HIT Policy Committee
Meaningful Use Workgroup
Certification and Adoption Workgroup
Clinical Documentation Hearing
Transcript
February 13, 2013

Attendance

Meaningful Use Workgroup Members

- Paul Tang
- George Hripcsak
- David Bates
- Christine Bechtel
- Arthur Davidson
- Marty Fattig
- Leslie Kelly Hall
- Yael Harris
- Charlene Underwood
- Amy Zimmerman

Certification Adoption Workgroup Members

- Larry Wolf
- Joseph Heyman
- George Hripcsak
- Elizabeth Johnson
- Charles Kennedy
- Donald Rucker
- Paul Tang

The following Committee members did not attend this meeting:

Meaningful Use Workgroup Members

- Neil Calman
- David Lansky
- Deven McGraw
- Tim Cromwell
- Joe Francis
- Greg Pace
- Latanya Sweeney
- Robert Tagalicod

Certification Adoption Workgroup Members

- Marc Probst
- Joan Ash
- Carl Dvorak
- Paul Egreman
- Latanya Sweeney

- Micky Tripathui
- Scott White
- Martin Rice

Presentation

Operator
All lines are bridged.

MacKenzie Robertson – Office of the National Coordinator
Thank you, good morning everybody, my name is MacKenzie Robertson from the Office of the National Coordinator for Health IT. Welcome to the Clinical Documentation Hearing which is jointly sponsored by the HIT Policy Committee's Meaningful Use Workgroup and Certification Adoption Workgroups. This is a public hearing and there is time for public comment built into the agenda.

And the hearing is also being recorded so for the panelists and the speakers if you can please identify yourself for the transcript, I will periodically be reminding you throughout the day. With that I think instead of doing a formal roll call we can just go around the table and if everyone could please introduce themselves and list which Workgroup member they are. So, MacKenzie Robertson, ONC.

Michelle Consolazio Nelson – Office of the National Coordinator
Michelle Nelson, ONC.

Jim…ONC
Jim…ONC.

Judy Murphy, RN, FACMI, FHIMSS, FAAN – Deputy National Coordinator for Programs & Policy – Office of the National Coordinator
Judy Murphy, ONC.

Charles Kennedy, MD, MBA – Chief Executive Officer - Accountable Care Solutions – Aetna
Charles Kennedy, Aetna.

Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-BC – Vice President – Tenet Healthcare Corporation
Liz Johnson, Tenet Healthcare.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
George Hripcsak, Meaningful Use.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Paul Tang, Palo Alto Medical Foundation, Meaningful Use.

Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology
Farzad Mostashari, National Coordinator.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Larry Wolf, Kindred Healthcare, Certification and Adoption.

Leslie Kelly Hall – Senior Vice President – Healthwise
Leslie Kelly Hall, Healthwise, Meaningful Use and Patient Consumer Empower Team.

Donald W. Rucker, MD, MS, MBA – Vice President & Chief Medical Officer - Siemens Corporation
Don Rucker, Seimens, Certification and Adoption Sub-Workgroup.

Joe Heyman, MD – Whittier IPA
Joe Heyman I'm an obstetrician gynecologist in private practice and I'm on the Certification Adoption Workgroup.

Amy Zimmerman – State HIT Coordinator – Rhode Island Department of Health & Human Services
Amy Zimmerman with the State of Rhode Island on the Meaningful Use Workgroup and the Health Information Exchange Workgroup.

David W. Bates, MD, MSc – Senior Vice President for Quality and Safety – Brigham & Women's Hospital & Partners
David Bates, Brigham and Women's, the Meaningful Use Workgroup.

MacKenzie Robertson – Office of the National Coordinator
And are there any work group members on the line that could please identify themselves? Hearing none I will turn the agenda over to Dr. Mostashari for some opening remarks.

Farzad Mostashari, MD, ScM – Health and Human Services – Office of the National Coordinator for Health Information Technology
Thank you and thank you for all of the speakers and members of the Policy and Standards Committee and to the ONC staff who have helped organize today. This is I believe a really important discussion that we're having. The medical record itself, the documentation of that medical record in recent years has assumed more and more roles, and I was speaking to a physician who said to me when I started practice 30 years ago my notes were just little reminders to myself about the patient so that the next time I saw the patient I could remember and I'd give myself a little nudge "all right, this is what I was thinking last time I saw the patient." And, you know, you don't have to say a lot if you're writing a note to yourself. You share a lot of assumptions with yourself, you share a lot of knowledge, you know yourself.

And he said then that at some point it became as I was writing the note I had in the back of my head another audience. I was writing to someone who might audit my record for billing purposes or for legal, medical legal purposes I'm making sure to document. And then he said…he's part of an Independent Physician Association that is forming and Accountable Care Organization and they're on an electronic health record and they had to decide whether they could open each other's notes.

The system was capable of doing it, it was flipping a switch to let the 50 or so physicians see each other's notes and he said I remember with clarity sitting in that conference room where the board of our IPA was trying to make a decision about whether we could just open each other's notes and it was hard for me because these are my notes, I wrote these and he said I all of a sudden realized these aren't my notes anymore.

These are the patient's notes and we all take care of the patient and he talked about it as an Ah-ha moment for him that now the notes serve as a means of care coordination and communication among different providers and that's a different audience that you're writing for.

And as we have electronic health records move not just from documenting the information but the use of that information for population health management it's not enough for someone else to just be able to read your note, the system has to be able to understand some key elements within that note. It has to be structured in other words if you want to be able to make a list of patients who, if you want to be able to look at your quality measures being derived as a byproduct of your documentation instead of double or triple data entry.

If you want to have decision support then certain key information now needs to be structured in certain ways and that creates another audience, the computer is now an audience member that you're writing for. And as the OpenNotes Project led by Tom Delbanco and Jan Walker reminds us if we look a few years down the line there is going to be another audience member for our clinical notes and that is going to be the patient and their caregivers, wow, it's really hard to write and it's really hard to write for 5 different audiences at the same time. Who am I speaking to? What do I need to document? How to document it? How to write it?

So, we are at a critical point in this transition as the demands of being able to have the information not just used as little reminders to ourselves or as artifacts for billing purposes now transition to the need for care coordination that is increasing, the need for bringing information to life through the use of computable information, structured data that can be analyzed and aggregated, and through the use of this information for patient engagement.

We're at a critical time to understand how technology isn't the problem, technology needs to be the solution to managing these escalating demands on the person at the end of the pen or the dictation microphone, the healthcare providers on the front line, because it's all coming down on them, they're the ones that the burden of documentation for all these different audiences ends up falling to. And we can't just keep piling on more and more documentation requirements for different purposes on the providers at the end of that.

So, technology, one of the things I am most excited to hear about today is what our approach is where technology can help, can help reduce the burden, increase the clarity, increase the power, the communication potential, the care coordination, what are promising new approaches whether it's data segmentation and metadata, whether it's natural language processing, whether it's better work flows, whether it's having each member of the team contribute to the clinical documentation so it's not just the physician who is documenting everything, how about the patient helping document, how about every member of the team, how about establishing processes and work flows so that the end result is the best possible documentation for all the purposes.

Let me say a few words about one of the motivators for this meeting which was the finding that electronic health records were associated with a shift in patterns of emergency department intensity billing codes, that's the observation and there is still a lot we don't know about that, we don't know if that same observation holds true on the outpatient side, we don't know if there is a shift in billing codes whether that reflects appropriate coding or inappropriate coding, we don't know if that leads to an increase in total cost or if that's associated with decreased frequency of visits more done per visit and fewer visits required or if that has other impacts on healthcare utilization.

What we've said pretty clearly is there is documentation of care that didn't occur, of an examination that didn't happen, that's not just fraud, that's really dangerous medicine and what is supposed to be represented in the clinical note for billing purposes is what is medical necessity and so our focus today is on the clinical necessity. If we get that right, if we get that right, if we get the documentation right as needed for clinical care, for good clinical care then I think we'll stand on firm ground all around and we'll do what's best for the patients and we'll do what's best for the taxpayer as well.

There are certainly examples that have been talked about where use of clinical documentation approaches like templates can be helpful as an organizing principle, make sure you do not forget to ask the following things. That's a form of decision support in and of itself. But there are other examples where certain vendor's implementations of certain approaches may make it too easy for providers to document care that is not medically necessary or potentially even wasn't done by them.

One of the things I have asked the Policy Committee to consider is are there examples that we can point to and say that is beyond the pale. That's not good practice. And we will be looking for approaches whether it's voluntary industry adoption of guidelines or potentially looking at certification as a way to help because this is an important issue.

Today's hearing is a first step it's certainly not going to be the end of this conversation but it's the first step and the focus is as I said on what's the best approach. What are the issues for best documentation, for clinical purposes, for care coordination, for secondary use and in terms of the legal requirements that we have and I think this is going to be a great opportunity to set the appropriate framework and the work of the Policy Committee that advises, predominantly in this case, the federal government through ONC.

And I should mention that our colleagues at CMS, we've been working with them and there is going to be additional activities and listening sessions and opportunities to focus more on the specific billing issues with them as well. So, with that let me turn it over to Paul to discuss the meeting today.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Good, thank you, Farzad. I think that was an excellent introduction into the purpose of today as how he started out which is there are many more stakeholders now in the clinical record all of them still focused on one thing which is better care and health for individuals. It may be so that a primary focus is for clinicians and all the people who are going to take care of the patient next, but all the secondary uses of data whether it's for research or public health focus still on how do we improve health of individuals and populations. So, it's still focused on health.

So, that's how we went about putting together this hearing is with a balanced perspective on all the uses of data in clinical documentation to better health and I need to thank Michelle Nelson as the head putting together person for this hearing and really an outstanding group of folks.

I will mention that many times when you fill airline seats you overbook your flights and it works out pretty well most of the time. This with such a popular topic that everybody showed up to get on the plane so we do have rather large panels, but I think that just shows the importance of the topic in many ways and the amount of expertise we're bringing to the table. So, thank you.

What do we want to get out of today? One is, we had a lot of…a lot of times we've been putting clinical documentation on the parking lot for various issues some of which Farzad mentioned. So, one it's extremely important. Two it does take a lot of time on the part of the providers to get it in, and three, it takes a lot of time to get the information contact back out and then there are other ancillary things whether it's clinical research or billing and things. So there's a lot of reasons why this is an important topic.

What would we like to get out of it; well we're going to spend time tomorrow, this group is going to spend tomorrow morning trying to digest what we heard today and the purpose is to feed into the Meaningful Use Stage 3 recommendations that we ultimately deliver to ONC and CMS.

So, this has a direct impact on that process and it's because we recognize how important it is and how meaningful it would be for us to make sure that if there are certification requirements that that's what gets in there. As Farzad mentioned, how can we make this not only a better process but a more efficient process and an accurate one at that.

So, logistic-wise in terms of trying to get through the panels because so many people put their time into this we want to make sure that we stick to our time. Everyone has been told that they have five minutes and we're going be very strict on that. The only way to be fair is to be consistent, so that's one of the things.

The other time management approach I think we'll take is that each question will go to…you can direct your questions but have at least at most two responders so that we get a fair chance at asking a number of questions to maximize the use of our time.

So today, the agenda…we're first going to hear AMIA actually, American Medical Informatics Association, had a workshop on this very subject like a couple of years ago and produced a wonderful document, it's in the packet here and I'm sure it's on the web somewhere, that summarizes a lot of these issues and they came up with some findings and recommendations that form a really good baseline for what we're about to talk about. So we've invited Trent Rosenbloom and Gil Kuperman to summarize that process their output and the paper.

