's a need for greater flexibility for providers to successfully meet the criteria of meaningful use and implementation. For example, we feel that the high threshold for the proposed stage two objectives may be overly ambitious for some specialists, given the current state of EHR products for specialty practice. As you've often heard today so many measures are primary care focused that their lack of exclusions creates a compliance problem for specialists.

It remains unclear to our members why specialists have to report on those measures that are not relevant to their scope of practice. Much of the data identified are not routinely collected, measured, or managed by surgeons and in many cases the data details are not even directly relevant to surgery. Therefore, we, like others, have encouraged identifying objectives that are relevant to specialists and appropriate for surgery. For example, refining the list of quality measures to include those that are specialty focused will

be a significant step toward improving care through the implementation of EHR and electronic information exchange.

Now, the ACS has identified some candidate measures, both in a written testimony and also involved quite a bit nationally, and we'd be happy to work with ONC and the committee to create others as well as if these don't quite fit what you have in mind.

You're probably aware that the American College of Surgeons has created a National Surgical Quality Improvement Program known as NSQIP. This work positions the ACS to provide rather detailed input to the workgroup on performance measurement, feedback, and population data using electronic systems. Evaluation data confirms that NSQIP can improve care and outcomes while decreasing cost and inappropriate variations in care. EHRs can facilitate special management of populations, including measuring and feeding back performance data, registry data on surgical populations is key to achieving this goal. We believe registries generate complex useful quality data that can be used to track outcomes and improve surgical patient care, giving healthcare providers a model for organizing and managing their networks to ensure multidisciplinary integrated and comprehensive services. Most of the data collection process today engages paper processes and human reviewers, but with greater focus in investment substantial progress might be made to lessen this costly and time-consuming approach, as we just heard.

Going forward, in order to more efficiently measure and manage the quality of care for populations of surgical patients, EHRs should be capable of tracking relevant preoperative, perioperative, and postoperative data across care settings to allow surgeons to obtain data and coordinate effectively with referring physicians. Registries help make this possible and feasible. But today this goal remains a challenge. Several national surgically related registries currently exist. We strongly believe that participation in such registries is an excellent method to assess and compare performance for improvement purposes to help both hospitals and surgeons know their own results and eventually offer patient groups aggregate information with respect to quality.

Registries allow benchmarking and comparative feedback on physician team and hospital performance, while specific computer executable decision support systems with EHRs coupled with relevant knowledge bases can improve preoperative and postoperative decision making. Having standardized feedback on outcomes following operative procedures will remain important to surgeons, since they are, after all, procedural specialists. While research has shown that feedback of data can change the clinical behavior of physicians and their teams, the likelihood of success in this regard has been shown to depend on a number of criteria. I won't go into those, they're in the test ..., but I think the feedback has to be relevant and it has to be procedure adjusted, relevant clinical data, clinically relevant measures and so forth.

Claims data don't quite get there. You have to clearly go beyond that and I think ultimately we will have validated guidelines that will get us there, I think, better. Currently there are barriers to this, but I think these can be overcome. Researchers often need longitudinal data and very large data repositories. The quality improvement registries are pretty lean and mean, but I think these can inform one another and we can learn from one another. Clearly we need more money for research in the informatics dimension, so the quality and safety, so we made a lot of progress, but we also have a ways to go and I appreciate the opportunity of being here today. Thank you.

**David Lansky – Pacific Business Group on Health – President & CEO**

Thank you. Dr. Stanley?

**Michael Stanley – Pediatrix Medical Group – Regional President, South Central Region**

Good morning. I'm pleased to be able to present Pediatrix Medical Group's experience in the use of electronic health record technology for the Meaningful Use Workgroup today. Pediatrix Medical Group has used EHR technology in our Neonatal Intensive Care Unit since 1996. As a result, the neonatal EHR module, which we call BabySteps we have developed the most comprehensive clinical data warehouse on neonatal outcomes in the world, consisting of more than 740,000 patients and 13 million patient days currently, and it grows daily. We believe that health IT is essential in moving our healthcare system into

the future and we are pleased to be working towards the same goals outlined by the Office of the National Coordinator for HIT in the work that we do at Pediatrix.

Pediatrix, for those of you who don't know, is a national group practice of sub-specialists that includes neonatologists, pediatric intensivists, pediatric cardiologists, and maternal-fetal medicine sub-specialists who provide primary care services for patients with high-risk pregnancies and premature babies. Our proficient and advanced practice nurses practice in over 250 hospitals, 32 states, and we care for about 22% of the hospitalized babies in the Neonatal Intensive Care Unit on any given day. By our ability to standardize data collection across our units and making significant investments in training for our clinicians to facilitate consistent documentation, Pediatrix is able to provide real time feedback and performance measurement to our physicians.

Utilizing this capability, we have built a number of continuous quality initiative projects that are currently having positive impact on the care provided to the premature babies in our Neonatal Intensive Care Units. Daily collection of information, weekly aggregation, and immediate feedback to our physicians happens on a continuous basis. Each physician in our 250 units can compare his care team against a virtual pediatric unit, which consists of an average daily census of more than 4,600 patients. Due to the high variability of the size of our units, we have an average daily census of less than 10 in some of our units, to more than 100 in others. Our physicians have the option of comparing their outcomes against a total pediatric virtual unit, or against units of like size. Our comparisons and outcomes can also be made against multiple birth weight and gestational age categories. Improved patient outcomes are the primary benefits enabled by application of this information collected through patient care documented in our BabySteps electronic health module and aggregated and reported in a clinical data warehouse.

Improved outcomes are achieved in a variety of ways. First, we have been able to make novel research observations in the data that have resulted in peer review publications and clinical journals, adding to the body of evidence-based medicine practiced in ICUs across the United States. Second, C2i projects, such as our 100,000 babies campaign, have the goal to improve the outcomes of more than 100,000 babies in our NICUs over the next three-year period of time. Third, as a result of this documentation workflow and participation in resultant C2i projects, our physicians fulfill Part 4 of their Maintenance of Certification requirements, facilitating our physicians' ability to maintain their specialty credentials.

Finally, this information is available to our hospital partners, to our referring physicians, and to payers, to be used to assess our performance in their unit and gain their assistance to improve the overall care of our patients going forward. The various to collection aggregation and reporting of clinical information are many. They begin with lack of clinician acceptance to data entry and maintenance. They continue with hospital and organizational inertia and are often compounded by vendor competition. All these barriers exist in an industry that's highly regulated. Standardization of terminology is critical to the success of any data collection and reporting capability. This necessitates controls and requirements that are foreign to clinicians using a paper-based documentation method. Necessary workload changes must be put in place to facilitate the move from paper-based documentation to electronic documentation. In addition, the positive impact of the EHR may not be immediately recognized by clinicians until enough information is gathered or the system is learned and applied appropriately by those clinicians.

It has been our experience that most, quote, complete EHRs do not meet the needs of all the departments and specialties in the hospital so that many departments or specialties require EHR modules more specific to their area of care. BabySteps is a good example of how the specialized information needs for the highly-unique NICU population are not met through the use of general, non-specialized systems. In addition, precise standards must be implemented in order to ensure appropriate collection, aggregation and recording on the information in an EHR. Customized systems are often contrary to the need for the standardization; yet, they are essential for outcome measures and individual specialties that are truly meaningful.

In conclusion, on behalf of Pediatrix, I applaud the work of the HIT Policy and Standards Committee as they strive to expand the implementation of health information technology and improve its use. However, we believe that the focus of the committee and the meaningful use requirement have been on the practice

of primary-care medicine. Many specialists will struggle to meet the meaningful use requirement. Specialists may need to increase their already-significant workload simply to meet technical requirements for EHRs and have no meaningful impact on the care provided to their patients.

That is not to say that the use of EHRs and the subsequent application of information gathered is not as important for specialists as it is for primary-care providers. We believe that it certainly is. Pediatrix Medical Group has been an example of this. We believe it is equally important for the committee to recognize the unique challenges specialties have within the structure and move towards outcomes assessment that are specialty-specific to provide comprehensive application of meaningful use across all areas of care. Thank you for the opportunity to present.

**David Lansky – Pacific Business Group on Health – President & CEO**

Thank you, Dr. Stanley, and thank you all. Let me start with the first question, although I'll start with a hard one, and then we'll go around the table. One of the reasons it's attractive to us to have the conversation about registries is the desire to capture data across multiple specialty providers' EHRs into some kind of longitudinal record, which can support quality measurement, which is part of the statutory mandate and part of what we're trying to do. So I'm interested in collectively, your thoughts about the architecture of how the EHRs, which we get to address through certain parts of our program, and HIEs, which we get to address in another part of our program, fit with registries. And the relative roles of these in creating a data set which can be accessed for quality measurement and then can report quality measures on behalf of participating providers in the registries.

And so the theme of registries as a platform for quality measurement raises a bunch of questions about the connectivity among these different systems and the standardization all of you referred to in terms of the underlying data set, the harmonization of standards across subspecialties which then end up populating the registry, and whose job that is. So there's several tools that are in play, and I'll just list some of them and maybe just have you each react to these.

... has been working on a quality data model which will identify some data standards to specify the quality measures, which could then be rolled back through the products at the certification level. Is that a place to go after identifying some of the standards in developing a data dictionary that would ultimately drive the measures that we want to end up with? What's the best way to harmonize these standards across the various specialties and vendor products? Do we need to have specified value sets or code sets which become sort of universally drawn from to then roll up to these registries and the tools that we use? Is the registry platforms that you're all using—do they provide a mechanism for looking at the new measures we're all interested in, like longitudinal measures, changes in time, and certain parameters that are interesting to the quality measurement enterprise?

So, I guess, in general, I'm asking a bundle of questions about how do you see this fitting with the measurement enterprise, broadly, and what can we do in our tools in the meaningful use program to stimulate, to solve some of those problems?

**Michael Stanley – Pediatrix Medical Group – Regional President, South Central Region**

I think it's in our world of neonatology and any subspecialty, you'd get two of us together, and it's very difficult to agree on a definition. As far as registries within the world of neonatology, the Vermont Oxford Clinical Trials are the other standard that's out there, and for years and years and years has been what we would consider the gold standard. Now, certainly, we think our database now probably exceeds that, just by the sheer volume of numbers that we have in it.

We are currently in discussions with Vermont Oxford about standardizing their definitions so that our definitions complete—most of them do—completely match up. I think that in order to get a standard group of definitions, you would have to have a body such as the American Academy of Pediatrics, their subsection of Fetal and Newborn Medicine, to come up with those standard definitions that everyone can agree to. And that would—I think you'd have to go to that subspecialty body. Now, what I would really prefer is that you just come to us, and we'll give you the standards, but I don't think that's probably going

to happen. I think that you would need to go, probably, to our body, which would be the American Academy of Pediatrics and that subgroup, Fetus and Newborn Committee, to establish those standards.

The standards have to be somewhat broad. One of the things that we debate back and forth on multiple times is what we call chronic lung disease or injury to the lung in premature babies. People will look at x-rays and say, well, you can do it by x-ray. There's all sorts of mechanisms. What everyone does agree to is that if you're in oxygen at 36 weeks, you have chronic lung disease. So that's a very simple measure. I think any of these measures that we come up with, they've got to be very simple in nature so that they are accurate when reported.

**Don Detmer – American College of Surgeons – Medical Director, Advocacy and Health Policy**

Yeah, those are a set of questions, all right, and I'm not sure I got really one of them ... follow up on this issue of value sets and so forth. Relative to your first one, on quality data model of NQFS—and, in fact, American College of Surgeons works with NQF on some of these that are already in process and through the process—and then also with CEC on infectious disease—infections, well, specifically, urinary tract infection and surgical site infection. So there are some of these which, I think, as he said, need to be general, but some can be very specific, where they carry a lot of importance to patient outcome. So some of some mixed. I think the point is, though, as you said, some of these need to be longitudinal, and they need to evolve.

Can the registries adapt? Yes, I think some more easily than others. Some of them are—in here, the cancer space, for example, is a very dynamic field. It changes all the time. It's probably easier than some of the others. But the fact of the matter is I think that that is feasible. I think the main point is that there's the disconnect, at times, between a group thinking about something and then trying it in the field and finding out what you learn. And so this has got to be iteratively that loops between the specialists in the field, how this aggregates with other relevant groups, so that it actually stays almost as a learning health care system is the metaphor which I think is really operant here.

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

Okay. Those are perfect questions, and we could talk a long time on them. I'll mention a couple of them. You referenced that you have the universal code sets and idea that we need to have data standards, and that's absolutely true. The good news is that much of that has been accomplished over the last five or six years, and now the challenge is to put them into action and put them into daily use. I think there was mention a few times about the resistance of vendors to do that, and I think that will continue, unless there continues to be some pressure, of sorts, from a business perspective and from a regulatory perspective. So just because those standards exist doesn't mean they're going to be used. But we've illustrated that they really work.

Certainly at the ... showcase for the last four years, we've been able to work directly with most of the major EHRs to demonstrate some of these standards, particularly the retrieve form for data capture and the FPTP-50, which is really an elegant way to fill an electronic form. The beauty of that technology is that you receive the latest version of the form and that the form is managed centrally, in one national location, whereas in the current world, it's been a very difficult thing to have each EHR try to maintain a copy of the electronic form within the EHR itself or within every instance of it. It's almost impossible.

So the good news is that the standards exist. They were developed by CDISC. The Clinical Data Interchange Standards Consortium kind of focused on the research community. But really we're talking about observational study methods for quality. So we're really applying research methods to good everyday practice. So really there's a harmonization of physicians live, because we all want to be scientists at heart, but we all have to run our daily work.

You mentioned the regulatory platform and the concept of getting to a longitudinal patient record of sorts, and there is a little bit of a difference between some of the national registries, which, in almost all instances, have been developed for quality improvement and have become wildly successful. NScript certainly is a great example of that. STS (the Society for Thoracic Surgery)'s Cardiac Surgery program, American College of Cardiology's PCI registry, really great opportunities to continue to expand those.

In most of those cases, those don't have longitudinal care. Many of those are focused on individual hospital episodes of care but have made tremendous contributions to quality and patient safety. Once you get the longitudinal care and you would like to link sequential hospitalizations, for example, or episodes of care from ... outpatient, you do need to have a patient identifier. And so only a few of our large, national registries have that. STS does, but they go with the guidelines. Heart failure, stroke, acute MI, and resuscitation registries do not. So we need to think through what that means. Once you've crossed the chasm, of sorts, from quality improvement in daily operations to research, it's a different requirement as far as patient protection. So we need to think that through and understand what is the purpose -- the original design of the registry is. But all of our national registries are very good safe guarders of patient privacy and take that role very seriously.

I think there are great examples of this public-private partnership. We know that the commitment to participation in any one of these national registries is significant for a physician or for a hospital. The ability to create 50, 60, 70 measures really helps to describe the complexity of care that we all know is important for improving practice. It's just, in order of magnitude, different and better and more relevant than the three or four measures you might produce for PQRS, for example. And so I think physicians really want to improve practice, but they know that it's a complex thing. We need to be able to have a zone of experimentation, of sorts, about new measures. We need to have an area where the profession is going to examine them, have that in a private zone, of sorts, before it becomes publicly released. And so I think we can create this kind of a partnership.

I think the ASCO (the American Society of Clinical Oncology)'s model of having a designation of what a quality practice is and creating the bar of quality is really work that's been now recognized by many of the private payers, as I mentioned, Blue Cross Blue Shield and Anthem. Then they can reward the physician in an appropriate manner, be it listing that physician with a star next to his or her name or giving them an enhanced fee schedule or an end-of-year bonus based upon the volume of care. You know, they can decide what the appropriate incentive is. But at least the arbiter of quality is the profession itself, and with that national scrutiny, the standards are very high, higher than I think anyone in ... would have created, as far as the standard goes.

The other nice thing for the ASCO model is that their focus of the accreditation is really at the practice level, and what we know is that the resource investment and the work needed for quality improvement is a group experience. It's not an individual physician doing it on his or her own. And so it puts the locus of reward at the place where the locus of investment happens. So I think these are models that hopefully we can align with the federal financial incentives.

**Don Detmer – American College of Surgeons – Medical Director, Advocacy and Health Policy**

Before we move on, I'd like to make a trailing comment I think—that your comment triggered. I think NQF has got a great game, but I don't think it's the only game in town, and the College of Surgeons, in fact, has argued that there are other perspectives and other approaches, and they also need to be looked at. An example, for example, is obviously how electronic health records start impacting on practice, as well, in terms of ways that haven't been really the focus. It's been more on just clinical processes and care and so forth, whereas the technology itself can become a variable that needs to be looked at. I think that's more of a dance, almost, with Informatics and the quality safety people.

**David Lansky – Pacific Business Group on Health – President & CEO**

Okay. Paul, then Mike.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

Thank you. This panel has been very helpful. We had an earlier panel when we were doing stage one on specialty, and in particular, registries, and we had three things that came up that seemed to be at least impediments, if not show-stoppers, two of which you haven't mentioned so far, and let me so reflect that to you and see if you think it is a problem.

So one was the lack of interfacing with the EHRs. So everything was yet a separate parallel, and you've discussed that. Another one was just the expense of participating in a registry. The way that would affect us is if you created a meaningful use objective and they had to comply with that, then all of us automatically had to bear this expense, and it was said to be expensive.

The third one had to do with proprietary or parochial rules in participating with a given registry. In some cases, there were contractual language that says once you give this data, you can't give it to somebody else, and there's no way for—and it was left untransparent in terms of your ability to view the practices, ability to look in there, and some of it is done in black-box fashion.

Are those issues that you're seeing in this general space, and in what ways would they impede our ability to apply the meaningful use objective to participation in the registry?

**Michael Stanley – Pediatrix Medical Group – Regional President, South Central Region**

We live, fortunately, in a world where all we know, for us, is electronic health records. Our physicians have the ability to compare themselves on a weekly, monthly, against virtually anybody else in our thousand group. What they don't have the ability is to compare against the university across the street. So we can compare, and a lot of centers do, on an external to the Vermont Oxford. So you can compare to like units in that. But to your point, there's an expense, and that expense, I don't think, is astronomical. But if you're trying to join an outside registry, there is an expense.

It would be very nice if you were trying to create this central registry in neonatology, where all the patients are entered into that registry and you can pull the data. The problem, though, is that the data, from our perspective, is when you're doing the registry. It's, for the Vermont Oxford, its hand. So that you have a data sheet, you're filling out that data sheet, that data sheet is then electronically submitted to Vermont Oxford.

It would be nice if we would be able to work with the different vendors, because in our model, everything is extracted electronically. Nothing is done by—you don't enter anything in. It's all extracted, electronically scrubbed, de-identified, and put into the clinical data warehouse. So first of all, there's no way that you can alter the information, unless you falsify the medical record. So it's all extracted and immediately available. But you're talking about, I would think, years down the line where we can get that information being pulled from a consistent record.

I don't think we're doing to get there in a long while. I think we will have to continue with the registries and figure out how we can take the electronic health record in an individual unit, electronically extract the information, and then go into the central registry. But it's a big problem. It's time-consuming, too, if you're doing it by hand.

**Don Detmer – American College of Surgeons – Medical Director, Advocacy and Health Policy**

Yeah. Dr. Tang, I think these are really our key issues. Obviously, the Institute of Medicine and the National Research Council have a couple of studies, one looking at CMS's infrastructure and the other on safety in health. I think this first one, in terms of interfacing with EHRs, that's why I mentioned, though, the need for funding for more research and demonstrations, because I think that actually this is still under appreciated in terms of just that interface, and you understand it better than I do. So I think we need both the money for research and then demonstrations, some that the National Library needs to do and some in concert with ARC. But I think we're really missing it, considering the kind of investment we're making in HITECH.

On the expense side, and the reason I mention CMS, is obviously, their mandate now is to pay for quality, buy quality. And so at least for some of this, it strikes me that there is help on the way in the sense if we can do the collaboration in the right kind of context, and I think we can look at population health and essentially improving patient experience in the cost of care, as Berwick's Triangle says. They could relate to all of these and meet some of that issue. But expense is an issue.

I think the tension on the proprietary rules and just the values, if you will, professional values, historically, and commercial values, is going to be with us, and I don't think we've managed that nearly as well as we should. Exposing it is part of it. But I do think that there really is, as I think we've heard from some of these examples, really exemplary kinds of, I think, patient safety and quality supporting things that the professional organizations are doing. They clearly need to be part of this partnership. Clearly, I think, CMS is not going to have the budget to take all this on their own, and I hope that indeed we can do a lot of this with professional groups, but with a lot of partners, including consumer groups, as well.

But the tension has to get dealt also with the vendors, and it just is a struggle, candidly, at least it seems to be, and I think that we just have to stay at it, best I can say.

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

I'll make a couple of comments on the expense side. I think the key is to realize that these are complex measurement tools, and we need a commensurate amount of resources focused on them, and it's best to do that at a national level. That's why I continue to come back to the need for the nationally-recognized programs. But the cost of a hospital to join the American Heart Association with a guideline stroke program is \$1,800 a year. That's not that much of an expense. But the greater expense is actually the human capital, the nurses that today are doing the data entry. So they'll spend tens of thousands of dollars on that nurses expense over the year. But as referenced by Don, we need that data interchange, the interoperability, so that we can lower that cost of putting the data in, improve data quality, improve timing it, and then be able to use that data for real clinical decision support that will affect patient care.

The other comment is that we really need a multiuse method and tool for doing performance measurement. So I just got recertified for the second time for internal medicine, but I had to spend over a thousand dollars to my board. So I had to spend that money. It would have been nice if I could get more out of that tool than just my board certification. So if there was a continuous practice-based learning environment that I could get automated movement of information from my EHR into this data quality system that could get me MOC, some CME, maybe some payment enhancements, I would like that type of a system and would spend my human capital as well as my financial capital from my practice on that kind of a system.

So I think we're building towards that, and in the last round of regulation, we note that PQRS—there's some note in there about maintenance of certification and PQRS aligning those two. So I think that's terrific. I think we're really moving in the right direction. I think that the meaningful use stage two has a real opportunity to recognize registries in a way that hasn't happened up till now.

**David Lansky – Pacific Business Group on Health – President & CEO**

Okay. Thanks. I think I have Michael, Charlene and Gayle.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Thank you. Excellent comments. So maybe I'm overestimating the complexity of registries in practice, but thinking about it from the perspective of a primary-care practice, most of the registries you've referenced so far are condition-specific or procedure-specific. We also know that not every patient needs to be in a registry, but some patients could realistically be in multiple different registries, based upon their conditions.

So how would it work if a depressed patient with diabetes, rheumatoid arthritis, hypertension and congestive failure, who had an intracoronary stent, a pacemaker, and had a lumpectomy for breast cancer, presented to your office? I see Dr. Fincher, who's going to be in the next panel, shaking her head yes. I mean, I put that together, but that's not an unrealistic situation in especially internal medicine practices. How would that work? I mean, could a patient ... be in multiple different registries? How would the primary-care clinician actually get the data or input the data, and then how would we know that the information is actually impacting care? I mean, this is very powerful. The registries are very powerful. But I'm concerned about the complexity that I just referenced, and at the point of curing a patient, and national registries trying to influence the care at the point of cure in a practice. Maybe you can speak to that.

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

It's a great question, and I think you got right to the point of what is an observational study and is an observational study all of the patients. Is it a subset? It really depends on what the purpose of the study is, but case selection is primary to that. So I think you really need to get to the point of what is it we're trying to accomplish and then figure out what's the patient population we want to be interested in.

There may be some exclusions, as referenced before, depending on what it is you're trying to improve. If it's a process measure about patient education, it may be quite relevant for that particular patient. If it's glycemic control, that patient may have a different number that's clinically appropriate than the patient who's, say, an uncomplicated diabetic. The measurement may be different, or the right answer, so to speak, or the goal or the benchmark may be different. So case selection is important, and it has to be appropriate for the purpose of the use of the information, and then data quality, which includes both completeness and accuracy.

So the nice thing about automation is you're more likely to get all of the appropriate patients in an automated way than if you have to have the clinician think about it and introduce a potential bias. So automation really brings with it so many virtues of good study design and accuracy. So accuracy will be raised if we have an automated movement of data and if we have to do any key entry. But I also mentioned that—and I think it was commented earlier—that there are subtleties of the art of medicine, as well, that we need to sometimes reflect in a registry, and it may be that not every aspect of care we want to measure can be done with discrete data.

I'll mention one regarding stroke, and that's the care of patients and selection of patients for anticoagulation. As we know, some patients aren't appropriate for anticoagulation because of the falling or forgetfulness, and some things that you can assign a code to and some things you can't. In some cases, even though a patient has falling or dementia on their problem list, that could, in an automated tool, take them out of the denominator. There may be an appropriate patient who you would anticoagulate or in any—understand the concept. So we have to be able to interface on electronic tools so that we can acquire as much electronic data in an automated way, but then we have to allow for the possibility of a clinical nurse/physician to be editing that information, particularly if we're going to send it out for benchmarking, and particularly if we're going to send it out for public consumption.

So I think this idea where we are on a journey, we want to have specificity, we want to have relevance, we want to have breath, and the tools, I think, that the national registry has afforded, helps to get us there. And when you have 60, 70, 80 measures, you're going to be able to get more of the nuance of care that we want to pursue than if we have a very limited number.

**Don Detmer – American College of Surgeons – Medical Director, Advocacy and Health Policy**

I think your question is really, really a key one, and I have some comments in my testimony related to that. I was introduced as being related to the University of Virginia. It gives me a chance to give a Jefferson quote. His point was he started the university for useful knowledge, not knowledge, useful knowledge. And he made the comment that the curriculum, and such, needs to change over time, meet changing needs of changing times. And I think the point is when we got into even HIPAA 15 years ago, the knowledge-based issues were really very different than today. We now have the genome on board. We now have personalized medicine on a molecular instead of a system level or organ level. We're talking about all of us, as ... says, having essentially an orphan disease.

And so we will be able to do certain of these things on a sampling basis for, still, process things that have risk and so forth, but if we really also intend to truly save money and improve population health, and such, eventually that's going to come through the right kind of knowledge for the right kind of problem. As Cheri Lattimer said, in the past it didn't matter so much what you did. The treatments weren't that good, and so you just got through. But now we've got treatments that can really make a difference, and unfortunately, they can really extract a price if you do it wrong.

So it's really a very different kind of environment, and I don't think we've taken this story to the public nearly enough, because I think the interplay is going to have to be some of these sample sorts of things are pretty lean and mean. But some of them are going to have to be pretty detail, longitudinal, person-specific information, and if it's anonymized, you just aren't going to get to where you really need to go because of the nature of the challenge that you're facing. The opportunities are there. I think the track record of what can come from this is such that we shouldn't be shy about making that point, because it will get done somewhere, if it won't be done here. It will get done, I believe, because it has that kind of potential. So thank you for letting me go on, there.

**David Lansky – Pacific Business Group on Health – President & CEO**

Moving on to Charlene.

**Charlene Underwood – Siemens Medical – Director, Gov. & Industry Affairs**

Actually, I just wanted to add on to Dr. Barr's question a little bit again. The population that seems to be driving the most cost, because one of the things we're charted with is aligning our efforts with the health reform efforts, are those patients with chronic conditions and multiple problems. That's kind of the scenario. So can you just paint a picture, if you will—and I think Dr. Stanley start to paint—how we move from kind of these separate silos, if you will, of very good data to that holistic, population-based view and what that might mean to us in terms of how we reflect that in our requirements? I mean, I'm going to be honest. When we look at the care-planning thing, treating people with multiple problems and which problem am I solving, the overlap or the intervention, it gets very complex. So how do we move from, kind of, the individual views to that holistic view, especially if that's the population we're trying to address?

**Michael Stanley – Pediatrix Medical Group – Regional President, South Central Region**

Again, because I'm at this opposite spectrum of the page as compared to—but I do think that— First of all, I think we can't make our measures too complicated. We've got to be very—I think everyone would agree—very simple, look at very first. But if you look at a simple—one of the things that we measure is weight gain, and we have targeted weight gains. What we've demonstrated by doing that is that we can change people's behaviors. We know that that affects the neurons in the brain as our premature babies are growing.

But probably even more importantly is breast feeding and you would think, as much knowledge as we have out there, that we'd have 99% compliance with breastfeeding. Well, we don't. There's a lot of societal issues with that and frankly clinical issues where doctors and nurses don't necessarily support it or support it the way we think they should. So we go through this long educational. But if you simply look at and monitor as one of your things breastfeeding, longitudinally, it's great for the mother, because it reduces—it would appear from the literature—incidents of uterine cancer and breast cancer. It improves the IQ scores of babies, reduces their risk of infections longitudinally, and typically in the long-term studies, they do better in school and ultimately later on intellectually if they have been breastfed. People will argue with that, but most of the studies would support that.