Then we have four panelists. One is on the role of clinical documentation for clinicians, one of the first people to add information into the record and for the care of an individual one of the first people to use it to better care for that individual.

Second, we look at the document as a way of coordinating care, something that Farzad talked about. There's far more people on the team than there used to be back when it started and one of the important people on the team…one of the important persons on the team is the patient and also their caregivers. So, we want to make sure that we reach them as well and we're looking for ways to make sure that this document, how the information is put together and how it is viewed is helpful to that care coordination process.

One of the things we'll find out is getting information into the chart is one thing, getting information out of it a useful way is quite another and that's part of the challenge here.

After lunch our third panel has to do with many of the secondary uses, it's called secondary because it's not the one-on-one for this individual kind of use, but it impacts…even though there maybe secondary uses it impacts each individuals as well and here we're talking about clinical research, we're talking about quality improvement, we're talking about public health as examples.

And the fourth panel concludes with some of the legal implications of this document that resides in a medical record sometimes that tends to drive things but we want to make sure that the clinical use is the driver and that we as a byproduct satisfy the other uses like the legal purposes and the billing purposes, but that's an important topic in this whole space so we are spending time on that issue as well.

And then I think what we'll do is we'll postpone the committee discussion to our meeting tomorrow morning. As I've said we've specifically designated time for us to meet face-to-face to debrief on today and to look at its implications for Meaningful Use Stage 3 recommendations.

So, that's what we have on tap and then we conclude with public comments as we always do. So, we'll begin with our summary of the AMIA position paper with Trent Rosenbloom and Gil Kuperman and thanks for being here.

Gil J. Kuperman, MD, PhD, FACMI – Director Interoperability Informatics – New York Presbyterian Hospital

Thanks very much. Good morning. My name is Gil Kuperman I'm Director for Interoperability Informatics at New York Presbyterian Hospital, Adjunct Associate Professor at Biomedical Informatics at Columbia University and Board Chair of AMIA a 4000 member organization of informatics professionals.

My colleague from Vanderbilt University, Trent Rosenbloom, and I are here this morning to provide a brief summary of a policy conference that AMIA held in late 2011 to understand the current state of computer-based clinical documentation and how best to improve it. We want to thank the Certification Adoption and Meaningful Use Workgroups of the Health IT Policy Committee for inviting us to speak this morning and for holding this day of hearings to explore this important topic.

Clinical documentation is the process of recording historical data, observations, assessments, interventions and care plans in an individual's health record. The purpose of documentation is to facilitate clinical reasoning and decision-making by clinicians and to promote communication and coordination of care among members of the care team.

Computer-based clinical documentation creates opportunities to improve patient care, collaboration, communication, and capture data more effectively and efficiently for research, clinical decision support, the needs of the legal medical record, and certain regulatory and compliance requirements.

Leading informatics organizations have had computer-based clinical documentation for decades. As the prevalence of this capability increases there's an opportunity to realize benefit on a widespread scale. However, as we will discuss important challenges must be acknowledged and addressed.

AMIA recognizes that request for comments on Stage 3 of Meaningful Use reflect a perspective that the EHR needs to support a collaborative model of care rather than care based solely in a single setting and AMIA agrees with this perspective.

The Request for Comments also noted the need to capture and report clinical quality measures while minimizing the data collection burden on providers. Clinical documentation has a role to play both in supporting transitions of care as well as in quality measurement.

In late 2011 AMIA held its 6th annual invitational policy meeting called enabling the future state of clinical data capture and documentation. The goals of the conference were to outline the current state of computer-based clinical documentation, identify a set of principles that could serve as requirements for a future state, identify knowledge gaps and create a research agenda to help close those gaps and to formulate policy recommendations to help drive towards a future state.

There were approximately 100 attendees at the conference, attendees included clinicians who had extensive hands-on experience with computer-based documentation systems, vendors and other developers of such systems, human factors researchers, researchers with experience measuring the quality of clinical documentation, policymakers seeking to understand how clinical documentation can best advance health and healthcare and who want to ensure that innovation continues in this critically important area, and representatives from specialty societies and consumer organizations.

Trent will present a summary of the current state of computer-based documentation and the attendee's impressions of the current state, guiding principles that should be used to move us towards a future state and recommendations about how best to move forward and then I'll present a proposed research agenda and some closing comments.

Samuel Trent Rosenbloom, MD, MPH, FACMI – Associate Professor Biomedical Informatics, Internal Medicine & Pediatrics and Nursing – Vanderbilt University

Good morning, my name is Trent Rosenbloom I'm honored to have the opportunity to speak with you alongside Dr. Kuperman. I am the Vice Chair for Faculty Affairs, the Director of Patient Engagement and an Associate Professor of Biomedical Informatics Internal Medicine, Pediatrics and Nursing at Vanderbilt University. I'm a member of AMIA and the American Academy of Pediatrics. I've been fortunate to have had the opportunity to have been funded with federal support to do detailed research in clinical documentation and to have participated in the AMIA 6th invitational policy meeting in 2011.

In your meeting materials you have a copy of the recent JAMIA publication the Future State of Clinical Data Capture and Documentation describing the 6th annual policy meeting, it sounds like you've read it. Thank you. The manuscript includes a review of the biomedical literature which you will note is brief, a key reason for the literature review's brevity is that there has been inadequate research evaluating computer-based documentation in particular in clinical documentation in general.

Research has been hamstrung by a number of factors; these factors include the ever-changing nature of clinical documentation and its influences. This includes technology, evolution, changing third-party administrative and legal requirements, healthcare provider and team expectations and the presence of a large number of clinical workflows.

A lot of what is known in the field is based on reasonable anecdote rather than empiric data and much of the empiric data we have reflects single sites that does not inform clinical documentation in general, as a result there remain numerous gaps in our knowledge about clinical documentation.

The manuscript does account what is known about the history and evolution of clinical documentation, it reviews research on the influence of clinical workflow on clinical documentation, various approaches to measuring the quality of documentation, and how documentation informs care team collaborations such as how multiple care team members can contribute to single notes. For example, nurses enter vital signs, doctor records a physical exam.

Due to a lack of adequate research in the area the literature review found no evidence for a single best method for clinical documentation. For example, there is no evidence to support that structured or narrative documentation can meet all needs. By contrast there is evidence and anecdote that allowing healthcare providers to access multiple methods of clinical documentation may enhance EHR system adoption and use. Examples include dictating a note to a transcriptionist and differing types of unstructured or structured computer-based documentation.

In addition, the literature review was unable to uncover evidence for a single standard for determining what constitutes quality clinical documentation. Although, there is ample evidence and anecdote describing what is poor quality. For example, terms like note bloat and cloned notes riddle the literature as case reports and anecdote.

In summary there remain important knowledge gaps around what we should be doing in the field of clinical documentation but there are lots of reports about what we should not be doing.

Meeting participants concluded that high value documentation is important to and represents high quality patient care. However, participants recognize that the growing complexity of care delivery and advances in health information technology there is a need to transform the way we capture and document clinical care.

The manuscript presents findings. The findings represent observations participants had about the current state of computer-based documentation. Among the many findings the following four points emerged as common themes to participant's discussion.

Number one, the fundamental purpose of computer-based documentation must be the direct support of health and healthcare. Other purposes such as performance measures, quality reporting, payment and legal requirements have encroached upon this central purpose, as a result computer-based documentation does not always primarily serve healthcare delivery.

Number two, new documentation requirements frequently require changes to organizational infrastructures and processes and yet the evidenced-base and benefits for such added requirements are not always apparent.

Number three, healthcare providers in different subspecialties and venues have different workflows during which documentation is carried out. Current usability and functionality do not align with diverse workflows across multiple venues and providers and as a result there is often a mismatch between their documentation needs and system capabilities.

And number four, current computer-based documentation paradigms do not facilitate multidisciplinary team-based care, coordination and delivery that includes the patient is a key member of the team for example.

Meeting participants articulated seven major recommendations to serve as guiding principles for computer-based documentation moving forward. Guiding principles serve as a set of requirements for clinical documentation; these requirements stated that clinical documents and documentation systems should, one, be clinically pertinent, patient centric foremost.

Two, work within EHR systems that store and represent an individual's lifetime health and healthcare.

Number three, be efficient and usable and support capture of high quality information that is accurate, relevant, confidential, reliable, valid, complete and secure.

Four, enhance the healthcare organization and care teams overall efficiency effectiveness and productivity.

Five, support downstream uses without additional effort on the part of the author including quality measurement, performance improvement, population healthcare delivery, policymaking, research, education, and reimbursement.

Six, enable joint patient/provider decision-making, team collaboration, care process management and advanced clinical decision support.

And seven, leverage multiple sources of data and interpretation when assembling notes including data automatically captured in other systems and devices and direct input of expressive medical discourse as appropriate these requirements are in a box set aside within the document for your review.

Meeting participants articulated a number of recommendations key among these were foremost the field still needs more research around clinical documentation. Dr. Kuperman will discuss this need in greater depth in just a moment.

Two, when considering how best to support other needs such as quality measurement, billing, support for transition, etcetera, clinical documentation should be only one among many sources of data that are considered. Other sources may be acceptable and would not add to healthcare provider's workflow burden. Developers and policymakers should consider performing an environmental impact scan for changes to interfaces or new requirements.

Number three, regulations about any particular goals such as quality measurement or billing should allow flexibility in the way that clinical documentation can be used to meet that need. This would promote innovation in the use of clinical documentation to meet multiple needs.

Four, increasing patient access to the clinical documentation process and to finalize clinical notes should be considered as a way to make documents more efficient and to motivate healthcare providers to make their notes more concise and correct.

And five, there should be pilot programs that examine the influence of relaxed or modified billing requirements on patterns of clinical documentation.

Is summary, upon reviewing the fairly scant research base around computer-based clinical documentation participants at the 2011 AMIA health policy meeting identified a number of observations and guiding principles and then made recommendations for the future state of clinical data capture and computer-based documentation.

Computer-based documentation should be patient centered, leverage input from automated devices and all relevant team members and should be conducted in a policy-setting where external regulatory requirements on the clinical note itself are minimized, in addition research in the area of computer-based documentation is lacking.

Gil J. Kuperman, MD, PhD, FACMI – Director Interoperability Informatics – New York Presbyterian Hospital

Okay and in terms of a research agenda, so as mentioned there are high expectations for clinical documentation being able to contribute to multiple worthy goals, patient care, collaboration, communication, billing justification, creation of the record for legal purposes, supporting research, supporting clinical decision support and performance measurement both for operational as well as clinical quality measurement purposes and that all this should be done without imposing unreasonable burdens on the physician or other clinician.

New knowledge on a variety of fronts is needed if these goals or to be realized. First is the category of research that's needed to better understand approaches that could be used to capture data from clinicians in ways that minimize the burden and yet allow the data to be used for the envisioned purposes.

Specific areas in this category include identifying ways that structured data entry and unstructured data entry can be used together to provide the flexibility that clinicians need to capture the nuances of the clinical encounter as well as the data that are needed for other purposes, understanding whether there are alternatives to keyboard or mouse driven data entry, for example voice recognition, understanding how when creating a note a clinician can create a reference to other electronic data in the record, for example, laboratory data or other clinician's notes rather than having to copy those data into the note per se, understanding how clinical documentation entered as a narrative text can be transformed into coded concepts, for example through natural language processing and understanding how additional documentation requirements whether for regulatory or other purposes adds to the burden on the clinician and at what point levels of satisfaction decrease or there is decreased accuracy or decreased quality of documentation.