So I think when you look at—at least from our world, you look at something like that as one of your measures. And that you reward for that measure or you monitor that measure, however you want to, because it has so many long-term effects and will reduce healthcare costs as we go forward in the next 5, 10, 15, 20, 25 years, it has a huge impact with a very simple thing. We monitor that, and what we have found is in our data warehouse. When we put this in front of people and say, why are you only X percent being breastfed versus the unit across town, who's 10% better, what we see is a change in behavior. I think those are the type of things that I would like to see out of this. It's why we are giving this information in a real time basis to people, to change some of these very simple behaviors that may have, like you're saying, a very huge, long-term, longitudinal outlook for our patient population.

**Don Detmer – American College of Surgeons – Medical Director, Advocacy and Health Policy**

Real just quick add to that, I think, you know, we really haven't done all we need to do in terms of what are good behaviors for use of EHRs, too, and I think that's a real challenge. It's an educational challenge. But it's a challenge also, I think, still in the developmental kind of piece. But I can't help but think of Larry Weed's problem where he had a medical record and structured objective assessment plan. We've really

gotten away from, I think, showing the logic of our thinking as well as we could. Clearly, at least I think we ought to stick with problem lists ..., and I think that would help, but it won't get us there. But it gives us a base from which to work.

**Michael Stanley – Pediatrix Medical Group – Regional President, South Central Region**

What I think, one of the things that we, as we move more and more in—and we will. I mean, we've got to get there. Certainly when we look in our group of neonatologists, those that are my age struggle with electronic health records. The fellows coming out from training, you know, they take off, and they're very comfortable with it. So I think we will get there.

One of the things we have found is what you're addressing, is we have to be very diligent about the quality of the record that's produced. Because just because you have the electronic health record, some physicians figure out how to game the system and put in just enough information to get the note printed, whereas others write a book every day. The answer is trying to figure out what gives you the information so that I know, if I'm coming in that evening, what's going on with my patient.

So I do think that as we go forward with this, that that is an element, that you could be incentivizing or ... somebody whose records are worthless. How do we monitor that? I don't know. I know how we do it, but it's a labor-intensive process that we do it, because we routinely audit the charts to see the quality of the notes.

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

I'll make one additional comment, too. Charlene, I think you're getting to the issue of what is the forte of the EMR versus the national registry. What aspects of care are they best at in both daily management as well as the opportunity for improvement and safety. I think what we see, particularly in diabetes and hypertension, are a great example that it's an absolute requirement that the local EHR be able to produce a list of patients for the physician, and that, probably on a day-to-day or week-to-week basis. The physician and the nurse and the working unit are going to be using that list for daily care, improving care.

But there may be, at a roll-up level, at a national level, for example, or a regional level, where there are aspects of care that are focused for quality improvement. It's easier to understand on a procedural basis care with surgeries, and such, but there are aspects of care, and in some cases they're process measures. Process measures still carry a lot of weight and help a lot of patients. So we should be thinking, "What's appropriate for that specialty?" That's where I think the specialty societies are the best-equipped to help navigate, you know, what's relevant.

**David Lansky – Pacific Business Group on Health – President & CEO**

Thanks. I think Gayle is next.

**Gayle Harrell – Florida – House of Representatives**

Thank you so much, and mine goes back to a little bit more of the basic basis in dealing with the registries themselves, not the more global issues that perhaps Charlene has been addressing. Where the Policy Committee goes and the levers that we have out there to help move things along, certainly, you've really made a very strong case for the use of registries and the amount of change that can happen and better outcomes, and that's what we're interested in for our patients. But you also really clarified one of the basic problems, and that is the lack of standards in how you move the information from the EHR effectively and efficiently into that registry so that you get a global picture in how you move and how you improve outcomes. I'd like to really hear you speak a little bit about what your advice would be to the Policy Committee on how to make that standardization happen through, perhaps, a certification process of EHRs. Would you see that as a mechanism? Would you see HIEs as being, perhaps, a facilitator of that in being able to help make it easier for you to move that information in, or what's your advice in how to standardize it and make it better and easier for those registries to do what they really have the potential to do?

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

I can comment on that. We mentioned the CCD (Continuity of Care Document). It was mentioned earlier in the transitions of care conversation and now. That really has started to become a rallying concept. Now we have to put it to good use. We'll learn more about it organizationally and what it can do over these next few years, but it really has had a lot of scrutiny already. So that's an aliquot of data, a content package. So that's the vehicle. The question is then how do we move it, where do we move it, how often do we use it.

But it's really usable for daily care. My patient shows up in the emergency room. The emergency should be able to receive that CCD from the physician practice EHR and then consume it into the emergency room electronic system and use the information immediately. So it becomes the transportable vehicle of information. Then the standards have been created for the movement ... but what's the roadbed for it? What's the safety? Where are the on-and-off ramps? So all those interoperability standards currently exist through the end gateway and other methods.

So I think the next step is to require EHRs to facilitate the use of CCD in the use of interaction for quality and for the movement of data through to registries. It sounds simple, and they know the standards are there, and, I believe, actually demonstrated it with all the leading players.

**Gayle Harrell – Florida – House of Representatives**

Would you make it a certification of the EHR, a requirement through the certification process, that they be able to actually facilitate the movement directly into the registry, into all—?

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

I would say all they need to do is produce the CCD and have it in the exportable garage, so to speak, so that it can go. Then it can go to different places for different uses. So I think there's some requirement language around the production of a CCD. It's really, now, getting it in the place and the readiness to be used and be consumed, so to speak, or to be able to be transported. It's very exciting we're that close. It's a matter of pushing it over the line.

**Gayle Harrell – Florida – House of Representatives**

Stage two, perhaps?

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

Stage two. In fact, I'll mention .... That's the EMI I happen to use. But that was released in the December 2010 release. Cerner has CCD and retrieve form for data capture capability. But it's in their research module, for example. So that research module happens to be purchased by many of the larger clients but maybe not by many community hospitals. They were thinking of it as a research tool, because it was created through CDISC. But it's actually quite applicable for quality improvement. And so we've actually been talking to them about that and trying to develop some first uses of it for those purposes.

They just need a nudge. They're busy with all these other standards. If we can highlight this, I think it will be a breakthrough.

**Don Detmer – American College of Surgeons – Medical Director, Advocacy and Health Policy**

I'm grateful for your question, because actually, I sort of ran out of time and wanted to make a comment that this allows me to make, and that is: I think, in a way, you know, I'd almost like to see it more as a habit that you'd put into the way the process works. The people who really make these registries work are the people who make the registries work, and I think they tend to be kind of overlooked as really important players in this. A lot of these people that manage that have a huge amount of experience and nuance knowledge and tacit knowledge as well as expertise, and I think we haven't drawn necessarily on them enough in a formalized sort of way, but not overly formal. I mean, I think we just need to get some of this where we engage that more explicitly with these interfaces. They tend to be kind of in one place, and they're touching, but they aren't necessarily having dialogue, so, like, I think frankly might be useful in some of these things.

So to some extent, if you could actually just sort of change the work process then added that sort of thing as a deliverable, I don't know that you necessarily have to have really, regulation, per se. You just change the rules of how you do your day. That may be too simplistic, but I do want to say I think that there is a group out there, a work force, that hasn't probably been, maybe, explicitly noted as much as I think deserve to be.

**David Lansky – Pacific Business Group on Health – President & CEO**

....

**M**

Thanks. So registries are an example—you could look at it as manually curated observational research, "manually curated" meaning there's usually a human being, the provider or research technician, who looks at every patient and makes sure there's good quality. So clearly we need to do this. Clearly, we need to have the EHRs facilitate this through the examples you gave, which is finding cases and then automatically supplying whatever data is appropriate. I don't know that we can mandate specific registries because of the issues that Paul raised, but we can mandate that they're able to help these registries and also to point out that that kind of research is actually similar to, well, not by coincidence. In population health, we talk about EP condition reporting. Well, what is that? That's reporting to Public Health Department Registry, in effect. So it's really the same job. I like some of the innovations, like, for example, the electronic form that's managed nationally centrally.

What we haven't talked about so much is this other area, which is large-scale observational research, which is or will soon become available and not just on the claims data but a claims scale on clinical data. We don't fully know how to do it, yet, and my talk gives a lot of examples of where it falls apart and how it's hard. And I know there's the data quality for the issues that you raised, but have you started trying this and seeing what you can do with non-curated data?

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

Yeah, I think you're referencing that concept of comparative effectiveness research, in particular. That's what we really want to understand is how can we get better. What are the options? What are the treatment patterns or the treatment choices that are, in real life, practiced today? How do we express that as a comparison, and how do we try to understand new uses of existing drugs and things like that, things that physicians are already doing. It's a natural experiment. We just need to actually create the observation and then try to draw conclusions where it's appropriate.

We also understand the limitations of that. So we need to balance the knowledge from that with randomized control trials to make the best decisions going forward. So we don't want to overstate the power of it, but we don't want to miss the opportunity for it. A good example would be a study that was done and published recently from the American College of Cardiology's PCI Registry, where they were able to demonstrate differences in outcomes relevant to different stents. That was a study that wouldn't have been done by industry, on its own, but it was a byproduct of really what was a quality improvement registry.

**M**

And was that one curated?

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

That was through the—hospitals voluntarily participate in PCI registry, and those cases, the hospital, in many cases, some of it is data-automated, some of it is hand-management, but they all have the opportunity to reflect on it and decide when the case is complete, so to speak, in the data entry form. But that's a good example, and that's a large registry, 1,800 participating hospitals, tens of thousands of cases, and real-world information on an area of technology that evolves rapidly. As we know, new stents can come up quite regularly, and there really isn't an opportunity to design the prospective study that we would all potentially want to have.

So I think we're just starting to see the opportunity for re-use and secondary use of these same data. That's why I mentioned the study design. The question is do you want to have patient-reported outcomes associated with this, particularly when we get to devices? There may be subsets of hospitals where you do want to have a more formal research process with patient enrollment where you're going to pursue some longer-term outcomes. So the fact that the other more complex field, where some participants really pursue a path that would be more—that would look more like traditional research, but upstream we would have almost all participants in the QI component of it.

**Don Detmer – American College of Surgeons – Medical Director, Advocacy and Health Policy**

This raises a question I think you could probably respond to better than I, but one of the things that came up at the Clinical Informatics Summit, we had a town hall meeting recently and talked about some of the tensions that relate to trying to scale up research that came out of the quality studies. And the difficulty with the HIPAA, where business operations gave you free reign to do quality things, but if you're doing research, you've got to go back and kind of reconfigure. The people in the audience that were in charge of these, a lot of academic health centers in the country, claim this really was an issue. And I think as we move to über claims and other kinds of things where we really do want to have liquidity of data, which can be helpful, I don't know if that's—where that kind of sits or whether we could deal with that. But you're the people that could help deal with it, I guess, if it's certainly there.

**Michael Stanley – Pediatrix Medical Group – Regional President, South Central Region**

That's one example about these large registries. About three or four years ago, our patient database at that point was about probably eight, nine million patient days, and we were looking at use of drugs in NICUs looking for patterns, I think, is what you're addressing. What we found in that pattern was that if a neonatal patient was started off on ampicillin and cephalosporins, there was a higher mortality—and cephalosporin was what the drug was—a higher mortality than if they were started off on "amp" and "jant." We went into the database, and finally, what it was, it was a very clear association, which was then reported to the FDA, and the FDA then put out a news alert. But all that information was de-identified, wasn't patient-specific, but it was in that de-identified patient base.

So once you get that volume, then you are able to recognize what you're addressing, those patterns where we can significantly alter the impact. But it's just getting that volume in there and then also having the people who have the ability. And fortunately, we have a number of researchers who are very good at looking at data like that and looking at patterns.

**David Lansky – Pacific Business Group on Health – President & CEO**

Thanks. Art?

**Art Glasgow – Ingenix – Chief Technology Officer**

Yes. Thank you all for your presentation. I have just a couple of short questions, I hope. I just wanted to know if—you described, Dr. Champion, the method where you use CDISC in TOPS. How many of the other registries that we described today use that method, and how many of the registries that you've described really are as automated or potentially as automated as that is? One question.

The second one is: The registries that have been developed are mostly about a domain or specific condition. And Dr. Schneider, in the earlier presentation, described the process of going through, thinking about the process of clinical decision support in a holistic manner, using others in the analysis. How many of these registries are used beyond the domain and beyond the condition to actually improve, possibly, the coordination of care across domains?

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

Those are great questions, and I'd say, you know, if we want to get to 100%, we're probably at 5% now, from an automation perspective. Most of the sites use an older technology called "Uploaders," or "Web Services." I guess if you add both of those in, you would probably be up to maybe 30% of automation. But the opportunity to retrieve form for data capture is really quite small right now, and it's really because the largest hospital base of the EHRs haven't made it as a mainstream opportunity yet. So, for example, Greenway Medical, which is an ambulatory EHR, uses it in their PQRI registry. But I think we're just at

the beginning of this, even though it's been in demonstration at the national—it's really just been on display, so to speak. So I'm excited about the possibility of where it will go.

There was a mention earlier about other potential uses of this concept of moving data that has to go externally and that was also demonstrated in HIMSS for birth registry. Now, that's an everyday event, to fill a form from your EHR and move it to the appropriate location in a select and secure manner. So this is a generic concept for what could be done with the information.

Then secondly, you asked about clinical decision support and the different types of decision support, and I think there was a comment earlier about not everything is going to be a bubble or a flag in front of the physician during the time of .... If we limit ourselves to thinking that that's decision support, we'll miss some of the more complex, near-real time decision support, and there's a whole new development of CDS that will probably require other new jobs within a medical group. So we may have a safety officer or a safety nurse that received continuous input around safety patterns that really you don't want to be hitting a physician with directly, but maybe there's new levels of work. So I think the near-real time decision support is probably where some of these opportunities lie.

**Don Detmer – American College of Surgeons – Medical Director, Advocacy and Health Policy**

That's a great question. I wanted to approach it from a little different angle, because you're talking about coordination. One of the most interesting researchers, I think, has been Mary Naylor, at Penn, talking about the stages that humans live and go through from the time they're born until they get out of this great reward. And the issue is that we really focus almost so much of our system on medical care delivery. That's a lot of what we've talked about here today. Yet, the fact is there's a lot of other transitions that are really in there, like end-of-life things and some of these issues of transitions and hand-off we talk about in the system, but we don't necessarily talk about those across the system, or where we don't have a system, that we need a system.