Second, there is a set of research questions related to how clinical documentation can be used to support collaborative care? For example, in the context of a particular workflow task such as discharging the patient what are the documentation related roles and responsibilities of each member of the team and what features would allow the patient to participate in this process? Also, what are the data displays paradigms that make clear its team member's role in the care of the patient and what are the next steps?

Third, there are opportunities to understand how to use data from other electronic sources, for example physiologic data from devices, reports from diagnostic studies, records of procedures and other clinical data along with electronic documentation to support desired goals and minimize the burden on clinicians.

Fourth, there are opportunities to understand how to define and better measure the quality of clinical documentation and to what extent high-quality documentation is correlated with high quality care.

Fifth, there are opportunities to understand to what extent physicians might change their documentation behavior as patients increasingly have access to data in the medical record.

Sixth, as Trent mentioned, it would be intriguing to evaluate in a pilot setting how documentation patterns would change if billing compliance rules were relaxed.

Seventh and lastly, foundational informatics research is needed to advance standards for the representation of clinical documentation data so the data can be used for the multiple envisioned uses.

Agencies that might have an interest in addressing some of these questions include the Office of the National Coordinator, The Agency for Healthcare Research and Quality, The National Science Foundation and the National Library of Medicine among others. Some of the research questions outlined here might lend themselves to comparative effectiveness research.

So, in summary, we believe that increasing the prevalence of computer-based clinical documentation provides opportunities to improve the quality of care. Important factors to keep in mind as we move down this road in Stage 3 and beyond include keeping the highest priority for documentation on support of the patient's health, assuring that opportunities for innovation are preserved, being mindful not to place excessive burdens on the providers and seeking creative ways to leverage other data in the record to achieve certain goals, recognizing the need for research to address important questions, and seeking ways to involve the patient in documentation related activities and as an engaged member of the care team. We hope this is helpful. We'd be happy to take any questions.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Good. Thank you very much. Questions from the committee? I'll ask one. You raised an intriguing…just towards the end you raised an intriguing possibility that is one of the problems we have is unintentionally billing tends to drive some of the documentation rather than the core mission which is the contribution to patient care and you posed the question what if there were…well where billing didn't require these elements in the clinical document, that world seems to be laid out in ACO and other types of payment methods that don't require a fee for individual activity.

We do have a couple of examples, the VA and Kaiser which are large systems wherein documenting individual activities in a fee-for-service world don't apply one would think, is there any study in that…for those systems on their clinical documentation compared to others in the fee-for-service world?

Gil J. Kuperman, MD, PhD, FACMI – Director Interoperability Informatics – New York Presbyterian Hospital
So, a great question, you know, and there have been studies out of the VA where billing documentation to support the billing per se is not required and there is evidence that certain, let's say suboptimal documentation, approaches like copy and paste are in fact done even in that setting.

And, you know, what we think there is that the tools are so rudimentary that, the documentation tools are so rudimentary that the clinicians there are using in that case copy and paste to…you know, just to support their day to day documentation requirements. And, you know, so, I think that outlines one need and one set of problems.

Billing support and the need to kind of have a long review of system and things like that I think is another problem. So, you know, I think there are multiple problems and there may not be one single fix, but if there is an opportunity to relax some of those billing requirements that might provide an opportunity to learn something. I don't know, Trent?

Samuel Trent Rosenbloom, MD, MPH, FACMI – Associate Professor Biomedical Informatics, Internal Medicine & Pediatrics and Nursing – Vanderbilt University
The research in the area is scant. The point that Dr. Kuperman made that they are multiple confounding forces at play including the capability of the documentation system conflated with environmental factors related to billing make it difficult to know for sure.

What we observe in primarily qualitative work is that healthcare providers generally have a belief in what the note needs to contain to support E/M coding that may not actually be based in reality but is more based in culture and myth, and they tend to be fairly conservative. It's a lot easier to put everything into a note than to run the risk of not putting something into the note and having a note that does not support your level of medical decision-making reflected in the E/M code you select.

Again, a lot of this is qualitative, done based on perceptions not based in an environment as you suggest where maybe these factors are not at play. So, this is an area for more research I think.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Good. Larry?

Larry Wolf – Senior Consulting Architect – Kindred Healthcare

So, we're in this great era of computer generated data floods and the copy/paste behavior is just one example of that. So, I wonder if anything was brought forward in terms of effective ways to present information that highlights new different, you referenced maybe include by reference in a note, you know, there's some lab data I don't need to include, you know, pages of lab data. I looked at it, maybe there were actually one or two values I thought was important, maybe I looked at a trend and grabbed something off a trend report.

So, something that actually starts to add, if you will, 21st Century intelligence to systems that in some cases have their origins, many, many years ago but where we now have tools where we could actually have the computer be a helpful part of the partner and not just a demand, get me more data, but actually a tool to help us figure out what's in the data, any stuff out there that begins to talk to how the computer becomes actually a facilitator for this rather than part of the flood?

Gil J. Kuperman, MD, PhD, FACMI – Director Interoperability Informatics – New York Presbyterian Hospital
There's not work published on this, on what you're talking about and I am not aware of folks who are actively working on those kinds of things. I mean, I'm sure there are I'm just not familiar with it.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
I'm thinking of things like I've seen examples of clinical dashboards or rounding tools that try to highlight.

Samuel Trent Rosenbloom, MD, MPH, FACMI – Associate Professor Biomedical Informatics, Internal Medicine & Pediatrics and Nursing – Vanderbilt University
As Dr. Kuperman said, there's not a lot published on this, there's a lot of stories out there, anecdotes, there's a lot that's in the…probably the vendor domain that's not published but a lot of people see and use.

I think it's generally used more around workflow support; decision support for order entry maybe for monitoring whether your orders have been carried out than it is in support of direct clinical documentation which as you've heard already has generally lagged behind some of these other areas.

There is a lot of talk about whether you can use some of these approaches to support the future state of clinical documentation if the future state of documentation reflects an evolution of what we're seeing today.

There is other talk about completely throwing away the current model and looking for a new way to do documentation where all of this stuff that you put in your note, that's really just duplicated from other parts of the record, you don't actually do that you just leave the healthcare providers note for what Dr. Mostashari said, you know, was 30 years ago, for just reminders to me, impressions that I have, observations from my exam for example.

And all that other stuff you leave in its primary location. You'd of course have to change the entire regulatory environment around that, the entire billing environment around that, the entire legal environment around that, so there are barriers to doing that but people talk about that sort of dream.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Thank you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Charlene?

Charlene Underwood – Director, Government & Industry Affairs – Siemens Medical
One of the requirements that we advocated for Stage 2 and I think, you know, got in a form was the ability to be able to incorporate the electronic note into the record. And again, to move towards a system where as much of the care can be documented in an electronic form.

When we did some analysis to look at the different types of notes, the contents of the notes varied all over the place. I mean, you've got SOAP notes, but as you look across the disciplines there's a lot of variability in the different kinds of notes and as a vendor it's challenging when there is not some level of standardization in the documentation process.

And so I was asking you could you comment or did you think through at all the fact that today's practice isn't standardized in our clinical documentation or clinical documentation isn't standardized and what affect standardizing that to some extent, which may not be possible, could have on improving the process and improving the ability for automation of that process?

Samuel Trent Rosenbloom, MD, MPH, FACMI – Associate Professor Biomedical Informatics, Internal Medicine & Pediatrics and Nursing – Vanderbilt University
We were talking about this actually earlier today over bagels. There are two answers I would put forth and Dr. Kuperman may have another. The first answer is, as we said before, there's not evidence for a good standard approach to documentation, there's enough variability out there that we don't know even how we would even approach that and with all the other factors that come into play, workflows, differing implementations, differing levels of computer skills that healthcare providers may have, a lack of a single standard for measuring quality even though some people in this room have done good research in document quality, there's not a single standard that says across the board this is how you do a high quality document that I don't think we're there yet, an area for more research.

The second answer is in some limited research out their including some I've been fortunate to do again paid for with your tax dollars, thank you, we have observed that if you give healthcare providers a pallet of different ways to document and just say whatever you do we'll get it into the EHR, you can hand write it and we'll scan it, you can dictate it and we'll upload it or you can do some sort of direct computer-based documentation, if you let them do whatever fits best with their need, their level of sophistication, their workflow then you'll at least get them to use the EHR system and the documents are…they have some value. The scanned note has some value because you know who wrote it when they wrote it, what kind of healthcare provider they are.

The point and click note may have a whole lot more value for reuse. That way you're not putting a barrier in front of the healthcare provider but really accommodating all different needs and then in the future maybe as we learn more we can make available better tools slowly to transition people from paper to dictation from dictation to direct entry.

Gil J. Kuperman, MD, PhD, FACMI – Director Interoperability Informatics – New York Presbyterian Hospital
And I would just add, in terms of standardizing workflows and having documentation fit into workflows at our place right now we're developing models for transitions of care and we're kind of inventing the processes that we need and so, you know, the way that we might want to use documentation tools might depend on the model of transition that we end up creating. I wouldn't want to kind of constrain us or other providers to have to use documentation in a certain way because they're designed to fit to a workflow. We want to have the tools flexible enough to fit to whatever workflow organizations feel, you know, best suits their goals.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Okay, well, thank you very much again, Gil and Trent and we'll get ready for the next panel. So, this panel, as I mentioned earlier, is to look at clinical documentation from the clinician's point-of-view and in order to save time, we do have the speaker bios published as well as on the web.

So, just to review the ground rules we'll have five minutes, but five minutes only for each speaker to give their opening remarks. So we can have as much time as possible for questions from the Workgroups. And, I think we'll begin with Pete Stetson from Columbia University, please?

Peter D. Stetson, MD, MA – Chief Medical Officer & Chief Informatics Officer - ColumbiaDoctors

How about now? Okay. So, good morning, I'm Pete Stetson, I'm Associate Professor of Clinical Medicine and Clinical Biomedical Informatics at Columbia University. I'm the Chief Medical Officer and Chief Medical Informatics Officer for ColumbiaDoctors which is a multi-specially group ambulatory focused. I just want to thank the committee for an opportunity to discuss the challenges with electronic documentation today and methods to address them.

Our team agrees with the inclusion of electronics notes as a measure in Stage 2 and Stage 3 and I'll be speaking about some lessons that we've learned at our institution and opportunities for improvement.

So, to the first question on how do you define clinical documentation our team defines that as two general forms of clinical communication notes and reports. Notes are authored about a patient in order to communicate the care to the care team the patient's status, the plan of care for the patient and the provider's rationale to support these assessments and we distinguish those from reports which are communicating interpretations of diagnostic or therapeutic interventions.

To the second question on challenges and approaches, in our experience documentation is one of the hardest modules within EHRs to bring live. This is particularly true among provider groups where there is a predominance of subspecialty care like ColumbiaDoctors. This is because subspecialist have A: Unique sub languages. B: Unique workflows and C: Unique secondary use requirements for example, UNOS reporting for transplant providers.