I think the effect is I don't think we've thought through the EHRs in these contexts with how do we also look at some of these kinds of things. Clearly, the public would greatly benefit from this, and I think frankly social determinants to health we know are a huge piece of what this is all about, and we've disproportionately funded on the delivery side. So we're going to make some of those adjustments. But it would be nice to have our electronic record system and our standards, if you will, take a somewhat broader cut at how we define the issue and the problem.

**David Lansky – Pacific Business Group on Health – President & CEO**

Thank you. I had one last question, just a quick yes or no, I guess. We actually had public comment on this the other day, about whether we could have registry participation be a quality measure in the purpose of meaningful use as we struggle with how to get more specialists engaged and find a shortcut. Can each of you just react: Is it possible to imagine a quality measure that says if a specialist sends data to the registry and receives some systematic reporting back, that becomes a quality measure that satisfies meaningful use? That's a generic way to say it. Maybe some member specialties. I don't know how many would have the capability of doing that. Is that viable for us?

**Francis Campion – Outcome Sciences, Cambridge – Medical Director**

I believe it is. I think what you really need is then the certification of the registry, and obviously, there are registries and there are registries. But it's not that hard to help a—we could work together to come up with a reasonable criteria about what a mature and valid and validated registry is.

**Don Detmer – American College of Surgeons – Medical Director, Advocacy and Health Policy**

A solid yes.

**Michael Stanley – Pediatrix Medical Group – Regional President, South Central Region**

Absolutely.

**David Lansky – Pacific Business Group on Health – President & CEO**

Thanks. Great. And thank you all very much for your time today. We really enjoyed the conversation. Back to you, Paul.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

All right. This is a break for lunch, and we resume at 1:15. Thank you.

(Lunch break)

**Judy Sparrow – Office of the National Coordinator – Executive Director**

Good afternoon, everybody. We are ready to begin. If you will please take your seat, and I will turn it over to George Hripcsak.

**George Hripcsak, Co-Chair, Columbia University**

Okay. Is our panelist on the phone?

**Judy Sparrow – Office of the National Coordinator – Executive Director**

Yes, he is.

**George Hripcsak, Co-Chair, Columbia University**

Okay. Very good. So the last panel, Marty could not come today, but Neil Calman will be running our fourth panel, which we're very excited about, which is experience from the field, which is what we've all been waiting, waiting, waiting, waiting for. So we're very excited about having you guys. And thank you so much for coming and doing this. Neil?

**Neil Calman – Institute for Family Health – President & Cofounder**

Great. Well, we have a distinguished panel, and I'm going to introduce everybody. Pardon me for abbreviating your bios, but we want to leave most of the time for the testimony.

So Dr. Susan Davis is a registered nurse, president and chief executive officer of St. Vincent's Health Services, a member of Ascension Health. She also serves as Ascension's market leader for the New York and Connecticut regions and in this role provides strategic and operational leadership for a number of other Ascension hospitals. Prior to that, she had an 18-year career at Vassar Brothers Medical, where, amongst other things, she developed a new regional heart center for residents of Upstate New York.

Our second speaker is going to be Dr. Jacqueline Fincher, who's a physician, internal medicine, in private practice in Thomson, Georgia, where she's a managing partner of McDuffie Medical Associates. She's a 22-year-member and a new master at the American College of Physicians. She was a project manager for the Information Rx Patient Education Program, by the National Library of Medicine and the ACP Foundation. She served the ACP in numerous capacities. She's also a member of the American Medical Association, where she serves on the health information technology advisory board. She's accompanied today by Pam—who is Shivers?—who is practice administrator for McDuffie Medical Associates in Thomson, Georgia, which she has managed for the last 13 years. She received her CPC in 2002. She's a national member of MGMA, and in 2008 and 2009, she served on a committee to help establish the CMS EHR demonstration project in Georgia.

Dr. Adam Cheriff joined the faculty of the Department of Medicine at Weill Cornell. He's currently an associate professor of clinical medicine there. He has an active internal medicine practice at Weill Cornell and oversees clinical IT operations for the Weill Cornell Physicians Organization. He has led the implementation of Weill Cornell's Shared Ambulatory electronic health record and, in 2009, was appointed as the chief medical information officer for the Weill Cornell Physician Organization. He's responsible for their data warehouse, their data dictionary, their online physician directory, and their patient portal.

Bethany Gilboard is director for the Massachusetts eHealth Institute Regional Extension Center. Prior to the creation of that organization, she directed the Massachusetts Hospital Computerized Physician Order Entry Initiative. Bethany brings over 20 years of public and private health care experience with extensive knowledge of hospital and physician finances, operations, and, most recently, health technology.

And Christopher Tashjian is a board-certified family physician practicing in rural Wisconsin. He started ePrescribing in January of 2010 and implemented Cerner's PowerWorks in March of 2010. He's one of the first to attest for stage one of meaningful use, and he and his clinic are already pursuing stage two, as they feel it will improve patient care. His group has endorsed measuring and reporting quality measures for several years and expect to become a Certified Medical Home later this year. Finally, Angela Duncan Diop is the director of information systems for Unity Healthcare here in Washington, D.C., and the project leader of its EHR implementation.

So I welcome all of you. Thank you for taking the time to be here. We'll start with Dr. Davis.

**Susan Davis – St. Vincent's Health Services – President and CEO**

Thank you very much for your introduction. In addition to your comments, I just wanted to note that I also chair the EHR Governor's Council for Ascension Health, which oversees the planning and capital investment for health IT across our system. Ascension, being the largest Catholic and not-for-profit system, with 78 hospitals and over 500 locations in 20 states, has had a great deal of opportunity to have experience in implementing meaningful use and is in full support of interoperable EHRs for better coordination of care.

But as an implementer, there are seven points I would like to stress, that in the challenges that we have had in the implementation of and meeting meaningful use guidelines. First is that it requires a significant amount of additional investments by providers. We have found that compliance with certification parameters and reporting metrics has, at each site, required additional funds that weren't anticipated. We had already, as Ascension Health, invested a billion dollars in preparation for meaningful use, and the criteria for certification has required an additional \$170 million, not to mention operating expenses.

Number two to time line, is it aggressive? To achieve meaningful use by 2012, it requires significant upgrades to complicated existing EHR systems. The implementation schedules we have found take longer planned and a lot longer than the proposed time line. We have found it difficult to achieve these criteria in the four months that was initially proposed with the approval on July 2010 and the implementation starting October 2010.

The reasons for these challenges—and I want you to understand that 40 of our 61 eligible hospitals have reported delays, the majority being unable to meet their projected time line because of market-wide staffing and resource constraints, vendors not being able to meet our implementation dates, and significant changes in work flow processes. Number three is staffing and resource constraints for providers. We're all pretty much on the same time line, and there is a shortage of trained IT and clinical analysts, and some hospitals have reported a 35% to 40% increase in rates for contracted staff.

Number four, the EHR vendor is a central factor in providing our ability to meet meaningful use, and similar to providers, they, too, are experiencing a shortage of trained -- in the trained work force, which has caused their delays. Several vendors have tested this process and completed their testing of their code, only to roll it out in the field, and we find that working in the field does not match what was in the lab. In addition, because we have Legacy systems, the certification has given powerful pricing leverage to the vendors.

Number five is functionality requires, as you can appreciate, significant changes in work flow processes. Some of the requirements, like demographics, smoking, vital signs, were easy. Those that are challenging for us are the CPOE, or clinical decision support, maintaining the up-to-date problem list, transmission of clinical data, and transmission of the care summary. There are ambiguities and questions around measures and calculating reports, how do we account for non-admitted patients, what is an appropriate count for prescription as CPOE, and when is it ePrescribing, and what documentation is required to prove that you're in compliance with the regulations.

Number seven, there's been a fairly cumbersome registration and attestation process. There were unexpected challenges to create the required online record in the PC PECOS system, some taking as much as 45 days to record.

So in summary, I really want to applaud you for asking the front line to provide you with input. What we ask is that you take into account this real-world experience, that the additional stage two requirements be few, they build on the capabilities, and are carefully thought through to ensure that patient safety is considered first and foremost, and the requirements give the caregivers the tools they need to ensure the safety of our patients.

We believe that health IT is a powerful tool to improve the quality and efficiency, and policymakers and providers partnering together to closely achieve our stated goals is a very exciting opportunity for us, and we welcome the opportunity to serve as a continued resource. Thank you very much.

**Neil Calman – Institute for Family Health – President & Cofounder**

Thank you. Dr. Fincher.

**Jacqueline Fincher – McDuffie Medical Associates – Managing Partner**

Thank you for this opportunity to be here and testify from the front lines of healthcare. McDuffie Medical Associates is in rural East Georgia. It is a four-physician, primary-care private practice with two internists, two family physicians, with an average age of 50 years old. We employ nine clinical staff, four front-office administrative personnel, and one practice administrator. The average age of our staff is 42 years old.

In 2004, we made a decision to go to an electronic health record and took almost two years to research different vendors. We were the first practice in our community to implement an EHR. We implemented that system over six months to meet benchmarks of progression just to get to our go-live date, from January to June of 2006. These six months included multiple meetings weekly with some or all of our staff and multiple days of off-site training for six appointed super users from our staff, that included two physicians. We had to locate qualified IT personnel out of town to help us. We had to reconfigure, remodel and rewire our building and treatment rooms. We had to put in a whole new air conditioning unit and system for a new, large computer server. We took a \$200,000 loan out for the hardware, software, and the building adjustment. Return on investment was expected at four years. It took five. We have just completed paying off that loan.

Now, after the go-live date, in June 2006, there was an absolute requirement to drop patient volume by half for the first three months as we continued to implement. This obviously decreased our income and cash flow significantly.

I say all the above to emphasize the huge, very tedious investment of time, money and effort it requires to take a small-practice office from the paper world to the digital world and then now to the world of meaningful use, stages one, two and three. Even in our practice, with five years' experience with a top-tier EHR, stage one MU requirements remains a very challenging task. We are planning to apply for MU Incentives this fall. We have been working with our vendors since January for the major upgrade to their MU-certified version. The upgrade alone is costing us an additional \$75,000 and has been done over the past week. It's a miracle we are here, because it has not gone well.

There are clearly many core objectives that are easily attained and are standard in most EHRs. There are others that represent a greater challenge, particularly obtaining and reporting of quality measures, providing and exchanging information with patients in paper and electronic formats. Finally, the exchange of key clinical information from individual practice physicians to other providers electronically remains a major problem for which the individual physician has little control.

Regarding menu objectives, there are a couple of these requirements that are, again, basic to most EHRs. Many of the other menu objectives clearly are more challenging and raise the bar. Again, the issue here is how can an individual physician meet many of these objectives that are dependent on other providers, agencies, public health and government entities, to be able to accept the electronic

submissions. Several of these objectives really require installation of a patient portal, which is clearly more challenging and costly. A recent quote to our practice from one of the two major vendors was \$130 to \$150 per provider, per month, for the basic model. Finally, transitions of care, extremely important, and key data and standardization needs further definition in order to fulfill a 50% threshold.

In conclusion, our practice is a huge proponent of EHRs, as evidenced by our early adoption and frequent educational presentations that we personally have made to numerous state and national meetings on the essential keys of a successful EHR selection and implementation. These are huge undertakings for any practice. They require enormous amounts of time, energy, IT expertise, coordination with vendors and other entities in the healthcare enterprise, not to mention the tremendous amounts of capital to make it happen. Meeting stage one MU requirements for most private, primary-care practices is like doing major renovation and construction in your kitchen and still having to provide three meals a day and snacks for a large, extended family. You're glad when it's done, but it's pure hell going through it.

Now, we want to see small-group, primary-care practices be successful in this endeavor. Just getting up and running with an EHR is a huge accomplishment. Huge. The time line to meet the stage one MU requirements and receive the incentive money for most small, primary-care practices that are just now selecting and beginning implementation of an EHR is monumental. I fear the majority will not meet these objectives by December 2012 and will feel duped by all involved. A major challenge for all the practices seems to be aligning physician and vendor time lines for the final decision making, training, and implementation, and affording the direct and indirect costs that go with it. The other major challenges to stage one are the requirements that are dependent on other health care entities to exchange the information for which the individual physician will have no control. Thank you.

**Neil Calman – Institute for Family Health – President & Cofounder**

Thank you very much. I guess Dr. Cheriff.

**Adam Cheriff – Weill Cornell Medical College – CMIO**

I want to thank you very much for the opportunity to participate. A couple of words about Weill Cornell physicians. We're 800 multispecialty faculty practitioners. We see about a million annual ambulatory visits. We're highly subspecialized. We have a pretty small primary-care base, which is slowly expanding. We've been a pretty progressive physician group with regard to adoption of HIT. We started an epic ambulatory implementation in mid-2001. By the time the regulations came out, we had a pretty robust implementation.

For that reason, when the regs came out, they were pretty enthusiastically embraced by us, because it coincided very well with our local sense that we really needed to optimize the use of the technology. As we've modeled our preparation efforts, we think there's going to be somewhere around 350 to 400 of our providers who will qualify and about 50 of those for the Medicaid, the balance, Medicare, and it's our intention to report during the fall.

In our written testimony, we've given a fairly-detailed breakdown of the ratings of the objectives and basically looked at it from two perspectives, how technically difficult it is as a maneuver and really what the work flow impact is. And I struggle, really, to come up with some unifying themes for what we consider to be difficult. Obviously, there's some nuance, here, around what your vendor platform is in some of your institutional culture, but generally speaking, it's those things that require a great deal of practice re-engineering. And I think it's been commented on in the morning, but we're rapidly approaching a limit of what we can ask our providers to do at the point of care, particularly in brief subspecialties. The patient engagement objectives are tough for us. It requires a robust implementation of the portal. There's a lot of provider and patient education involved, and it's fairly costly administratively to enroll a lot of patients.

Where we're having the most pain at the moment, really, is around the clinical quality measures. We had really done an extensive push on PQRS, and this comes at the heels of that, now, and has been reasonably confusing for our providers. There's a great deal of ambivalence amongst our specialists as to whether or not even the core objectives are relevant to their scope of practice. Even technically, the

implementation of the measures, there's a real tension between the degree to which you can automate them and then the validity of the data, and even technically, crunching the data to be able to report on it, we've done a lot of hand-wringing about actually bringing our production system down. So technically, that's been a complicated maneuver.

In terms of some of our challenges and costs, you know, we had a big head start, and yet, we've really had to divert large amounts of effort to do this. And because of that, there's an opportunity cost in terms of other things that we want to do strategically that require IT bandwidth that we've had to put aside. My personal apprehension right now is around we're putting so much mind share in this, and it's the same kinds of resources that need to be preparing for the ICD-10 transition, and I'm really worried that we're going to wake up one day, and that's going to be upon us.

We've certainly noticed the effect on our vendor. I'm not here necessarily to endorse or criticize Epic, but like most vendors, they've scrambled to meet the certification needs and objectives, and because of that, other very, very urgent needs for system innovation have basically stalled. That's difficult. As the vendors race to get this functionality, there's kind of a race to get the least-common-denominator functionality, which is not always the best, the most user-friendly, the most efficient. Where we're struggling right now is to just get this message to the rank-and-file clinicians. Obviously, they want to know at a very practical level what this means to their practice, and many of them are rightly concerned by that cliché, "Got them at a thousand clicks," because I think we certainly have exacerbated that, too, to some extent.

I think it was not probably the spirit of the regulation, but we're spending a disproportional amount of time debating whether our dermatologists should be taking blood pressures or whether our ophthalmologists should be weighing patients, and we'd rather be doing other things, frankly. It's difficult to estimate the real cost. I mean, clearly, there's a lot of sum costs, but we don't really count that. We think we've had to divert roughly the equivalent of three STEs over two years of time just really focusing on this effort. It's quite clear that we have not yet borne all the costs, because as we start to re-engineer in the practices, we'll need a lot more physician extension to standardize things about the pre and post doctor interaction. So it's not going to surprise me if we spend upwards of \$1.5 million in preparation of this, which we think will actually be a terrific return on investment.

So to summarize, we're very engaged, and it's noteworthy that even though we've had about a decade head start, this is still a sprint for us, one that's costly and full of effort, but no matter how the funds ultimately flow, we feel like it's a very worthwhile investment.

**Neil Calman – Institute for Family Health – President & Cofounder**

Thank you very much. Ms. Gilboard. And thanks, everybody, for sticking to the little clock. It helps a lot.

**Bethany Gilboard – Massachusetts eHealth Institute – Director, Health Technologies**

Good afternoon, Chairman Tang and members of the Meaningful Use Workgroup. I'm Bethany Gilboard. I'm the director of the Massachusetts eHealth Institute's Regional Extension Center for the Commonwealth of Massachusetts, and I appreciate the opportunity to present testimony on this topic. I'm also very excited, because this past March we became the first regional extension center in the nation to exceed our federal enrollment goal for our priority primary-care members. So we're very excited about that. So we're rockin' and rollin' there.

I welcome the opportunity, though, to share highlights and commentary based on some specific experiences from our boots-on-the-ground consultants. We have a slightly different business model, and we engage what we call implementation and optimization organizations who are providing the direct assistance support to our over 2,500 priority primary-care providers. We also have enrolled approximately 80 specialists, as well.

Just by way of background, the breakdown of our REC membership is fairly reflective of what we're seeing on the national trend. About 29% of our members come from community health centers, 45% from private practice, 16% from the large-practice consortium, and 10% from the public hospitals, and we anticipate that about a hundred providers will plan to attest, either in late May or early June, for

the Medicare incentive. They'll be our first group of REC-enrolled providers. In addition, between probably June and October, we will have another several hundred providers that will be ready to attest for their Medicare meaningful use, provided that their upgrades test in and are successful. When our state Medicaid plan is approved, which we hope is going to be within the next month or so, we anticipate early fall for Medicaid-eligible providers to begin their attestation for adopt, implement or upgrade, and we think that there's going to be a significant number of those that will happen in 2011.

In general the meaningful use objectives one through seven have appeared to be achievable and reflect good EHR use and should be the criteria for meaningful use. Other objectives, such as clinical decision support, the electronic copy of information formulary checks, registry functions, and electronic data exchange, tend to be more often a reflection of the product's capabilities and interoperability and often not under the provider's control, and many are considered advanced functions, especially for the new adopter. Some physicians are having a very difficult time understanding what patient reminders and educational resources have to do with the meaningful use of an EHR.

The size in the organization has also contributed to how easy or difficult it is to implement an electronic health record and achieve meaningful use. The large, integrated delivery systems having more than one vendor in place has been challenging on the ambulatory side. Vendors will vary due to their different specialties supported, and the multiple vendors pose a challenge to reach meaningful use requirements in a timely fashion. The challenge to meeting the meaningful use clinical quality measures may be more significant for certain subspecialties, and we certainly heard a lot of that this morning. No specific functionalities currently exist to support certain specialties and their skepticism that the vendors will be able to deliver a product. We have heard that only a certain number of the clinical quality measures have been tested and what happens to the specialists if the EHR is not tested, especially around the numerator/denominator calculation.

What's challenging for us, as a regional extension center, is also to demonstrate the value to a specialist to use an EHR. We're trying to use the HQA Payment Reform, especially what's happening in our state, and ACOs, that if you're a specialist and not on an EHR, you're going to be a dinosaur, because that train has left the station. But it's still very difficult to get them to acknowledge that and understand it.

Clinical quality measures, we think, are going to be very challenging for our small, independent practices located in the western-most counties of Massachusetts. This is primarily as a result of limited organized managed-care activity in that region. The small practices have historically done very little to implement quality metrics due to the complexity and lack of organizational structure, not because they don't want to. It's just that they have not had to.

To chat a little bit about some of the key external factors that are posing some significant barriers, questions still remain about interoperability, exchange of information with my local hospital or other EHRs in the community, vendor issues, public health surveillance options or other options which are cost-prohibitive interface costs. And there also continues to be confusion over the electronic test requirements for public health, timing about our Medicaid program, and feeling a lack of urgency to move forward.

There's also lots of movement within our healthcare community with hostile acquisitions, physicians aligning with larger systems to see which will provide the most advantageous opportunity for EHR adoption. Physicians looking to sunset their practice and evaluating employment opportunities by their local hospitals so that they will not need to make a large investment in the technology or the people resources, access to broadband in many more remote parts of our state, timeliness of vendor upgrades for certified versions, productivity loss, financial costs, time and resources.

For physicians who use an EHR currently, with basic functionality, they understand the measures, they understand what it means to capture some of the objectives, and they know what it's like to, as an example, conduct an allergy check. But for those still on paper, many still have no idea what meaningful use is, no plans about what to do, despite being enrolled in a regional extension center.

Concerns about computer literacy and the ability for physicians to input data into the EHR continues to pose challenges to adoption. Many EHR vendors will not visit smaller-practice sites. The best they'll do is a web demo in some cases. This is extremely difficult for a physician who really is not computer-literate, to try and make a decision based on a computer or web-based demonstration. Again, providers worry about having to click through many boxes and screens during their patient visits, potentially taking time away from the patient.

In closing, the majority of our physicians who are enrolled in the regional extension center do want to become adept at using the electronic health record and want to enhance the clinical quality and efficiency of their practices. They want to be seen by their patients as delivering high-quality, 21<sup>st</sup> Century healthcare; however, they are concerned about slowdown in productivity and the expense. Most see the incentive as just that, an incentive. Our REC will be developing tools such as pathways to meaningful use so that physicians who are not formally aligned with integrated delivery systems, physician-hospital organizations, or independent practice associations will be able to become better informed about the measures from a conceptual standpoint.

See, we really do believe that providers should not solely rely on their consultants, their EHR vendors, to get them to meaningful use, but they need to be an integral partner in understanding why they are doing and what they are doing. So we have formed a Physician Health Information Technology Committee. It's made up of early adopters champions who really want to provide that hand-holding support for those unaligned physicians who are small, independent, and don't have the technical infrastructure resources or financial support to assist them with their optimization. Thank you.

**Neil Calman – Institute for Family Health – President & Cofounder**

Thank you. I think we have Dr. Tashjian on the phone; is that correct?

**Christopher Tashjian – Ellsworth Medical Clinic – Family Practice**

Right. This is Chris Tashjian. Can you hear me okay?

**Neil Calman – Institute for Family Health – President & Cofounder**

Yes, we can hear you fine. Thanks.

**Christopher Tashjian – Ellsworth Medical Clinic – Family Practice**

Okay. I'm going to present a little bit different point, as being one that already attested. Again, we've only implemented since essentially March of last year. We were really pleasantly surprised to find the meaningful use criteria to actually, in our opinion, enhance patient care. I mean, maybe we live in a different world, living in the Upper Midwest, but our quality has been measured for at least a minimum of five years and reported publicly to our patients. So quality measures were something we were already doing anyway.

I'd like to comment on the interoperability is—the fact that you can set some standards and the—government is willing to do that, from our standpoint, is great, because 70% of the Upper Midwest is on electronic record, but they don't talk to each other. They won't talk to each other until somebody requires them to. So from our standpoint, we saw that as a really good thing.

In connecting with public health, we had wanted to connect over the unionization registry and had done it prior to meaningful use criteria being published, because, in essence, it's in our patients' best interests, and it actually helps us. So meeting the meaningful use, again, from our standpoint, was something we were doing. Again, maybe we have an advantage. We're 40 to 50 primary-care physicians practicing in five communities in Western Wisconsin. So getting the buy-in isn't, I guess, nearly as difficult. But the bottom line, we really felt that achieving these was not that difficult, and from the standpoint of it forced our vendor to do things that if we had wanted to ask them to do it on their own, I'm not sure we would have gotten the same results. We did work with our REC, which is Y-Tech, and again, they were instrumental in helping us kind of jump through these hurdles.

My one comment to everybody is, especially those of you in the huge organizations, the actual attestation—I mean, I sat at the computer on April 18. It took me 20 minutes, having prepared all of the numerators and denominators and all of that, to attest for one person. As far as I understand, the attestation is not going to be electronic until—I mean, from the standpoint that your system can do it, until stage two. So that would be my only caution to you.

But finally, I think it matters who you pick. I mean, I think if you have a good working relationship with your vendor and you have a good working relationship with your REC, I think all of this is doable. And from the standpoint of—all of our 40 docs paid for the CMR out of their own pocket, and we think meaningful use was helpful. Thanks.

**Neil Calman – Institute for Family Health – President & Cofounder**

Great. Thank you very much. And Dr. Diop.

**Angela Duncan Diop – Unity Health Care, Inc. – Director, Information Systems**

Yes. Thank you. Wow. I just listened to all that, and I felt like saying, "We all have a lot in common, really." Unity Health Care is a federally-qualified health center serving nearly 82,000 residents in the District of Columbia. So our patients are primarily the under-served and the uninsured rather than the District. We use an electronic health record in practice management system, which was implemented throughout our nearly 30 sites in 2009. The system that we use supports 900 users, 200 of which are providers, and about 90 of these we believe will be able to qualify for meaningful use.

I want to really say that since our implementation of our EHR, we really have been thrilled to now have the opportunity to deliver to our patients quality health care with the help with state-of-the-art technology with our EHR. In the short period of time, because we're newbies at this, really, since our implementation, we've already seen significant improvements in business efficiencies, leading to increased access for our patients, as well as standardization of work flows, which are resulting in improvements in the quality of care. We feel that meaningful use, the meaningful use requirements, and the incentives will further enhance our ability to provide quality care to the patient population that is often last to get state-of-the-art care.

Just a little bit about Unity's plan for qualifying for meaningful use. We plan to apply for reimbursements through the Medicaid option, and we will start by exercising the option to adopt, implement or upgrade in year one, and we're going to do that this year. We've been preparing to meet Phase one for about a year, now, even before the regs were published, and we've implemented ePrescribing in our health centers this year. To date, we're actually in the process of upgrading our existing EHR to a certified version released by a vendor earlier this year, and then in January of 2012, we will begin reporting on the measures.

So we're going to be spending the third and the fourth quarters of this year preparing for that reporting period by addressing gaps that we've found in our meaningful use gap analysis that we did last year. We hope to get an early look at how well providers are meeting their requirements, and then, lastly, provide feedback and training to providers who may be challenged with meeting specific requirements. We're pretty much expecting that there will be some of that.

We are estimating our project cost over a three-year period of time, and we're thinking that most of that will occur in the earlier years, to be about \$1,350,000. I thought that was pretty interesting. It was similar with some other costs I heard here. Two-thirds of that are for resource people to implement the project, and then the remainder is for equipment and the costs we must pay for increased functionality of our EHR.

So I want to talk a little bit about the challenges that we see. To begin with, we've found, like the earlier speaker, that—the core in the menu set requirements and their threshold to be reasonable, at least on an individual basis, and that might be because we're FQHC and we're used to measuring these types of things already in order to satisfy our funders. So this is something we have a lot of experience with.

The most challenging course of that measure has been really the interoperability piece, which is exchanging clinical information. To meet this requirement, we do have to join a regional health information organization, and, of course, that is a challenge, because it's a large, collaborative project, and it's actually pushing the envelope of our vendors' technological capabilities. In addition, we're shifting the paradigm of how we're doing business and even relating to our patients with that RHIO. So it's taking considerable resources to implement. We've also found the quality measures to be reasonable, as well.

I want to talk about some other challenges. I think our biggest challenges are more oblique and beyond the measures themselves. The first is really the granularity of reporting that's required for meaningful use. Even though we've done a lot of reporting in the past, it's been the aggregate of our health center. Now what we're really looking at is a provider-to-provider basis for reporting. Frankly at this point, we don't really know what that data is going to look like.

We have also realized that this is basically an organizational effort. Even though meaningful use is addressing the providers, many of the measures are taken by other people in the health center, like registration clerks or nurses and NAs. So this really is taking a very large, organizational, educational effort that we actually hadn't really planned for.

Then the last thing, really, is competing priorities. In order to meet meaningful use, we have to implement multiple large projects in a short period of time. We've got the RHIO. We've got ePrescribing. We've got a dental module. We're bringing our dentists up. We've got electronic patient reminders. We're implementing a portal. We're developing systems, just internally, that people have talked about how much administrative time it takes to manage this. Then again, like one of the other speakers mentioned, we're mixing this all up with these other large things, like the ICD-10 conversion.

I'm going to finish up by hitting the two external challenges I wanted to share. The vendor, I could probably have spent five minutes talking just about that one challenge, and being able to meet the reporting through our EMR. The reporting module has not been up to speed, and we're hoping they're releasing new modules to meet meaningful use. We're hoping we're going to get somewhere with that. Then lastly, the District itself. The District has had limited communications with us about how we would register and go forward with meaningful use. This was an election year. So it was about politics in the mix, with all of the technical challenges.