Another challenge to adoption is that of preserving the professionalism of note outputs and avoiding can text particularly relevant to consult providers. The second largest challenge after adoption, at least in our experience, is maintenance and optimization of the templates and getting the data back out. We've used several successful strategies for these and to put this in context, 82% of our providers have met Stage 1 Meaningful Use but looking ahead 78% of our 850,000 annual ambulatory visits are now documented with electronic notes and 75% of those are entered using semi-structured templates.

On that challenge of adoption we recommend doing documentation early in the implementation, second identifying physician champions and engaging them and reporting that up through the quality structure of the organization, having a clear timeline for implementation and including having the physician champions in each group sign off on outputs to make sure that they have an appropriate level of quality assurance and we recommend multi-modal entry techniques that was mentioned by Trent. So, structured narrative with release valves like transcription and scanning when providers fall behind and that promotes adoption.

For maintenance we started with a set of what we call canonical templates at the enterprise level. We ensured a standard naming convention for the notes and report titles, this enables search within the record to find the things that you need rather than having to hunt and peck, and we recommend using existing standards for this like HL7, LOINC, document ontology, naming conventions.

In terms of policies that we've implemented, before we went live we had a scan policy. We worked in concert with compliance to develop these canonical templates to strike the right balance of copy forward and previous history utilization so that we were in compliance; these are forms of what we call electronic documentation support tools in our research.

We developed and maintained a content library, a mapping of all content elements to the best of our ability using structured terminology. We conducted parallel research on the attributes of document quality which resulted in our physician document quality instrument and that has formed the basis of our documentation policies and procedures which are now baked into our annual billing attending compliance training and they have to sign off on it in some of the departments every two years when they recertify with their departments.

We were particularly challenged with specialty domains where we needed extra security groupings and we had policies and procedures to put that together. Examples of this include behavioral health, pediatric endocrine like for transgendered patients and short stature patients, family-planning and child abuse documentation.

So in terms of question four, technology to streamline the process, though we think it may be an inapt metaphor, we think of copy, paste and cloning as a symptom of an underlying disease, that disease being inefficient workflow and lack of cognitive support for the providers when they're documenting in an EHR. So, it's desirable to focus on primary prevention.

So, on the primary prevention side, research is needed to identify next-generation documentation that promotes synthesis.

MacKenzie Robertson – Office of the National Coordinator
Keith, your five minutes are up, we'll have to move onto the next panelist.

Peter D. Stetson, MD, MA – Chief Medical Officer & Chief Informatics Officer - ColumbiaDoctors
Okay.

MacKenzie Robertson – Office of the National Coordinator
I believe your remarks are part of the meeting materials so that people can feel free to read it there.

Peter D. Stetson, MD, MA – Chief Medical Officer & Chief Informatics Officer - ColumbiaDoctors
Okay.

MacKenzie Robertson – Office of the National Coordinator
Thanks. Our next panelist is Charles Kennedy.

Charles Kennedy, MD, MBA – Chief Executive Officer – Accountable Care Solutions – Aetna
Good morning everyone, Charles Kennedy, CEO of Aetna's Accountable Care Solutions Group. We formed ACOs with 19 organizations across the nation. We have over 70 patient centered medical homes or embedded care management types of relationships. I'm going to speak from that experience in regards to clinical documentation and its value for ACOs.

Any use of technology must contemplate the underlying business and clinical purpose and one of the challenges we face in an emerging ACO world is that the underlying business and clinical processes are evolving. If you look at the past of a fee-for-service environment the focus was on the individual patient visit, in an ACO world we have a focus on the population. In the fee-for-service world the patient visit itself was the point of accountability, we've now changed that point of accountability to the population as a whole.

And then finally there was a great focus on episode management, now the focus in an ACO world is much more on episode prevention. The implications for clinical documentation in HIT with these changing business and clinical objectives are profound.

The emphasis on documentation and its purposes for payment, self reminders and other purposes have to evolve to one that is data centric and much more focused on patient management wherever that patient care may occur in the office or at home. Our documentation centric approach is retrospective by definition. In an ACO world approaches that can support prospective insights take center stage.

And then finally in the fee-for-service world there was a great focus on the technology on the site of care not the patient home and not the patient activity. In an ACO world there must be a greater focus on supporting the patient both in the home as well as the activities and the behaviors that may drive chronic disease.

These ACO requirements create challenges for documentation and challenges for HIT in its current form. When we typically form an ACO we will actually launch commercial products within…using that ACO as a foundation for the health plan product and we typically seek to create a 10% or more reduction in the cost of care. This is usually made up through discounts as well as efficiency gains, i.e., utilization reductions.

The problem in our experience is that clinical documentation has little to no value to ACOs in trying to achieve this objective. At best we are able to prescribe no more than a 1% efficiency gain due to the use of health information technology and improved documentation and this is typically based upon reduction in duplicate test ordering due to the greater availability of data and sharing that data.

In terms of technology passed forward, again speaking from an ACO perspective, we think it's very important to deemphasize the need to clinically document records as much as they are currently done in EMRs and begin to create a greater focus on dashboards. Data enabled dashboards that provide analytics at both an individual patient and population basis.

Two, the data within clinical documentation is incomplete. We need to integrate patient sourced information much more effectively as well as financial information so that there is an appropriate substrate for analytics, algorithms and other interventions that can be cognizant of quality and cost and in-home needs.

Third, our current data architecture creates multiple records that are all inconsistent. We need to create a single record that is shared across the ACO or any care team, not multiple records that message information from one to another that result in inconsistent information and don't form an effective basis for algorithms, record viewing, effectiveness research and other secondary uses of the data.

Next, we need to reduce the burden of documentation for productivity purposes if no other and replace it with an automated dashboard and automated data collection and analysis techniques which seek to eliminate data fragmentation and create a comprehensive view of the patient.

Finally, there should be an increased focus on being able to parse HL7 messages for discrete data. The CCD standard is good and we encounter organizations that are seeking to parse the CCD standard, however, the CCD was never contemplated to be a…the use case was never contemplated being a source for information to be fed for clinical rules and analytics. We should consider expanding that standard.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
George Hripcsak from Columbia.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Thanks, George Hripcsak, Columbia University, New York Presbyterian Co-Author David Vaudry; I was asked to talk about innovation and natural language processing.

So, the goal, one support the care process. Two, be efficient to authors so that people can do this and three support secondary use in that order. I characterized the systems by the mode of entry, narrative systems being flexible and deep you can describe the patient but subject to problems like copy and paste, you don't remind the user of what needs to be there and the output is unstructured.

So along comes natural language processing invented several decades ago which takes the narrative input, produces a structured output with coded elements that can be used for research. We showed 20 years ago it can be as accurate as internist and radiologist doing the coding. We've used it to improve care in our medical center directly and to uncover adverse events where we tripled the rate of discovering the events over previous chart review with zero false positive events coming out of it.

So there's an explosion of interest in vendor community and academia in it. I would say the state now is that you can achieve good performance with minimal effort and great performance if you put a lot of training into the system for that specific question.

Second modality structure data entry forms, check boxes, menus it reminds you what needs to be in there, it's structured, but it's difficult to use. A recent study of the Department of Defense ALTA system highlighted some of those difficulties. So, the state-of-the-art is semi-structured data input with narrative sections where you can put in the deep part and smaller number of structured high priority elements that you want to make sure you get right.

So, I'm going to just list seven innovative directions that I see in documentation. Number one, using knowledge engineering to steer the structured input so its tailored to the patient. A nice example of that is the Partner's Smart Forms Project that combines it with decision support. The problem with it is that achieves limited use it's apparently difficult that the users don't, you know, vote with their fingertips.

Second direction, narrative input plus natural language processing to steer the input, so in other words, make the interface a little bit easier as if it were structured but you have the authors speak. The Structured Narrative Project is an example of that but that's still research.

The third direction, use the technologies of like say the IBM Watson Project to do data mining on the previous body of notes to steer this person writing the next note. Again, that's still research number one and number two, frankly we don't always want it to be how the old notes look to be, how the new notes look.

Direction number four, iterative improvement in the note authoring process, that is don't worry about reminding people, don't worry about secondary use, let's just get the notes in. An example of that is the Smart Paced Project also known as Quick Notes. The good news there is that is achieves complete adoption it's actually a hidden option that you have to know the keystroke yet it achieves 100% use and it's been spread around the NIH clinical center. But the downside is we're not achieving improvements in quality or secondary use.

Fifth direction, Marc Overhage suggests that we don't need documentation we need a video recording of the session with a small number of structured elements that we really need and the rest you can go back to the video recording.

Sixth direction, recognizing that we're really trying to communicate it's a collaborative care process and use Wikipedia and Google Docs as models for how future documentation should be done and kind of change how we view this.

And the seventh direction patient engagement, first patients reading the notes as we'll hear about later will alter the process and having them add to the documentation will certainly alter it.

So, in summary I think for the Meaningful Use Workgroups or for the two Workgroups, first no single approach should be mandated because we don't know how to do it right and we're still doing research in the area.

Number two, the top down let's improve quality through documentation approach has largely failed, it kind of works, it works in the lab but when you put in production it just doesn't get adopted. The bottom-up approach of improving the experience has worked but it hasn't improved care and it hasn't improved the reusability of the data.

So, therefore my third observation is that more…I'm sorry to say the cliché more research is needed both in industry and in academia. But, my important point is that we not mandate a single approach to this from the top down at this point in time. Thank you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Good. David Bates from Partners?

David W. Bates, MD, MSc – Senior Vice President for Quality and Safety – Brigham & Women's Hospital & Partners

David Bates I'm the Chief Quality Officer at Brigham and Women's Healthcare. And so I'll start with why focus on documentation. First of all it takes a lot of time, roughly 10% of physician time in the inpatient setting, 20% of time in the outpatient setting, also substantial time for nursing and for others. Documentation has multiple uses but those who do the documentation are typically not focused on the secondary uses.

I would submit, as several people have suggested, that how you document is probably much less important than whether or not it's electronic, if it's not electronic it's not available. If you do document electronically there are three main approaches dictating free text or structured, none of these are clearly superior to the others and I'll give you some research about that. Some of the tools to extract knowledge like natural knowledge processing are so good today I would submit that they could almost be seamless and it is clear that documentation is closely linked with measuring quality.

Historically we've measured quality mostly through chart review. In the future we'd like to do it as a byproduct of care getting back to Marc Overhage's suggestion about collecting a few elements in a structured manner. The documentation paradox is that there's lots of information that's locked away in electronic text or even worse on paper but structuring could have major downstream benefits especially in terms of clinical decision support.

The issue is that if you structure too much, as George just pointed out, people will not use the documentation. So there are several options. You can structure anyway, you can structure a bit but allow a lot of flexibility or you can use techniques like natural language processing to understand some of the key issues.

We've done a series of studies in this area which I'd like to take you through, we looked in our population study 1088 physicians, 85% of physicians used just one method, 49% used templates, 22% dictated, 13% used a free-form approach and 16% used multiple approaches. There were clear differences between primary care providers and specialists with primary care providers with 60% of them using templates, specialists for specialists in contrast 38% dictated. Most physicians were satisfied regardless of which approach they used.

In another study, which is not yet published, we evaluated the relationship between documentation method and quality. We evaluated 112 physicians, 71 primary care providers and 41 specialists seeing patients with two important chronic diseases, diabetes and coronary disease. For general internists the overall quality was no different whether providers used a template, free-form or dictation and there was also no correlation with their note quality or Pete Stetson's PDQI score.