In conclusion, I just want to say that despite discussing the challenges, you know, there's no doubt that meaningful use requirements will require considerable time and resources but also will ultimately bring better care to our patients. Thank you.

**Neil Calman – Institute for Family Health – President & Cofounder**

Thank you very much.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

I was hoping for a question.

**Neil Calman – Institute for Family Health – President & Cofounder**

Okay. We'll give you the first question, since you're the chair.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

All right. Well, actually, I was really keen on just being able to say thank you so much. This has been an incredibly helpful panel, and each of you really gave us a lot of information. We were, as Neil pointed out, hungry for this kind of information. I understand that it's still early on, but very much appreciate what you've put into it.

It's very clear that each one of you, I think without exception, said that this program and the efforts that went into it caused enhanced patient care; with only a rare exception, said it was really a lot of work and was quite time-consuming. But the spirit with which you went after it was really quite inspiring. Certainly for folks that tried to put together a program and structure that said, hey, this is the direction we wanted to

go, I mean, that part was music to our ears. Clearly, the part of it taking so much effort over a short and concentrated period of time is hard, and we're, as you know, trying to strike that balance. You described the ROI in the end and talked about the financial ROI, and I think all of you alluded to that was actually there, and clearly the quality and the contribution of care was there.

Can we put you on the spot or give you the opportunity, really? Our challenge, even in stage two, is to streamline and just go for where the biggest bang for the buck, the biggest bang for your effort, our efforts. So where would you say, after having gone through a lot, what was the really strongly positive return on your efforts? And probably a lot of this is on the cure side and what it's done to your practice in your hospital. Where has been the most strongly positive ROI, in that sense, and then where have you thought it's been really dubious? You can talk about it in stage one, and you might be thinking in stage two. Recognizing that we're trying to concentrate on the exchange, the interoperable exchange of information to facilitate care coordination, where would you have us put our efforts?

**Jacqueline Fincher – McDuffie Medical Associates – Managing Partner**

I think some of the strongest things that have been beneficial to our practice is the fact that every doctor thinks that they're doing a good job. When you have the electronic record, you know whether you are or not, on key measures, in a primary-care practice, with family physicians and internists. We were one of the first, and the first group to qualify, on the PQRS program, and by looking at those measures, there's no question I am a better doctor, five years down the road, than I was before. I know that because I've measured it, and I know from whence I came to where I am today. There's no question my diabetics are under better control, my hypertensives are under better control, my cholesterols are under better control. I'm doing the prevention things. They're done in a much more timely manner. We are doing patient reminders to get them done. So there's no question, from the standpoint of patient care and measuring and knowing that you're doing a better job. That has clearly been a dramatic improvement of EHRs, and I think our patients perceive that, as well.

I think some of the burdens have been in terms of trying to get the workflows down, initially trying to get those workflows down to just the EMR workflow itself. Just going from a paper format to a digital format was very difficult and just, kind of, this exponential tide that you had to run. But I think some of the other big issues in terms of the quality measures, when we were just trying to do the PQRS set of measures, we started out on paper. We already had the electronic record, but we had to get the workflow down in paper. It had to be manually put in, and we ended qualifying with that. But about 90% of people who submitted did not qualify.

So clearly, in our little make-do paper way, we were able to do it, but we could not do it initially in the electronic way. So the concern is you don't want to have to be doing paper and electronic. With our system, they had a quality consortium after, what, two years, that we—

**W**

Two years.

**Jacqueline Fincher – McDuffie Medical Associates – Managing Partner**

—two years, we were able to have our data actually extracted from the electronic records. So now we don't have any paper with this. So that made it much easier, but there was a time where we were having to do a dual paper and electronic, which made it just very cumbersome.

**Christopher Tashjian – Ellsworth Medical Clinic – Family Practice**

The one thing I would comment is, you know, we spent three years picking out and working the map, mapping our work flow, so that when we did implement the EMR, I think it went a whole lot smoother. Then we've only been on the EMR for a year, but we've been working at it for three years, and that helped. But the thing that I think made the biggest difference is like the CPOE was something we just expected of our docs, and they were willing to do it from the standpoint of like ePrescribing. I can't remember the last time I actually wrote a paper prescription. It's been over a year. I can't remember the last time a pharmacist called me and said, I can't read it, or you didn't write the right number, or, is this really what you wanted. Having the formularies built into our EMR—that's not anything we asked for.

That's something that actually just came with our EMR—is that I don't get calls back saying, that's not on the formulary, we need to switch to this one. So to me, that's the biggest thing.

The patient portal is going to be the biggest pain, I think, because we don't have as computer-literate of a—in rural Wisconsin, Internet is hard to get. It's going to be a challenge to try and get our patients to access us that way, I think. Thanks.

**Adam Cheriff – Weill Cornell Medical College – CMIO**

At a very basic level, the HITECH Act can put the EHR into such public awareness that, you know, as horrifying as it sounds, even in 2010, at a progressive academic medical center, we had clinicians who would stomp their feet and say, No way, no how, this is not good for my practice, this is not good for patients. And ... profoundly grateful that those conversations have now ended. The writing is on the wall. So all that fence-sitting is now gone. That actually does help, because we don't waste time that way.

For us, I would say concretely there are two transformative things that have really gotten a shot in the arm, that if they were left at their own pace, would have taken us years. That's implementation of the patient portal and ePrescribing. Both of those things were really hard to get our providers to actually adopt and to understand what was in it for them. We really have greatly accelerated those initiatives because of meaningful use.

In terms of kind of what's been tougher, I would just sort of go back to my original point, that I think there's very good intention around some of the objectives that really do serve a good purpose in terms of public health but are a little far afield from the adoption of the EHR. There's no reason why we can't incentivize those behaviors together, but we're going to end up spending a disproportionate amount of time talking about scope-of-practice issues that probably are not necessary.

**Neil Calman – Institute for Family Health – President & Cofounder**

We have another question. Michael.

**Michael Barr – American College of Physicians – Vice President, PA&I**

Oh, thanks. Really great panel. As I was listening to your comments, several remarks seemed to identify the tension between the certification of the products for meaningful use and their application in practice, the purse at the implementation and the actualization of these functions. So right now we're in lockstep. There's the certification and implementation sort of in the same time line. I think that some of the strings you've identified were really good, but what I'm interested in is: What's the challenges within that strategy? In other words, what impact is this sort of keeping up with the pace?

Dr. Fincher and Pam, I was at your practice in, what, 2005-2006, and many of the things that you talked about, Dr. Fincher, just now, in terms of the metrics and the—you were doing back then, before there was meaningful use. You practice as a leader, you're a leader, and that's come forward. I suspect that's the case in other areas, too.

So I'm interested in right now, in this current process, what are the challenges in keeping pace with the meaningful use criteria? I'm interested in the safety of the care. As you divert attention and activity towards getting this direction, what happens to patient care? Are there safety issues? What of your staff, the training and the impact, retention, recruitment? Some of those things I know, Pam, you had challenges back with staff, and now, while vamping up, it might even be more challenging. So I'm just curious about the real-life aspects in practices and health systems on these areas.

**Pam Shivers – McDuffie Medical Associates – Practice Administrator**

We just went through a huge upgrade just this past weekend, and you talk about challenges with vendors. And I don't really blame it on any one thing that happened this weekend. We had problems with software and hardware guys communicating was basically the gist of it. But to go further with that, after you analyze everything from the weekend that happened, in my opinion, it was because they were rushed. These vendors are—the owner told me that his guys are working every weekend doing an upgrade. They get one weekend off a month, and they get some incentives. These guys are tired. That was one of my

biggest challenges is—We did a test month. So I had a test month for about four weeks, and they just did not—they weren't ready. When I went live on our new meaningful use application, they were not ready. It took us—I mean, I worked all weekend. I worked 12 hours a day sometimes. It was just awful. I'm surprised I'm even here, you know. I dreaded coming. But that's been, probably, the worst part.

Now, as far as meaningful use, altogether, I think it's a great thing, and I think the biggest challenge—and I wanted to go back to his question. The biggest challenge to me right now is getting the doctors to focus on finishing their notes in a timely manner in the room and not—and you go back to that and that was before EMR. Physicians do that before EMR. They used to have stacks of charts at the end of every day. So I don't know how to improve on that. But when we start adding the fact that you've got to do this, this and this—now, we do use a lot of our staff for inputting all these measures and stuff like that. So, I mean, the doctors did the decision making of course, at the end, but the staff does, you know, history, a lot of the history in the beginning. So I think that's a real challenge right now is to get that clinical summary out to the patient. They want it electronically, but how are you going to give it to them when they're leaving ... not finished. I mean, that's been a huge challenge.

Did I answer your question?

**Susan Davis – St. Vincent's Health Services – President and CEO**

I would say, from looking at it across our health system, the biggest challenge that we have had is the ability of the vendors to keep up with the time line. There were a number of our hospitals in our markets that intended to qualify for meaningful use by September 30 of this year and because the vendors have had resource constraints and problems with their code, it's been delayed significantly. I can speak from our hospital's point of view, we are delayed, and we will meet meaningful use, but not until after the start of the new fiscal year. So what that means to all of those hospitals across our health system is that we will get paid the incentive in 2012, but we will skip 2013 and still have all of the costs of managing those systems in 2013 for our health system. In Bridgeport, Connecticut, it's about \$1.8 million of additional costs with no incentives to help us offset that.

**Jacqueline Fincher – McDuffie Medical Associates – Managing Partner**

One of the things I'm also concerned about is just the ambitious time line. Again, I'm just looking at what it is taking us, who have been up and running and doing a lot of these things over the last five years, and the kind of next step just to meet the stage one requirements. I'm just looking at all these small practices. I'm the governor of the American College of Physicians Georgia Chapter, and I hear from a lot of these small-practice, internal medicine docs across our state that are just starting to select an EMR and then will begin an implementation, and I'm thinking, "You are never going to make it." I mean, I don't know that I could at this point, if I was just starting.

And I think there is a feeling of some of them—I was talking to a physician the other day who was telling me that they started implementing an EMR in, like, January-February time frame, and they just had to call it to a halt, and they're hoping to kind of restart. But they just had to stop, because the financial impact and the cash flow and patient flow impact was so great that it was just—they couldn't continue the way they were going, and they just had to stop. So their hope is to restart their implementation later, in August or September, but they just absolutely had to stop, because they could not afford to continue to go on.

So I'm really concerned about the time line. What I worry about from the stage one, if we're trying to—in stage two, trying to continue to build onto stage one, and you've got less than some percentage of eligible physicians even trying for stage one, stage two, I'm concerned you're just going to continue to see more dropouts. Instead of more people piling on and taking advantage of this and being part of the solution over time, I'm concerned you're going to see more dropout. I don't know how much surveying is being done in terms of those that are planning to apply for meaningful use and those who are just not planning to apply at all. And what is the feedback from those who aren't planning to apply at all, and what percentage of physicians are these, what percentage of physicians are actually going forward with all this. Those would be some of my concerns as we look to stage two.

**Neil Calman – Institute for Family Health – President & Cofounder**

I think it's interesting to juxtapose your two comments, because on the one hand, you said, I'm a better physician for sure than I was five years ago, I guess the question is: How long can the country wait for all these other people to become better physicians, too, and have better control over their diabetic patients? That's the balance that this committee works with all the time, trying to figure out how to get people on board as quickly as possible because we know that the HIT sort of improves peoples' functioning and improves the quality of the care we give.

But I want to sort of follow up, because I didn't hear an answer to what I thought was Dr. Tang's second part of his first question, which was is there a piece of what the recommendations are. Not what's difficult, which is the answer that you all sort of seemed to respond to, but that you think is not really as important in terms of moving forward with improving the care delivery that's given? In other words, you know, you talked about the things that you feel are most critical, but are there pieces that you feel have just sort of been busy work, that aren't really improving care? I'm seeing a few heads shaking no. So that's good. We can go on to the next question. But any of you have any thought about that, or maybe even just to say, you know, what you wouldn't push forward as quickly and where you think, in order to improve care, we really should be pushing forward more quickly?

**Christopher Tashjian – Ellsworth Medical Clinic – Family Practice**

Could I make a comment?

**Neil Calman – Institute for Family Health – President & Cofounder**

Yeah, sure.

**Christopher Tashjian – Ellsworth Medical Clinic – Family Practice**

I've listened to all of this, and again, I'm in a practice with two docs in a town of 1,500, and you talk about all the things that get in the way, and such. I wonder if people actually looked at the platforms that people are using, not the vendor but the fact that like we use an ASP platform so we don't do any tech. We don't do any IT. We just run it. Our biggest concern is to have a web connection, and we leave it to the vendor to do everything else versus having somebody—like in the big systems, they do it in-house, and then the upgrades are all a giant pain in the rear, or whatever. But when I think about that physician who commented from Georgia, you've got two and three physician docs, the only way at least I see it's going to work is if you do an ASP-type model where the docs aren't encumbered by doing the IT.

**Susan Davis – St. Vincent's Health Services – President and CEO**

What I would say, I was pleased when Dr. Tang asked that question. As I sat here and contemplated what would I not do, I couldn't answer it, because everything that is in this criteria is making us better providers. It's pulling the boat all in the same direction. We're all focused on very specific priorities. So I would say to you there's nothing, in terms of what you're asking us to do. It's the time in which you're asking us to accomplish it.

**Pam Shivers – McDuffie Medical Associates – Practice Administrator**

To make a comment on his—the physician sitting right next to me, Dr. Fincher, she is always an A+ student. She will never be a B, okay? So she always tries to reach higher than she can. I mean, I look at her reports. We have a registry that's part of our EMR, that's only part of our EMR, and they're the ones that are doing the PQRS reporting right now. And she's 100% on everything. Every time I pull that report, she's 100%. So it's not like she's not doing the work, and it's not like the other physicians are not doing the work.

He talks about the IT, we don't need to be involved in the IT. Well, he's two doctors. We're four. I'm kind of in the middle of the cost. If I had one more physician, maybe two more, I could probably hire a guy. If I was two docs, I could probably have an online EMR. But right now a hosting EMR, for us, is way more expensive than what we have put in our office. So I'm kind of in the middle. This big upgrade that I talked about recently is not just—we were doing great before we had this upgrade, and that's why I said, "Why fix it if it ain't broken?" But meaningful use has pushed us to upgrade. We've had to do this in order to meet meaningful use.

I like meaningful use. I think it's great for the patients. I think it's great for the physicians. There are just some time line challenges and some public challenges. I mean, being able to send a patient home with their summary or being able to send the registry in Georgia, we have GRITS. We don't have a health exchange, but we do have GRITS. And being able to communicate with GRITS, we're having to do it manually.

**W**

Grits?

**Pam Shivers – McDuffie Medical Associates – Practice Administrator**

Oh, I'm sorry.

**M**

Are those instant grits or regular grits?

(Laughter)

**Pam Shivers – McDuffie Medical Associates – Practice Administrator**

"GRITS" is the Georgia Registry for Immunizations. It doesn't spell out—I mean, it spells out "GRITS" in some of it. Anyway, we have an immunization registry, and we do that manually right now, because our EMR vendor is not there yet. Actually, Georgia was not there yet. They were not able to receive an HL-7 format. So they'd just gotten there so now our vendor has to get there.

So that's been challenging, and that's one of the challenging parts is not—I don't think it's the fact—I mean, this is just a lot of time line issues with us. There's just the—being able to submit to things like GRITS and other things. Certainly, I mean, even CMS is not ready to accept quality measures. So how do you be accountable for that? If you've got to do it in a manual or a paper way or pay a staff to manually put it in, that doesn't help patient care. I mean, that just takes more people away from patient care. But if you can extract it from your EMR in a digital electronic manner, fine. Have at it. That's wonderful. That helps all of us.

**Bethany Gilboard – Massachusetts eHealth Institute – Director, Health Technologies**

You know, from Massachusetts we have a lot of adoption of electronic health records, basically, basic functionality, and two-thirds of our enrolled members do have an EHR. The things that are the most concerning to us right now are less about the measures, and it really is the vendors issues, and it's the timing issues, because if two-thirds of our enrollees are waiting to take their upgrades, there has to be a testing phase. While yes, you still have 2012 in which to qualify for your stage one measures, all we're done is, again, continuing to push our time line sort of really beyond the control of the provider.

To point Dr. Tashjian's point, in our state, because we have such a large penetration of integrated delivery networks and managed care and PHO activity in the eastern part of the state, I'm less concerned about them. They're moving forward as quickly as they can to do what they need to do to get their docs to become meaningful users. We have a real challenge in the very western part of our state, where we have very little penetration of managed-care activity. People are really cowboys. And most recently I've called them "miners," because I really do think their heads are in the sand, or actually, in a cave underground.

And the challenge out in those communities, though, really have more to do with the local hospitals, because yes, the cost-effective way of adopting this technology would be through hosted solutions through your community hospital. We have a couple of community hospitals that are trying to do this solution for their employed as well as their non-employed physicians. We're really trying to encourage that, because it's a lot easier when you have one vendor in the community, especially if you need an exchange. But where there's so much distrust now amongst independent physicians with your local community hospital, that is what is sort of preventing this, you know, kind of fluid moving forward, because you don't know what to do. As much as we're trying to encourage them as their trusted adviser, to trust that local hospital, that this is really the most cost-effective option, at the end of the day, you're going to do

better being in this position, it's very hard to tell a doctor to trust their local hospital if they don't trust their local hospital. So that's part of the dilemma and the dynamics that we're finding.

But I do think that the vendor issue is really quite challenging for us. It's just the time lines. Our model is such that if it takes a hundred hours to train a physician or it takes ten hours to train a physician, our consultants are going to be there with you, holding your hand until you get to meaningful use. We've made that promise and that guarantee.

So they have that resource and support there, but if you don't have a vendor and you don't have a health—and the other thing I just want to mention is on the interoperability piece. We are also the health information exchange for the Commonwealth, and one of the things that we are continuing to hear is standards, you know, where are the standards, what are the standards, how are you going to exist. Because even the community hospitals are not doing a very good job of communicating with their local physician community around how they're going to interface and create those connectivities with their local physicians, because everybody is on a different system and, of course, the cost involved in doing that.

**Jacqueline Fincher – McDuffie Medical Associates – Managing Partner**

I just wanted to capitalize on what you were saying. That is so true where we are. There is great distrust between medical staff and their community hospitals. We were the first to implement an electronic record. We begged our hospital to—we have ten physicians in our community, two surgeons, eight primary-care docs. We begged our hospital to see if we couldn't do this on a community-wide basis. I mean, it was just easy, just the economy to scale. Everything would have been so much easier. They felt they were not in a position to take on the capital cost of all that, because it is a small rural hospital that's struggling to stay open even now. So as it happened, every single doctor in our community is on a different EHR, and our hospital just implemented a brand new, completely different EHR. It's ridiculous.

**Neil Calman – Institute for Family Health – President & Cofounder**

Josh Seidman, I think you had a question.

**Josh Seidman – ONC**

I'm picking up a question for the panel, but something that is very high priority for HHS, and I just want to make sure it gets addressed. Angela, you said in your opening comments that meaningful use will enhance our ability to improve care for a population that often is not able to have access to state-of-the-art care. So I'd just like to just get a little more specific on how specifically that's playing out and how that supports your vulnerable population.

**Angela Duncan Diop – Unity Health Care, Inc. – Director, Information Systems**

Sure. Thank you. So actually, I would say that meaningful use kind of comes at a really good time. Since we implemented our EMR, we're doing it in phases, and it actually is hitting right around where we thought we would want to optimize the use of the EMR. In an optimization, we're really look at measures and how we can use the information and data that we're getting from the EMR to be able to make business decisions and decisions on care.

As an FQHC, I mentioned we're always measuring things and reporting. But the burden of doing all these measurements, at the end of the day, it used to be we were so exhausted. When you're doing chart pulls of hundreds and hundreds of charts, we never really had the energy or resources left to really be able to do something that would actually be in the direction we wanted to go or even drive our own business efficiencies.

Since we've implemented our EMR, we actually have seen a 3%—actually, not just the EHR but some of the ancillary functionality with it, for example, the patient reminder system, which we implemented prior to meaningful use, but we could see that on the horizon. We've seen a 3% decrease in a no-show rate, which—we've had as high as 50% no-show rate in our population. So this is really a lot us having—we had a half a million visits last year. This is us being able to see a lot more patients and get a lot more access.

Another thing we've actually seen—and to me, it's almost like you can't untangle it all. I mean, some of the things we've seen are not maybe directly related to meaningful use. We've seen better work flows in our health centers, we've seen more standardization, and this, to me, also equates to better quality of care. In addition, we've also seen a speed-up in our payment cycle. We actually had a 3% increase in reimbursements last year. So we're seeing some real tangible things, and we're expecting to see more of that with meaningful use. It's a burden, but we're going forward.

I also wanted to actually comment on—I think it was Dr. Tang. I can't remember who, now—was asking about the safety and care—safety to patients. So I just actually wanted to give a little comment about that. I, too, am concerned about the time line, and especially from not just our standpoint but the vendor's standpoint. We actually have been wrestling with our vendor to release a—not just any certified version but something that really works. So one of the things, because we are one of the largest community health centers in the nation, we do have resources that pretty robustly test the system, and we've been trying to upgrade for a year. We pulled the plug twice on an upgrade, and the vendors ended up diverting a lot, actually, early on, probably in July, diverting a lot of attention to a meaningful use version. They're buggy and holey, and we're concerned about patient safety with that. I mean, we've seen things that could result in issues of patient safety. So that is one concern.

Then the last thing I think that I haven't really heard addressed here is training and staff very much, and there really is—we are really experiencing a crunch. We actually had an opening at our health center for a year. We're about to fill that. The way we're addressing that, really, is a lot through promoting from within. We can't do that all the time, but we're doing it quite a bit. The area where we really can't do that is in the area of informatics, the data-crunching people. Those people we've got to go externally to hire. But it has been a great opportunity to promote from within, and we've got a redeployment of people doing new jobs based on meaningful use and EHR.

#### **Neil Calman – Institute for Family Health – President & Cofounder**

I just want to say I'm really concerned about what I'm hearing from the vendors, because the same people that are supporting these upgrades and everything are out selling new systems at a frantic pace. Everybody that raises their hand and says they're interested in buying a system has every vendor at their doorstep; and yet, sounds to me like they're not supporting the upgrades and the things that need to be done to keep the practices that are already on their product up to snuff. That's a concern.

But I'm also very concerned about what I'm hearing about the certification process. These are all people that have gone through certification of product and presumably passed that. You're telling me that the products that have gone through the certifications are full of bugs and full of problems and aren't being implemented well, even by people who are implementing and upgrading systems every weekend, and they still come to your place after many others, and they still have the same bugs in their systems. I think it was in the very, very, very first HIT Policy Committee Meeting that I was at. I asked the question about certification, and I asked whether or not certification meant certification of the vendors or just of the product. And whether or not certification of the vendors meant that we needed to be able to certify that they would be able to support their product and help people get to meaningful use, which is very different than what I'm hearing you all say.

So I think for me this has been one of the most important take-homes of this panel is just to hear the problems that people are having. You all are people who are deeply invested in the quality improvement part of this. You're not complaining about the requirements. You're talking about the transformational parts of the practice, but yet, you're at the place where you're interfacing with the people that you need to depend upon. That support is not there. That's critically important, especially, I think, in situations where it's driving up the costs and also creating some potential safety issues.

#### **Christopher Tashjian – Ellsworth Medical Clinic – Family Practice**

Yeah and I think he kind of highlights the reason that we were able to attest is because we didn't run into vendor problems. That's what I'm hearing is our vendor worked with us hand-in-hand with the REC. I think that's why we attested early is because they were helpful and they were able to do it right, but again, we were on this ASP model so they took care of all the IT.

**Neil Calman – Institute for Family Health – President & Cofounder**

There's another question from one of our panel, Christine Bechtel.

**Christine Bechtel – National Partnership for Women & Families – VP**

Thank you.

**M**

I thought we were done at 2:30.

**Neil Calman – Institute for Family Health – President & Cofounder**

Two questions, and then we'll—

**Christine Bechtel – National Partnership for Women & Families – VP**

Thanks, Michael. So I think I'm with Neil. I mean, some of the most concerning things that I've heard today are really about vendor capacity and the certification process. I have a couple questions. I think the most alarming thing I heard was what Bethany said about some physicians not understanding the relationship between patient education ... clinical summaries through meaningful use. Can I talk to them? Let me—

**Bethany Gilboard – Massachusetts eHealth Institute – Director, Health Technologies**

Welcome to my world.

**Christine Bechtel – National Partnership for Women & Families – VP**

Yeah. All right. Anyway, so here's my question. One is: There are two things in particular I am concerned about that I am trying to understand as a function of meaningful use policy issues. In other words, what's in the regulation, or is it a market or some other issue. So the first question is: I heard a couple of you say we have to buy upgrades that include features and functions that we won't use but we have to pay for. So I want to understand why that is and if it's a market issue or if it's a policy issue. Then the second piece is whether or not—I'm trying to understand why you all didn't upgrade at this time, and are you required to do mandatory upgrades because of a policy issue with meaningful use because that's the scope that we can play in.

**Jacqueline Fincher – McDuffie Medical Associates – Managing Partner**

Well, think right off the bat in terms of you've got to use an MU-certified version.

**W**

That's right.

**Jacqueline Fincher – McDuffie Medical Associates – Managing Partner**

And so that's the key.

**Christine Bechtel – National Partnership for Women & Families – VP**

But you guys were not on a certified version before.

**W**

They were certified with CCHIT.

(Multiple speakers)

**Jacqueline Fincher – McDuffie Medical Associates – Managing Partner**

Well, in defense of the vendors, they were only given six months to meet the MU requirements for their version. So obviously, that's part of the problem as well. It's a huge part of the problem, in my opinion. But then in order for you to attest for MU requirements, you have to be using an MU-certified version. So if you're already on something, you have to upgrade to that version and that ticket price for us was \$75,000.

So my next question is: Well, what's stage two going to cost us? What's stage three going to cost us? I mean, we're just this conduit for money going through, and when we feel like doctors, we're doing all the work. I mean, the whole patient portal, which is really part of stage one, this is a huge cost to our practice.

I mean, I gave you our quote that was quoted to us of how much that was actually going to cost. We're in a rural area with a 50% illiteracy rate, and we are the best county of the five counties surrounding me. So how many of those patients are actually going to use the patient portal? Less than 10%. But in order to attest to some of things that I need to attest to, I've got to have some version—I've either got to—I've got to mail it, which is postage, or I've got to put in the patient portal. So we're still debating on how we're going to do that to afford it.

**Neil Calman – Institute for Family Health – President & Cofounder**

We only have five minutes left, and we have two more questions that I want to get to. So Charlene?

**Charlene Underwood, Siemens Healthcare**

Okay, I'm ..., but anyway, I just wanted to also reinforce I think even though there's problems with the vendors, I think the vendor committee has been pretty clear, similarly to this panel, that the time line has been a key issue, and I think that's something that—I think it's been reinforced in this panel. In fact, when I read the testimony, several of you did complement your vendors and the support that they gave you, so just to clear the air and put that on the table just a little bit here, not to say that we don't have things that we need to work on.

**W**

We're not blaming privacy anymore, Charlene.

**Charlene Underwood, Siemens Healthcare**

Okay. Moving forward, we certainly heard the message about time line as a concept. But we are here also trying to access out the direction for stage two. So I don't know if you want to make your closing comments a little bit about your view in terms of how we—we got comments on stage two, it's make more time or just increase the thresholds or minimize the functionality, keep the current things menu, lots of different options. But if you had your druthers, could you give us a little of your advice or view for stage two?

**Jacqueline Fincher – McDuffie Medical Associates – Managing Partner**

A couple of things I think in terms of the core objectives is that the core objectives are clearly there and, for the most part, attainable. I think working on thresholds only in that regard are important. I think in terms of menu objectives though—if the plan is to move more menu objectives into core objectives, I think the biggest thing is you've got to look at that interoperability piece. Because so many of the menu objectives require being able to submit electronically and get back electronically, and the enterprise just isn't out there right now in terms of that. I think that's probably the biggest issue is that being able to exchange information everywhere.

I think the other thing as far as the menu objectives, we heard all morning about the specialists, and I'll tell you I look at this attestation for the specialists, that they can just exempt half the stuff. Well, again, where does the biggest burden fall? It falls on primary-care docs to do everything for every problem, the patient's congestive heart failure, rheumatoid arthritis, diabetes, hypertension. In terms of trying to do all that when it's very easy for a specialist to say, I'm exempt from most of all this. Then they get all the MU money, and the primary-care docs can't miss one thing that they can't attest to. They get nothing, and they're the ones having to put out so much more effort, time and capital when they are the least paid to start with.