For specialists in contrast the quality stores were higher for those using templates or free-form versus dictating and that was highly significant. And their note quality score was also slightly higher on the PDQI score.

Another area which is important in the quality domain is problem list and this doesn't relate directly to notes but it's an important part of documentation and this slide just shows that there's enormous variability by type of problem in terms of completeness of the problem list ranging from around 80% for breast cancer to less than 10% for renal disease.

If you use approaches to identify problems and to suggest that provider's document, Adam Wright in our group, to show that there's a very major benefit. This work was published in JAMIA in 2012. In 2010, Gordon Schiff and I published a framework, about 15…in which we brought forward 15 ways in which electronic clinical documentation could be used to decrease error rates and this ranged from providing access to information to providing access to a variety of information sources and other areas.

I think the key policy issues are that having notes documented electronically is valuable for a plethora of purposes so it's really good to get to that. That suggests requiring that they be made available electronically but not to specify how. I would submit we're still learning about the best ways to document and the relationships between modes of documentation and quality are still uncertain require further research.

There are certain data elements that it will be willing valuable to require and one direction to go is to require those and I would close by suggesting that we desperately need rationalization of the payment rules because these have driven documentation in very irrational directions. Thank you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you, David. John Anderson from Duke?

John B. Anderson, MD, MPH – Chief Medical Officer – Duke University School of Medicine
Good morning. My name is John Anderson I'm the Chief Medical Officer and Practicing Family Physician from Duke. I work as CMO for a network of primary care physicians and I would like to talk to the committee today primarily based on our experience of implementing voice recognition technology as a strategy for our clinical documentation. We, as a network, several years ago implemented voice to move us away from paper and become completely electronic in our documentation so we've had some experience with that tool.

I want to highlight several areas that we've found helpful as part of this process. I think it's important as the adoption of electronic health records has increased, we have seen certainly this explosion of templated note bloat that fails to really capture the true essence of what's going on with the patient and the templated format of electronic health records often fails to give the clinician an opportunity to appropriately document his medical decision-making.

So voice-recognition gives you the benefit, has given us the benefit to both capture the patient's story and to capture the medical decision-making in a free text format that avoids some of the problems with templated notes. We've also found that voice recognition certainly will gain us some efficiency and cost reduction.

The Duke Health System will implement voice-recognition across the entire enterprise with our recent implementation of a system-wide record and will save about $4.5 million on an annual basis in our elimination of transcription costs. As several of the panel members have mentioned, this also provides us a rich source of data.

One of the challenges when you move away from templates to more free text documentation is capturing that data and certainly the adoption of natural language processing technologies will allow us to do that.

I think several of the challenges that we ought to highlight as part of this conversation is that the technology and the user interface with this system are not insignificant that there have been significant challenges with implementing the cloud-based architecture and having the voice recognition become user friendly, it is not a technology that works for everyone. It has improved dramatically over the past five years but the technological considerations are not insignificant.

It is still important to help to develop systems to guide clinicians to capture the appropriate and useful information, and again the more structure we can bring to that process I think the better we will be able to use this technology capturing data is certainly going to be critical for both primary and secondary uses, particularly in the population management arena and that's where I believe the natural language processing technology is going to be useful.

The billing and compliance issues are not insignificant and, as Dr. Bates has mentioned, that tends to drive a significant amount of our clinicians behavior in completing their notes. There is tremendous variability in how clinicians do that and their interpretation of what those rules are. Some clarification and standardization around that I think will go a long way to improving the work life of our clinicians.

The other piece that I think is critical is the trade-off on having physicians use voice recognition that it also requires them to edit their own notes. We have used a combination of both front end and back end documentation where we have transcriptionists that are able to edit those notes. We have done away with that system now where the editing primarily is done by the clinician users, that has consequences of its own and it highlights the need to both allow for a combination of structured and non-structured data entry and also spread the work of data capture among the clinical team so that you're using staff members to collect more of the structured data elements and allow the providers to use voice recognition in documenting the history of present illness and assessment and plan to capture the true nature of the interaction with that patient. Thank you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thanks, John. Hal Baker from WellSpan Health?

R. Hal Baker, MD – Vice President & Chief Medical Officer – WellSpan Health
WellSpan Health is an integrated health system with heavy EHR implementation. We have 9000 employees. I'm the Vice President and Chief Information Officer there. I'm also the primary care physician of 253 individuals in that community. At WellSpan as we look for the healthcare economy to shift from volume to value we see a chance to thoroughly revise how and why we document in the patient record as well as clearly set expectations for each other in completing this documentation.

Originally, the medical record was a log of the patient's condition. It was a place where clinicians wrote to each other but the demands of fee-for-service coding requirements have moved the focus of progress notes and office notes towards getting paid at the expense of communicating. Notes are too often rich with data but poor in useful information. EHR documentation has unfortunately amplified this problem often facilitating the speedy creation of expansive notes to satisfy coding requirements rigorously but fail to tell the patient's story.

For example, the completeness of the review of system is critical in coding with a significant payment differences between 9 and 10 systems reviewed, but I have yet to find a clinician colleague who thoroughly reads this section in the notes. Most admit they never read it at all. If it isn't worth reading is it worth writing down?

As payment reform moves attention from what was done to what was accomplished we have an opportunity to reengineer office notes and progress notes to support care and eliminate parts of the current documentation that don't add clinical value.

As WellSpan has contemplated bundle payments we recognize the notes will increasingly need to serve as a handoff during transitions of care. We will need a more comprehensive approach where we focus less on taking care of the diseases people have and focus more on taking care of the people who have the diseases.

For patients with diabetes a foot exam may need to be recorded as structured data, but the impact of the disease on our life will best be told through narrative text. The systems who use office notes and put them on the portable will likely raise expectations for others making sharing notes expected. This will reduce the risk of fraud and misrepresentation knowing that the patient will be able to read the note after care encourages complete accuracy.

In the office where I practice we have used voice recognition to complete much of the note real-time by commonly dictating in front of the patient where the patient can immediately correct any errors we make. For many years we have printed these concurrently authored notes for the patient to take home with them at the end of the visit, we ask them help us make sure your record is correct. We have experienced very positive patient results and provider results very similar to the OpenNotes Project.

Through our portal WellSpan automatically releases lab and imaging studies to patients despite all the theoretical worries clinicians voiced at giving patient's access to their record, each time we've added transparency it has been a non-event for providers and a patient satisfier.

In my conversations at WellSpan and with colleagues around the industry even those most hesitant to permit their patients to access information admit that they would want it for themselves and their family.

I hope you will continue pushing for patient access to health information and perhaps even encourage appropriate release of notes for compliance and engagement. Documentation accuracy and efficiency could be improved by eliminating the need to document what the system can time and date stamp. Give providers credit for reviewing labs if they open them up during the visit. Don't make us state that we've reviewed the CT scan if we have scrolled through it for 60 seconds during the visit.

Let EHRs passively catalog, aggregate and present what was opened, reviewed or added during that entire episode of care from the patient's pre-work on the portal the night before to the annotations made in the lab results five days later. Then we can focus on writing notes meant to be read and not audited.

Along with efficiency we should focus on the effectiveness of documentation ensuring high quality care, because we trust the explicit and implicit meaning of word choice narrative text reveals what a clinician is thinking much more effectively than a quickly completed pre-populated form. It also reduces the temptation to revise the patient's story to fit the structure of the EHR.

Thank you for the opportunity to share some thoughts on clinical documentation. I truly believe we have an opportunity to make things better for ourselves and our patients.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you, Hal. Captain Michael Weiner is it?

Captain Michael S. Weiner – Chief Medical Officer - Defense Health Information Management System (DHIMS) – United States Navy
So, I have really nothing to add to what was already said I think. I will concur and just share with everyone that I'm currently the Director of Clinical Informatics for the VA, DoD, Interagency Program Office where we are leveraging our three decades of an electronic health record into a next generation platform. So, I'll just share with the group and the taxpayers and you have all been great partners to help us get to this point that the least we can do is let you know what we've learned along the way.

The DoD services 9.8 million beneficiaries, the men and women who wear the cloth of their nation and those that have worn the cloth and their families. We see about 148,000 outpatients a day and we have been through multiple iterations of how best to document their care. We are driven by quality care alone. So, I say this in a pure manner our goal was to document for best quality care.

We started out with a blinking dot years ago and we would document like a Word document and at the end of it we would code our own note and we would have an E/M code and a CPT code. That turned out the data available on that was minimal for population health and point of care analytics. So, we swung all the way the other side and we created a full structured note. This is Post-Gulf War One; we wanted to be able to pull every single symptom that had been recorded.

So it turns out that physicians were not trained in a structured click templated way. The researchers were in love with it, our providers rebelled. It was the number one reason why providers stated they left the military. So, we swung back to the middle and that's what I want to share with everyone.

So, we have instituted voice recognition across our enterprises in the Army, Navy and the Air Force to help get that sort of free feel text that we can communicate with one another, we can communicate with ourselves the next time we see the patient and we know what we were thinking and we want to share what we want to do for that patient's best care. But there's also an incredible opportunity now that we're in electronic format, we've been in electronic format for 30 years. We look forward to everyone joining us now that we have the data electronically that we can mine that data.

In 2013, mining in just a free endless text note is still a challenge because a cold is not a cold in every, you know, I'm cold, the patient's cold is not completely understandable in current technology. However, being able to voice dictate helps with an efficient note that is readable by everyone.

So we have created a mix of structured, so templated notes with clinical practice guidelines based on best care across the enterprise that drive our providers to deliver standard quality care with their own ability with unique necessities for that particular patient in that particular situation. We are seeing patients, you know, on the front lines and we're seeing them back in garrison and, you know, that needs to be communicated depending on care and where it's being delivered.

So, our future state really is best captured by one of our Chief Medical Information Officers out in Germany who said he was facing a minor insurrection years ago within the European Command with the Army. The physicians were feeling like they were highly trained data-entry clerks. He said we had a rebellion. So doctors had to stay late and come in on weekends to finish their notes.

So we invested an incredible amount of time and resource into training these physicians and we didn't want to lose them. So, the military got serious about voice recognition, templating and clinical practice guidelines saving millions of dollars in transcription fees and helping a young empowered clinical force stay active.

In addition to that, we empowered the patient in those visits because as it was pointed out earlier we would dictate, voice dictate during the visit and the patient would say "no, no it's right leg not left leg" right so they're part of the collaborative event.

So our hope is to take that, you know, our decades of electronic documentation and the next generation for us is a collaborative environment. A collaborative environment with the nursing staff, with the physician staff, and with an empowered patient and we believe utilizing the new technologies, voice recognition, and templating clinical practice guidelines we can create the perfect clinical note for best care. Thank you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Well, thanks to the panel. It really is a tribute to how much information can be delivered a five minutes because I thought it was very rich, it was diverse yet it was very concise. So, it was an excellent job. Thank you. Let me open it up to the group for questions. Christine?

Christine Bechtel, MA – Vice President – National Partnership for Women & Families
Good morning. I'm Christine Bechtel and I represent patients and families with the National Partnership for Women and Families, so that is to say that I'm not a doctor and also not a tech person necessarily, as I like to say there's a reason why I'm on the Policy Committee and not the Standards Committee.

So, I think the common theme that I heard is the one that is the most challenging which is really what's the purpose of notes and David I thought your studies were really helpful and if I heard you correctly there wasn't either any or a great correlation between the way you document and the quality of care you provide or the quality of the note and the quality of care. And I'm not sure that that's the case for you, Michael, or not at the VA, but we then have this problem with billing, right, and auditing.

And Hal what you said was very compelling to me about not losing the patient's story. So I'm grateful that many of you address the idea of ensuring that patients are engaged and able to not only hear the documentation process but then go on and access that later.

But it gets me back to this core question of as we think about public policy and as we think about a program that if we have a policy lever could create or help to foster more advanced technology in the field we think…at least I need to understand the lens through which we should view notes.

So, I'm wondering if it's possible to think about what the predominant lens is. So, for example, as we know…I mean, I think it's well out of scope for this committee to change the billing system in the United States and I think it's politically not probably feasible anytime in the near future. So, and by that time of course we'll have computers connected to the brain that will just put your note in there.

But, anyway, my question is should we think about notes, shall we just say, okay look we have to deal with the fact that there's a billing construct here and we need to think about, you know, documentation in that construct and then separately think about the functionalities that need to be developed and supported or advanced to drive better quality and to drive more patient centered and whole person care. I mean, we could achieve those things not in the notes field, right?

So, I'm trying to think through, well how shall we predominantly think about this at this point in time knowing our role in helping to foster advances in technology and try to get some economy to scale so that not everybody has to invest over and over again in trying to find, you know, the next great way to document.

Captain Michael S. Weiner – Chief Medical Officer - Defense Health Information Management System (DHIMS) – United States Navy
Christine, I'll just jump in to start the conversation and that is, so again we still code our notes it's all automatically done based on our structured text and we use medicine terms throughout our note. So, that rolls back in to the backend for the coding, so, it's removed the provider from that. So, the provider is completely focused on care and care that's truly delivered, right? So not…I mean, if you did it you documented it and then you get your coding. We use the coding primarily because we need to know how much work we're doing in a certain location, right; it's a workforce resource planning tool.

David W. Bates, MD, MSc – Senior Vice President for Quality and Safety – Brigham & Women's Hospital & Partners
Yeah, I think the mainland should be clinical care as Farzad suggested. There should be a little bit of quality. There are a few things that you can get at only during interactions; examples would be symptoms from a patient with CHF although perhaps we could get that through directly from the patient in the future. And there are some physical findings that they're just really important that you have to get during the encounter.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Well, let's see, I think I've got Jacob first?

Jacob Reider, MD – Acting Chief Medical Officer – Office of the National Coordinator for Health Information Technology
I'm interested in what and this is for anybody who cares to attempt to answer, interested in policies or functionalities of systems that are helping you deal with the unfinished note problem and how much of a problem have you seen the in that domain?

M
We routinely track unfinished notes and realized that an unfinished note is a non-billable note. We have had providers who have suddenly found themselves on four days of vacation completing notes for the last six months that happened once and now nobody gets past a week without their office manager checking it. We never had that kind of ability to audit it before we had a system.

John B. Anderson, MD, MPH – Chief Medical Officer – Duke University School of Medicine
Our current policy at Duke is that notes are to be completed within 72 hours and I feel confident that we've been able to show the majority of people are getting that done and meeting that target. There are like less…you know, out of my 160 some providers in the primary care network there are one or two that are not getting it done and they were the same people who had trouble in our old system.

So, I had this kind of wishful thinking, that as Dave and I were talking about, you know, you implement EPIC and it's going to solve world hunger but the same people that had trouble before still have trouble and it requires…it does require us auditing and managing that.

M
…EHR this was not trackable before and now it is, so that's key and I just wanted to address a previous question about, you know, how do we get efficiencies? The teaching that I grew up with is if you don't write it down it didn't happen. That's old paper thinking and in the concept of an EHR I think with behavior logging, a lot of the stuff that we need for billing can be an epiphenomenon of what behaviors are actually being done in the EHR.

So, for example, review of labs and whatnot, you don't have to put all that stuff into your note if you're clicking on them and looking at them and stuff. So that's the kind of stuff that I think we need to think about quantifying the physician or the provider behavior in the EHR that is now possible just like tracking, you know, whether they sign their notes is essentially a behavior. So I think those two issues are related.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Charles?

Charles Kennedy, MD, MBA – Chief Executive Officer – Accountable Care Solutions – Aetna
Yeah, Paul, I also wanted to go back to the previous question Christine raised, you mentioned the billing component and the health plan representative let me offer a comment. In general health plans see when an electronic method is deployed billing go up. In other words things are coded generally at a higher level. There is an activity between health plans and delivery systems I'll call managed warfare which is each one is trying to optimize to their own business objective.

So you have on the delivery system side technologies which seek to maximize revenue and on the health plan side you have all kinds of technologies seeking to undo all of that. This is a perfect lose/lose and it would seem to me that if we could take the billing component off the table for the purposes here you'd actually have a willing component and a partner in the health plans, I don't know how to structure that, but this is a perfect example of complete waste in the system the drives no value for anybody.

Christine Bechtel, MA – Vice President – National Partnership for Women & Families
Paul, can I follow up on that, briefly?

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Sure.

Christine Bechtel, MA – Vice President – National Partnership for Women & Families
And just to say that's exactly what I was driving at and I don't know if it's worth it to take it off the table or if it can be kind of structurally separated somehow in the record so that, you know, as Michael talked about we can really focus on care and you can imagine when I go and talk to physicians across the country about what patients and families want out of care they routinely talk about how difficult, you know, just the documentation process is and I think it's driven in large measure by the dynamic that you're describing. So, I think that idea of how to do we move that to its appropriate place and focus on the record whether that's a realistic concept or not that's really what I'm driving at. So I think ideas are really welcome there.

Charles Kennedy, MD, MBA – Chief Executive Officer – Accountable Care Solutions – Aetna
Yeah, we need to perhaps broaden the…because it's going to be beyond the purview of the Policy Committee, but my last comment would be you'd have very willing participants...they'd love to do something like that.

Christine Bechtel, MA – Vice President – National Partnership for Women & Families
Okay.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
So, I was in line, next in line. This was really very, very helpful and very interesting. So, what I heard was, one, clinical documentation is important, it's important to the care, it's important to the documentation. Two, that you've all recommended that we not prescribe in any real sense what should be done. Interestingly enough from the AMIA paper we might be able potentially to prescribe what shouldn't be done as a guidance, that voice recognition is very efficient, NLP has really come along and I thought Hal's points about sharing with the patient is a very, very good feedback mechanism that could both improve the quality importance of the note and its accuracy.

So I'm wondering this proposition would be to try to combine all of those and does it make sense, it's almost like what Michael talked about, it's the combination, voice-recognition for the story that's only captured that way, NLP to extract information and some templates, you know, guideline directed templates to help get the quality population reporting coded elements and show it all to the patient. Is that the Holy Grail solution?

Captain Michael S. Weiner – Chief Medical Officer - Defense Health Information Management System (DHIMS) – United States Navy
Our dream in the middle of that would be able to do all of that once.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Right.

Captain Michael S. Weiner – Chief Medical Officer - Defense Health Information Management System (DHIMS) – United States Navy
So, if you could just dictate and it would then code out of that and, you know, know the context of the statement than we wouldn't have to use, you know, try to blend two systems and if we believe we could be even more efficient and spend more time with the patient and include the patient in more of that.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
And the good news from your statement is you've tried all the other possibilities.

M
I would add that most systems are designed around the author and are relatively insensitive to the reader. We have put the voice recognition section, the assessment and plan, the history of present of illness up at the top of the note, review systems and stuff nobody ever reads is at the bottom. So, you don't have to scroll to the bottom and focusing on the efficiency of the reader.

Patients getting a copy of the note even with dragon mistakes in it, it's still so much better than not knowing what's going on. You get much less questions and the last point I'd make is one of the problems with the notes is it's office-based and when we really think about care we're thinking about diabetes care being one visit a year and 10 to 20 virtual contacts in between. If we are stopped being paid only when we have white's of the eyes it gives us great opportunity.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Okay. Liz?

Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-BC – Vice President – Tenet Healthcare Corporation
Thank you, the panels done a remarkable job of talking about innovative approaches and really looking at efficacies and that sort of thing, but building on what Paul said, you know, beyond policy we have to talk about how do we time this and where do we start. Many of you have really exemplified an advanced approach to documentation but there are far more people that have done very little and have dollar limitations. So, if you were sitting in that chair and were looking and advising us of how do we start, keeping in line obviously the patient as well, where would you start? How would you advise us how to ramp up?

Captain Michael S. Weiner – Chief Medical Officer - Defense Health Information Management System (DHIMS) – United States Navy
Having been through this in multiple iterations, I'll share, I apologize, I'm not sure who said it down at the end, you need a clinical champion, you need workflow clinical flow training and you need a plethora of different documentation options to the clinical community. So it just sort of depends. So, I think you've heard those, you've structured, you've heard voice, and you know, some people just type really fast and you can bring all of that together but it needs a one-on-one training, workflow training and that's the cycle that we've learned and, you know, we've maximized and been able to build efficiencies out of that.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
I think at this point you can do pilots and demonstrations but not try to engineer it because we're not really there that we can engineer it yet.

Elizabeth Johnson, MS, FHIMMS, CPHIMS, RN-BC – Vice President – Tenet Healthcare Corporation
Back to your comment about research.

M
Continue to nudge us towards transparency, the lab results, the problem list, the medication list, when you put your medication list and problem list out there you have to keep them up-to-date otherwise you're showing you're not a responsible doctor. Transparency is a great responsibility.

David W. Bates, MD, MSc – Senior Vice President for Quality and Safety – Brigham & Women's Hospital & Partners
I would say make it easy and get people to make it electronic that's the hardest first step. Use tools like MAPLE to help people with their problem list that helps people document the important problems, all that is open source it could be used in any vendor record and then I'd share it with the patient.

M
Also, have clear business and clinical objectives as you move forward. One of the things we found very helpful is to identify a particular population of patients where the economics work such that the use of the technology and care management program results in some kind of a financial win, I'm talking about Medicare Advantage, those kinds of…MMSP, those kinds of initiatives and that really helps because it helps the physicians understand why you're doing it and it's not just, you know, for better documentation, we're trying to achieve a business and/or clinical objective.

John B. Anderson, MD, MPH – Chief Medical Officer – Duke University School of Medicine
Also continue to support local improvement coordinators and networks within public agencies that put improvement coordinators out in the field so that you're working with local practices to both implement electronic health record technology and then to teach them how to do continuous improvement, how to use these tools to get population management strategies in place and I think those programs have been very effective. I mean, certainly more and more primary care physicians are moving into employed situations where they may have access to some of that but for those that are not I think local efforts along those lines are very helpful.

M
A couple of concrete things for vendors to consider potentially in next stages are the ability to disable some of the functions that promote copy, paste, and copy forward. In my experience I've found, and that maybe something to consider from a certification stand-point, there are times when it's very valuable and I would actually say necessary for spanning complex information that needs to be moved from visit to visit for the provider, like a complex breast cancer patient who, you know, you may not have seen for a while and you don't want to forget their staging and their toxicities to chemo and that stuff needs to move from visit to visit. But, as it stands today some of the vendor solutions actually you can't disable some of the functions like copy forward, you can't turn it off. So that is one concrete thing for this group to consider.

Another is where structure is applied that needs to be mapable to standard terminologies and if vendors…many vendors understand this I think already, but as, you know, the bar is low now, but as we look forward, trying to get data back out and have that be mapped to a common terminology is very important and that's important to the client sites as well.