So my concern is those menu objectives all being moved to core objectives and what those thresholds are going to be are going to have to be taken into account. Secondly, with the specialists, clearly, they do need to have, in my opinion, their own set of objectives, and in a meaningful way. I think of just ER

reports that I get, that are on electronic records right now, that I get into my practice, that have no useful information in them. It's just a bunch of people's name by an IV order or a lab order. All I want to know is what was the diagnosis and what did they do. And you can't find that. So I think some of the thresholds in terms of making those records meaningful is what's going to be really important in stage two. Thank you.

**Neil Calman – Institute for Family Health – President & Cofounder**

I just want to thank all of you. Oh, Adam, did you have a comment?

**Adam Cheriff – Weill Cornell Medical College – CMIO**

I know we're out of time, here, so I'll be brief. I just thought it was interesting that you asked that pointedly, you know, what needs to go, and nobody could say. So clearly you're on the right track, and everyone has the sense that some of the thresholds need to ease up. But to me, the most profound thing that happened between the initial proposed rule and the final rule is that you built in the flexibility. So don't lose the flexibility. In fact, increase the flexibility, because that's going to address your specialty problem.

**Neil Calman – Institute for Family Health – President & Cofounder**

Thank you. I'm glad we got that last comment. So thank you all, really, for coming, for putting all the effort into preparing the written testimony, and also these great presentations.

So I turn it over to you, Paul.

**Paul Tang – Palo Alto Medical Foundation – Internist, VP & CMIO**

Thanks again to the panel. Really, really appreciate it. That was very wise advice, very good input, and very gratifying. So thanks. For the rest of the group, also, thanks for this marathon, even this week, of spending three meetings with us. We're going to be on a call in a couple weeks to sort of digest what we—to reconcile what we heard from the full committee from this whole hearing, and also try to focus on the critical few. I mean, I just think we have to—fortunately, we're on the right track, it seems like, but we want to make sure that with the big ... looking at where we need to go with the entire program, where can we spend most of our effort and really the providers spending most of their time. So we need to take that into account.

Then I think we're going to open up for public comment.

**Judy Sparrow – Office of the National Coordinator – Executive Director**

Thank you, everybody. This is time for public comment. We'll begin with the woman on the very far left. Give your name and organization.

**Barbara Rubel – Radiology Business Management Association – Chair, Fellowship Committee**

Thank you very much for the opportunity to comment this afternoon. My name is Barbara Rubel. I'm speaking on behalf of the Radiology Business Management Association, and it's nearly 2,400 radiology practice managers and radiology business professionals.

Radiologists have been early adopters of health IT, investing significant amounts of time and money in radiology information systems and picture archiving communications systems. They have in many ways led the house of medicine, if you will, when it comes to technology. Many radiologist, however, work in independent practices in hospital settings. As such, they rely entirely upon their hospitals for the technology used in the performance of their clinical responsibilities, they have little to no control over the technology decisions made by their hospitals, and they are not the image producers, if you will, in the clinical settings.

These radiologists were not eligible professionals under the proposed meaningful use rules until the Continuing Extension Act of 2010 removed the Place of Service 22, which is hospital-based outpatient, from the definition of a hospital-based professional. The vast majority of current RIS and PACS products will probably not meet the regulatory definition of certified EHR technology without modifications that

include all of the meaningful use criteria due to the comprehensiveness requirement in the current ONC regulations. Hospitals seeking meaningful use certification as eligible hospitals are investing in products that have achieved inpatient and general certification, and RBMA numbers are reporting that these same hospitals are not indicating a willingness to purchase the ambulatory module, thus allowing their eligible professionals to qualify for the program.

The RBMA agrees with the ONC that the use of electronic technology has the potential to improve patient care and health outcomes. We would like to work together to craft specialty-specific solutions that will allow radiologists to participate in meaningful use in a meaningful way.

To this end, we have four recommendations, the first being removing the comprehensiveness requirement such that the technology could be certified for only the measures with which the EP must comply. This would eliminate the need for the technical functionality for objective EPs, could potentially be excluded from. For example, many radiologists have no use for the ePrescribing or cannot—don't ePrescribe and could be relieved from that functionality. The second, allowing EPs to use a hospital's certified EHR technology would be a viable solution. They rely on the technology already in the performance of their responsibilities. Or requiring hospitals to certify for general ambulatory and inpatient.

Third, there is currently little coordination between hospitals as they pursue EHR technology and eligible professionals as they strive to earn their incentives. We believe hospitals may need clarification and guidance as to their responsibility with respect to their on-site physicians. The final recommendation, RBMA believes meaningful use should include radiology-specific objectives and measures so that radiologists may qualify for the funds in a way that is clinically relevant to their patient care. The objectives and measures as currently written focus on the clinical and administrative needs of primary care and office-based providers, making compliance by radiologists difficult and essentially meaningless.

In conclusion, RBMA appreciates the opportunity to provide this verbal statement and will provide a written copy of its comments. We strongly believe that radiologists and the electronic systems they already use, RIS and PACS, should be given an opportunity to participate meaningfully in EHR in a manner that promotes high-quality patient care. Thank you very much.

**Judy Sparrow – Office of the National Coordinator – Executive Director**

Thank you very much. And yes, sir, next.

**Charles King – American College of Rheumatology – Chair, HIT Subcommittee**

Thank you. I'm Dr. Charles King, Chair of the American College of Rheumatology Health Information Technology Subcommittee and a practicing rheumatologist in Tupelo, Mississippi. I've been using electronic health record in my practice for 12 years and see 40 patients a day. On behalf of the ACR, I appreciate the opportunity to provide comment on the work of the ONC and specifically to offer support and assistance to the meaningful use worker as you move forward in shaping the future of the CMS EHR Incentive Program.

The ACR represents over 7,000 rheumatologists treating arthritis and other rheumatic diseases and enthusiastically supports the goals of the HITECH Act and the CMS EHR Incentive Program, and the rheumatology community is diligently working towards incorporating electronic prescribing, clinical registries, and EHR systems. Nevertheless, the ACR is very concerned that many of the programs and initiatives created by the HITECH Act, including the meaningful use regulations, regional extension centers. And the federal HIT strategic plan, still insufficiently address the needs of rheumatologists and other subspecialists in our efforts to improve quality of care in the context of efficient and cost-effective medical practice through the use of electronic health records.

Our three principal concerns are: There are currently no meaningful use clinical-quality measures appropriate for quality assessment and improvement that can be specifically applied to the practice of rheumatology. There are no apparent outreach efforts to assist community subspecialists, including rheumatologists, in their efforts to effectively adopt an electronic health record in their practice. Our

members report that they have not been able to access the exceptional resources of the RECs, because these organizations are focusing only on primary-care providers.

Most importantly, the data used to evaluate and fine-tune the HITECH Act's programs will not accurately reflect the experience of the broader provider community, because the RECs are, in fact, the primary source of program feedback to ONC. Yet, the RECs are not working with the very large medical subspecialist community. This poses a significant risk for the success of healthcare reform, since the nation's most vulnerable and ill patients who require the most expensive care are those seeing subspecialists. Therefore, we strongly urge you to take the needs and experience of rheumatologists and other specialty-care providers into consideration as you move forward in developing the meaningful use program.

The ACR finds little value in electronic health records that are little more than a word processor. We believe the coming quantum leap in healthcare delivery and population health follows from identification and continuous refinement of best practices, which is only made possible with linked physicians and electronic health records using common and standard terminologies coupled with real time decision support tools the ACRs will establish when promoting quality improvement through CDS.

We're very grateful to the Administration, Congress, and to ONC and CMS for the vision, resources and forward planning that made the meaningful use and HIE programs a success to date, but more importantly, that have begun to transform healthcare in America. Nevertheless, we know that you, and therefore our patients and providers, can move even more effectively to stage two in this journey by partnering with operational HIE expert physicians who are, themselves, out in the trenches partnering with their patients, patients who have very complex medical and surgical problems, and at risk for poor outcome, despite high-cost care.

The ACR asks that you please develop and nurture these relationships. With the very tight implementation time lines for meaningful use we all face, there is no time to lose. We look forward to hearing from you in the coming works.

**Judy Sparrow – Office of the National Coordinator – Executive Director**

Thank you, Dr. King. And yes, sir.

**Jason Byrd – ASA – Director, Practice Management, Quality, & Regulatory Affairs**

Hi. I'm Jason Byrd. I'm with the American Society of Anesthesiologists. Given that I may be the last factor between you and your weekend, I'll keep my comments very brief. I would like to echo the comments from the other sort of traditionally-thought-of hospital-based specialists that came before me in the sense that it just seems that anesthesiologists are in the dilemma of once being thought of being excluded from the meaningful use criteria than the way we've defined in the regulations are now included. But yet finding themselves in a predicament where some of the criteria are not applicable to their practice.

We've done an analysis and found that the majority of the criteria actually are meaningful and applicable to anesthesiologists. They could demonstrate with some minor tweaks. We provided that documentation in the documents here before the work group. But there are some examples where there needs to be either clarification from the agencies or some sort of modification that would get us to that ability to be able to demonstrate meaningful use.

Two brief examples. One is that when we come down to somebody's demographic data that's required, a pediatric growth chart is not really relevant to the practice of anesthesia. If that was something that could be exempted or that could be a modification there that says anesthesiologists and other hospital-based physicians could be exempted from that requirement, it's an easy clarification that could be made. Another one has to do with ePrescribing. Anesthesiologists are not often prescribing medication. They're administering medication. If there's a tweak to that sort of requirement.

Again, we think, and we provided the details and analysis of sort of a road map where we think the agencies could either clarify or tweak the modifications so that we could demonstrate meaningful use,

and our perspective is that anesthesiologists, by their sort of chemical makeup as well as the nature of their practice, they're data-driven. The Institute of Medicine has recognized the almost approaching ... in terms of safety and quality that anesthesiologists provide. A lot of that comes from the nature of them being data-driven. They get this. They're already on board. They want to be the poster children for meaningful use and HIT adoption. If we can just get some requirements tweaked, I think we can be there and be a partner for the Administration. Thank you very much.

**Judy Sparrow – Office of the National Coordinator – Executive Director**

Mr. Byrd, we do have one comment on the phone. Lynn Scheps.

**Lynn Scheps – SRS Soft – VP Government Affairs**

Hi. This is Lynn Scheps. I'm with SRS Soft. We're an EHR vendor that focuses on technology for specialists. I just wanted to encourage you to consider some of the creative options that were mentioned this morning and maybe some others that would make meaningful use relevant for specialists. And this might require a slightly different structure, different objectives, different measures. As someone mentioned, meaningful use is very primary-care focused as it's written now, and you can't force-fit a primary-care program on specialists and expect it to work.

I wanted to just point out two definitional problems that we're hearing a lot about, and they're keeping some specialists from participating. One of them relates to the measure to report vital signs. You'd think this would be very straightforward, but the way that the measure is defined currently, where it requires documentation of all three vital signs, it makes perfect sense for primary care physicians, but it's become an obstacle for some of the specialists. There are specialists for whom one or two of the measures of the vital signs are relevant, but not all three. Those physicians can't claim an exclusion, but they also can't meet the measure unless they add the non-relevant primary-care functions to their work flow. Many are not willing to do that. I don't think this was the intention, but it's become an issue.

The second is clinical quality measures, and I wanted to echo the sentiments of previous speakers about the lack of measures for specialists. I believe that the intention was that physicians wouldn't have to report on clinical quality measures that are not relevant to their practice. However, it seems that now the definition of "not relevant" is that the EHR generates a zero denominator for the measure. What this means for some specialists is that they now have to report on measures for patients who have perhaps a secondary problem, but a problem for which the doctor is not treating that patient. These physicians understand that for now, this is only an exercise in reporting, and that there are no thresholds, etc., but they're not very comfortable reporting data that says they have patients who happen to have hypertension or diabetes and they are doing nothing for them. So those are just two examples of things that I don't think were intended consequences of the program but merit some thought so that we can encourage specialists to participate, because they do want to. Thank you.

**Judy Sparrow – Office of the National Coordinator – Executive Director**

Thank you, Lynn, and thank you to all of the public that have listened to this day-long hearing, and I'll turn it over to Dr. Hripcsak.

**George Hripcsak – Dept. of Biomedical Informatics Columbia University – Chair**

Thank you all. With this, I'm going to conclude the hearing. It was a wonderful day, and we learned a great deal so it was very worthwhile. Thank you.

## Public Comment Received During the meeting

1. Message related to Dr. Jonathan White - please ensure pediatric and neonatal APRNs are named members of the CMS-AHRQ workgroup developing the Children's EHR. If none of these clinician types have been identified for membership, ANA would be happy to assist in providing APRN nominees.

2. I have a request to pass on to Judy Sparrow - can you let her know that about in Feb this year - the Webcast archive stopped being posted on the ONC web site - only the audio recording is posted. Last webcast archive posted for HITPC and HITSC is FEB. so for this meeting that was on TUES this week, and HITPC on WED at the Renaissance - only the audio MP3 is posted - not the webcast archive. so show that view to Judy - so she knows about it - she said she writes down the times they speak because I was telling her what I told you about how hard it is to find something in the MP3 file - have a great day - see you next week at HITSC. So if you go out to the ONC web site - and look at "past meetings" - there are NO web archives posted since Feb this year. Ok thanks - so ask Judy JUST for this work group - with this Stage 2 being discussed this month - consider posting the web archive for these hearings. I was STUNNED when you showed me the archive view - makes it a zillion times easier to find your place in the all day recording. Thanks so much.

3. The North American Association of Central Cancer Registries, Inc. (NAACCR) supports cancer as a reportable condition in the MU stage 2 criteria. NAACCR ([www.naacr.org](http://www.naacr.org)) defines data standards for use by all of the hospitals and state cancer registries to exchange cancer incidence data. The NAACCR data dictionary, used by cancer registries for 20+ years, includes data items for demographic, cancer identification, stage, prognostic factors, treatment and follow-up data. Hospital and state cancer registries use cancer registry software to electronically exchange cancer data. NAACCR is a professional organization; members include National Cancer Institute, American College of Surgeons Commission on Cancer, CDC National Program of Cancer Registries, American Cancer Society, etc.

4. Any thoughts on involving residents in meaningful use? Residents can be used to educate their attending physicians about meaningful use and the need to register, and this will be relevant to their future practice.