We have 600 templates and 1400 note forms that we manage in our content library and we struggle to maintain mappings of those two standard concepts that we can then to map to data elements, we can get back out and inference against either for quality or even, dare I say, decision support going forward. So, some move in that direction is very important. I think the vendors are already starting to figure that out but if there's a way to promote that in some way going forward I think that would be important.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Are there any other panelists that want to comment on the desirability of disabling copy forward?

M
I think we've got to get away from the idea that bad behavior needs to be prevented technologically. We are increasingly looking at this as a professional aspect. A scalpel is an equally dangerous implement as an EHR, it can be used well it can be used badly. We have a use in the Standards Committee and we're really approaching this more as a professional, now it's hard, we don't have it yet but a bad note is not a technology problem and so we now go talk to the person who wrote the bad note.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Great.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Paul, I think you may get unintended consequences number one. I mean, what I would like to happen is that when you copy and paste something forward it doesn't count as part of your note, it won't count towards billing, it won't count towards this, so you only do it if it's really going to help the patient and then you'll probably do a good job of copying it forward and changing it the way you want because that's the only reason to do it. It's when you're copying because you think it can like make your life easier and have some billing side effect, that's what we want.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Good. Don?

Donald W. Rucker, MD, MS, MBA – Vice President & Chief Medical Officer - Siemens Corporation
This is for Dr. Anderson, so, Dr. Anderson had a question…I didn't hear…did you stop using the transcriptionist to sort of do the editing or are you still doing that, that was just a specific question and then in that same spirit, since you have what sounds like a fairly free text approach to your note, I was curious how you saw…and you made some comments about team collaboration, I was curious how you had…what your thoughts were on free text from multiple different types of providers sitting in the same record, what you were thinking there and doing? Thank you.

John B. Anderson, MD, MPH – Chief Medical Officer – Duke University School of Medicine
So we have actually stopped the back end transcription and that was primarily a reflection of we did change vendors and I think have got improved technology plus our current system really didn't allow for that. So that system has gone away and I think I would characterize our current system as more a combination of free text and structured data elements. So we use support staff to gather information prior to the visit to populate health maintenance and chronic disease, kind of structured elements of the note in the primary care arena.

Certainly in the specialty arena there is a greater need for more free text documentation in a referral place institution like Duke that they're doing more free text for that, but I think it's fair to say that the majority of providers are using that free text in their history of present illness and assessment and plan, and the other elements of the note become more structured.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you. Joe?

Joe Heyman, MD – Whittier IPA
Any of you can comment on this. Dr. Stetson you mentioned that people were trained that if it isn't in the note it didn't happen, but I have to tell you that it isn't or it seems to me that it isn't actually the training, my training was such a long time ago I can't even remember what they told me had to be in the note. However, any doctor who has been audited and any doctor who has had to give a deposition learns very, very quickly that if it isn't in the note it didn't happen and to change that culture you need to do more than change the training it seems to me.

M
I agree with that completely.

Joe Heyman, MD – Whittier IPA
The other thing that was very interesting was Dr. Kennedy's mention of the tension between large health systems and insurance companies, because I have noticed that as a physician when I refer somebody to a local specialist I get a relatively brief note back that's very easy to read that explains to me exactly what is going to happen.

When I refer the person to Partners Healthcare System I get an 8 page note back with comments…I mean, every single one of them at the end of the note for example says, more than 50% of this visit was used for consultation which I don't even know why they…I mean, it's obviously for billing I guess, but I wouldn't even know why I would put that in my note, but every single note comes back that way.

And the last thing I just wanted to briefly mention was before Meaningful Use every patient that came to see me would receive a copy of the actual visit note that I gave them, that I did myself when I was actually typing the note, but because of Meaningful Use and the requirement to give the patient a summary of their health record the EMR companies have made…so you give something that looks like a CCD to the patient instead of the actual note and I still believe that that actual note is much more valuable for all the reasons that you guys have suggested about, you know, making corrections. So, it's been frustrating to me. So, I don't know if anybody wants to comment on that or you just…I'll thank you for giving me the chance to ventilate.

Peter D. Stetson, MD, MA – Chief Medical Officer & Chief Informatics Officer – ColumbiaDoctors
Yes, on the issue of specialty consult and referrals and that note, as much emphasis on entry that we've talked about should focus on output and readability in my opinion, and it's particularly true for that, you know, building that professional bridge that you have with your referral base if you're a consultant or if you refer to your colleagues how the note actually renders matters to that professional relationship and that's something I hear from my specialists all the time and we've eroded it and folks will say "yeah, you know, I get a note from ColumbiaDoctors it's a little bloated and it's hard for me to find the really salient take homes that the consultant is recommending that I do for my patient." So, I want to re-articulate what you

said in terms of the importance of focusing as much of readability attractiveness of notes as we do on the data entry side of it and getting structured stuff back out.

M
…consider in place of the CCD providing access to the note as an alternative way of communicating with the patient and that might help the OpenNotes Project continue and not duplicate.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Good, thank you, Amy?

Amy Zimmerman – State HIT Coordinator – Rhode Island Department of Health & Human Services
Yeah, this kind of goes along with the conversation that was just started and so I really had two questions one is, you know, I think from the panel before and from everything you're saying I'm sort of sitting here now saying, you know, is it possible for efficiency purposes to collect once and really use in multiple ways for many times and I think that's the heart of what we're here asking about, but I think I'm more confused now than before I walked in the room in terms of my philosophy and theory of how able that is to be used.

And from a, you know, a quality versus care, versus population health perspective, you know, I'm always promoting let's try to get it well, get it right, get it once and used many times. So, I'd like, you know, any comments on that would be helpful.

The other thing is with, you know, again with…and maybe the panel later will address this more on transitions of care if we're using summaries of care or, you know, right now the CCD or whatever we evolve to for summaries of care, how…you know, I've always…my understanding is if the information isn't in the right field in the right place it's not going to get pulled out and then put into that summary of care and moved.

So with a lot of the tech space and voice recognition I understand some of that is getting put into structured fields, but what is the challenge really around trying to then…not just for the patient but for provider to provide any transition or summary of care, how are we going to be able to evolve to a point where we can get a good transition of care document, whatever that may be, that reflects the notes and the intent and the thinking. I mean, is there a feasible possible way or any comments you can make towards that? Thank you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
David?

David W. Bates, MD, MSc – Senior Vice President for Quality and Safety – Brigham & Women's Hospital & Partners
I'll take the first part of that which is I would say yes it's possible to generate it once and use it multiple times but I think most of the information should be coming from other places in the notes and we should…as has been alluded to several times we shouldn't have to cram all this stuff that is someplace else into the note, that's a lot of what makes notes unusable.

Amy Zimmerman – State HIT Coordinator – Rhode Island Department of Health & Human Services
So, actually, this is something that I also was also thinking as we talk about clinical documentation, maybe this is just that I wasn't thinking about it this way, are we talking strictly about the note or are we talking about all clinical documentation in the record, because we kind of…we're bouncing back and forth here and that's getting…it's getting hard to sort of dissect what…where we're talking about which here. I thought we're talking more about documentation throughout the whole EHR.

David W. Bates, MD, MSc – Senior Vice President for Quality and Safety – Brigham & Women's Hospital & Partners
I think we're talking about things broadly too. Although, I would suggest that there's not a really good consensus on exactly what clinical documentation…

Amy Zimmerman – State HIT Coordinator – Rhode Island Department of Health & Human Services
So, I think just as a committee we need to wrestle with this a little bit more because I think we're going to kind of ping pong back and forth between when we're talking about the clinical notes, you know, versus the EHR as whole as a clinical document tool.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Good, thanks.

M
We use the data in the EHR to generate a 2 or 3 page note for the patient when they walk in the exam room outlining up all the things we need to work on during that visit its written in 8th grade text level and you just have binary fields based on the result was their hemoglobin A1c good or bad, it triggers a different syntax in the field for them. That's been an interesting experiment I think its purposeful Meaningful Use but it's not technically Meaningful Use.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Charlene?

Charlene Underwood – Director, Government & Industry Affairs – Siemens Medical
I wanted to go back to the question where the electronic health record and this is what Joe was bringing up another purpose of the electronic health record broadly is for evidence in the legal system and so you mentioned again billing driving that but we also have the issue of having to document your course of care so that it can be used in a legal sense.

So, you know, where Dr. Bates you're extremely frustrated with the billing requirements what about the legal requirements and maybe we can't change those that's maybe a given, but if you could comment relative to the legal requirement and then I wanted to add in just one comment.

You know, if and it kind of was being suggested, if the EHR can be a means to capture the work maybe that's a mechanism to document what you actually did which could be part of one of those items that you identified as a potential solution.

David W. Bates, MD, MSc – Senior Vice President for Quality and Safety – Brigham & Women's Hospital & Partners
Well the key issue from the legal perspective is did the provider comply with the standard of care and if they did not do so they have to say why not and there are many reasons for deviating that are appropriate and the electronic record is actually really good for that. We've done the best empiric research on this and have shown that claims risk actually goes down when you switch to an electronic record. But I think it is possible to…you know, when somebody is in a situation in which they're adhering to a guideline or not you get them to document whether they're doing that and if not just briefly why.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Great, thanks. Larry?

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
So, a lot of really good discussion, some of the committee's points I think are really great for us to take forward tomorrow. What struck me are the comments that relate to flagging what's important. So, Pete you talked about bringing things forward into the note because you need to remember them or they are key to your context and your thinking, and then later Hal you talked about this experiment in an automated summary giving it to the patient and having some great success there.

So, with this notion of that the note in part is focusing the clinician's attention in terms of, you know, what they need to know and they're trying to help others focus on what's important in this patient's care. Any comments that you want to add in how you actually go about that in an EHR?

Captain Michael S. Weiner – Chief Medical Officer - Defense Health Information Management System (DHIMS) – United States Navy
I think when you first deploy you're…to Liz's earlier question, you first deploy your EHR you are challenged with getting the provider away from the computer, right, and even the ergonomics of where the computer sits in the room and those issues all need to be addressed. The IT team was told to put a computer in the room; they put one in the room it just happens to be at the opposite end of the room where care is delivered.

So, we bring all this together, we've learned our lessons, we now are sitting with the patient and for the point of the visit to deliver quality care and the goal is to make the documentation an innocent bystander in that for us to make the appointment efficient, to make sure that we are living to our practice guidelines and policies within our organization and we've had providers, you know, you're cutting-edge guys wear a microphone and they do the documentation while they're looking the patient in the eye, it's no longer…and then we have providers that are still just staring at the computer typing away, right?

So, this is a journey for our providers but we feel like the more data that we can get in that the patient doesn't have to realize is getting in…and we share it with them throughout and then the ultimate goal is to have the whole team documenting, because it's a group effort, and then to be able to take all of that data and, you know, that is an endless amount of data that will help drive national quality agendas and just deliver better care throughout the country. So, but this is just, you know, we've got to get the computer in Stage 1 deployed into the room in a nonintrusive way.

Peter D. Stetson, MD, MA – Chief Medical Officer & Chief Informatics Officer - ColumbiaDoctors
Follow-up on the comment, and some of my colleagues at Columbia have a paper on, you know, is note writing composition or a synthesis that in my opinion we want that moment when the doctor or the NP, or PA, or nurse is writing their note that they're thinking about the patient and synthesizing what's going on.

My example of moving stuff forward from visit to visit across ambulatory visits which may have three months in between that's a workaround that we'd like to actually get away from, you know, if you could pull that sort of history out show it in a longitudinal way you do not have to assemble that using copy forward from visit to visit and so that's the ideal. As it is today that's often how you have to do it so you don't forget the stuff that you want to focus on.

But if we could move that out of note writing workflow then note writing could be more about synthesizing the case, writing down those things that you think are important as anticipatory guidance at the time of a transfer you're going to send the patient to the hospital, you're sending them to a consultant, as the consult you're sending the note back to the referring provider you want to say do this, do that, if this happens or if this doesn't happen do that. There's a lot of stuff that you need the mental bandwidth to think about those things.

And so if we can move the assembly of longitudinal data out of the physician's workflow they can turn their attention to focusing on synthesis in the context of note writing and I think that's an ideal we should be striving towards.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
…

Charles Kennedy, MD, MBA – Chief Executive Officer – Accountable Care Solutions – Aetna
I think the notion of synthesis is pretty important. When I look at most of the systems out there that we come across the information is presented in a way that's counterintuitive to how a physician thinks, right? It's medications, labs, PT, etcetera, which largely reflects the systems from which they were generated. You don't present…typically see the information presented how physicians think. I'm treating your diabetes; I'm treating your congestive heart failure.

And I think until we get to an ability to take the data out of the silos as it's currently presented and be able to present the information across those silos in a way consistent with disease state we're going to struggle with this notion of I'm fishing around for information I know is in here but I can't find it and therefore I can't focus.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
And therefore, I'm going to repeat it in my note because I have to bring it together and maybe it will be useless for someone else to bring together.

M
Paste is a symptom of this cognitive burden.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Yeah, I mean, I guess I'm imagining things like some of the sort of social media related screens where you can see things and you can move things up and down on the screen to say this is important keep it up and this is not so important push it down and it's a trivial interaction for the user because as you're looking at it they're interacting with it as opposed to now I need to go to a separate screen, write a note, find the thing, reference the thing, paste it in, confuse everybody to really push our technology in ways that really make it 21st Century.

As an old technologist I know how hard it is to break out some of those patterns because you don't even know you're in it, but we have such an abundance of information and we're beginning to use some really innovative ways in the consumer space and we've got to bring some of that innovation into this space.

I guess I'm actually challenged by your get the computer out of the way, because I think the other way to swing the pendulum is really put the computer central. So that the clinician and the patient are both looking at the screen that they can talk about what's there together and make it a richer experience because you can both see it and someone who's maybe not so auditory and more visual can go "oh, yeah that's the medication I'm taking" or "what was that thing you just said, oh, I see it on the screen."

I've seen some setups with dual monitors so that both sides of the screen have a display so you can talk and look and everybody can see. But the put it in front of us and let's side-by-side view it also works really well. So, I think that notion of really making the computer an integral part so increase the transparency not just after the visit.

Captain Michael S. Weiner – Chief Medical Officer - Defense Health Information Management System (DHIMS) – United States Navy
I was just going to comment, yes, but there needs to be a moment that the provider and the patient have alone in the room together and then we move over to the dual screens, we dictate in front of them and we sum it all up together and then we've had we feel a good quality experience.

M
There have also been some good experiments with virtual scribes where there is a 40 inch monitor operated by somebody in another room so the physician is talking and everything is going in there but the physician is not operating the computer and has exclusive focus on the provider with increasing productivity as we need to leverage a physician shortage we're considering this possibility especially with high cost specialist.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Yael is yours a short question?

Yael Harris, PhD, MHS – Director – Health Resources and Services Administration
Yes.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Okay, thanks.

Yael Harris, PhD, MHS – Director – Health Resources and Services Administration
I just wanted to ask, a lot of you guys work for large organizations and I represent Safety Net Providers which are very limited resources low technology, don't have staff to help with the transcriptions or even looking at in coding. I was wondering…I know some you talked about open source solutions but even open source solutions require training on how to effectively use it.

So, I was wondering if any of you could speak to suggestions or ideas on how what you're talking about and moving from clinical documentation in a standardizing field could be done with a limited resource provider?

David W. Bates, MD, MSc – Senior Vice President for Quality and Safety – Brigham & Women's Hospital & Partners
I would just say that there are many approaches that can be used to make things electronic even with very limited resources. So, there are companies for example that virtually will take your information and convert it to electronic for a relatively reasonable price.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
On a different topic you'll be hearing from Michael Buck from the New York City Department of Health and they deployed records to thousands of providers in New York, small providers in New York City and the way it worked is between the vendor and the central agency that's how they…so I don't know what the structure should be for the nation. I think a lone person will have trouble doing this but I think there are possibilities in how you can do either through the vendor or through organizations.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you. Thank you again very much for the panelists, really very enlightening. Good ideas. Thanks. Let me ask the question of the group. We have a break scheduled that we've already gone into. Is it all right if we just proceed with the next panel?

W
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Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
I'm sorry…and take a p.r.n. break, yes absolutely. Okay, this next panel is going to be on clinical documentation for this very important activity almost everyone's talked about which is care coordination across the healthcare team which includes patients as well. I think I probably would make a suggestion to Larry that we limit it two panelists responding to each question because we just have so many folks to keep on schedule. So, Larry Wolf is going to moderate this panel.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Wow it's really great to see you guys here live and in person. There's been a bunch of e-mail exchanges some of you I know, some I don't know.

Really looking forward based on the written testimony we've got some great things to say sort of reiterate the ground rules; we're going to run through with 5 minutes. Don't feel compelled to read everything you wrote. Clearly a lot of that won't fit into 5 minutes.

Use this time to really highlight the things you think we really need us to hear and then as you heard we'll have some chance for a robust discussion, although Paul is reminding me in the interest of time we're really going to try and constrain the comments back to us to just a couple of respondents.

So, with that as sort of guidelines, we've heard a lot about how team care is really important and I would say, you know, if we rolled the clock back 10 years that's really been a paradigm shift. This is not about solo work this is about teamwork. So, with that as a context let's dive in. So, Neil would you please start?

Neil W. Wagle, MD, MBA – Medical Director - Brigham & Women's Hospital & Partners
Sure. Thanks so much for inviting me back. In my team at Partners we talk a lot about creating health systems that can learn. How can we use our millions of patient encounters to help the system get incrementally better and more cost-effective as time goes on? There is a way.

We believe these millions of encounters are each tiny experiments. There are certain starting conditions then a set of treatments that are delivered and then a certain health outcome that results. And we're relatively good at the first two, where we started and what we did. But our measurement of outcomes leaves a great deal to be desired.

We can measure mortality, complications, length of stay, readmissions and those are important. But can we measure whether the patient actually feels better? For a patient undergoing knee surgery can we measure whether they can walk better or whether they have less pain? These are patient reported outcomes. Outcomes that can only be ascertained by asking the patient and often these are the outcomes that matter most to the patients and the very ones we're failing to capture.

We do ask these questions in the course of care, but we cannot and do not record the answers systematically and quantifiably. By capturing these outcomes we can finally close the loop on these experiments. We can say when we do X, Y, and Z the outcomes are better than when we do A, B, and C. This is learning, but to learn the right lessons we have to make sure we're capturing the right outcomes and these include patient reported outcomes.

I am speaking to you today as the Medical Director of Patient Reported Outcomes for Partners Healthcare. Let me take a minute to describe the system we've put in place.

We bring together experts and patients to determine which outcomes matter most to patients for a given condition using validated tools as much as possible so that we can compare our results to standards and among providers.

We collect patient reported outcomes first in clinic using iPads so that collection and recording into the EHR are simultaneous. Subsequent collections are done either in clinic using the iPads or at home by e-mail, or phone-based interactive voice response, but regardless of the collection method collection and reporting into the EHR is a single process.

Many other attempts to collect patient reported outcomes have not been able to scale because of the labor involved in translating paper reported patient reported outcomes into the EHR.

Using our method we've overcome the biggest barrier to implementing patient reported outcomes. To collect and use patient reported outcomes on a system level we have to make patient reported outcomes easy to collect and actionable on the individual patient level because that's where they are collected. But in order to be actionable on the individual patient level patient reported outcomes need to be incorporated seamlessly into the EHR so they can be looked at alongside all the other data that providers are using.

We're already seeing examples of patient reported outcomes helping individual patients and providing system-wide learning, but the learning is limited to our system.

With respect to patient generated health data the single most important thing that this committee can do is to establish criteria that require all health systems to capture such data which would allow the reporting of patient reported outcomes and patient generated health data into coded fields into the EHR. Two comments about how this data should be incorporated.

As with all clinical documentation transparency with patients is paramount. I think many providers have trepidation about sharing clinical documentation with patients and we need safeguards for when new and potentially difficult to interpret information is released to patients.

But, I believe in general having the patient and the care team working off the same set of information is to be desired, it makes for better understanding, better engagement and better adherence. For that reason our patient reported outcomes provider report is identical to the patient report and looking at these side-by-side with the patient has led to a lot of productive conversations about patient's health.

The second thing I'd say is that it's not necessary for providers to accept patient generated health data. Many providers are concerned about patient generated data for two reasons, one what if it's wrong. I'd say as long as patient generated health data in the EHR remains identifiable as patient generated then providers can interpret it in that context. It's what the patient believes and that's relevant.

The second question is what if the data is alarming and requires attention. Being in a coded field in the EHR allows the system to recognize an alarming response and generate a clinical message to the appropriate provider without hindering workflow for all data.

In conclusion, I'd just like to thank and commend the committee, credit you with enormous gains in the field as a result of your vision and I hope these comments help you facilitate the incorporation of patient generated health data into the EHR.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Thanks, Neil. Chris?

Christopher Snyder, MD – Chief Medical Information Officer – Peninsula Regional Medical Center
Yeah, thank you, my name is Chris Snyder I'm a hospitalist practicing in Salisbury, Maryland, a 300 bed hospital, run into the ocean you go 30 miles east of us, but we're a Level VI HIMSS Hospital. We've been utilizing the EMRs for quite some time on the inpatient side and as a hospitalist coordination of care is not only my role but it's my goal to get folks in and out of the hospital efficiently.

We have a very unique situation where we live we're a big hospital in a small town and we service a large area covering three states, very difficult times for us trying to figure out who is on first as far as regulatory requirements. I'm Chief Medical Information Officer. I also am Chief Quality Officer and I am also the Utilization Medical Director.

So, all those guys sitting at the table I've got all their jobs, smaller business I agree, but it's real, it's real medicine. We treat the sick of the sickest. As a hospitalist we help people find their way to their end of life probably about 50% of their time and we're doing a service that's very challenging. And I think my main point here is we have barriers with technical issues and we have barriers with process issues.

My focus for my hospital medicine practice and for my providers in my hospital has been always to get adoption to where we can really utilize clinical decision-support as a mass. And I think one of the focuses we have to have is making sure everybody's using these tools effectively.

I find that there's a lot of users that do not use these tools effectively because they we don't have the resources to train them and constantly stay at their elbow. Physicians are notorious for not following the rules. In the real world we don't follow the rules in many cases and we've never been observed over the shoulder, it's very difficult.

For those of you who aren't physicians the independence of being a physician is what was drilled into our brain and I have a lot of 30 and 40 year practicing attendings who have done extremely well in adoption, I'm really proud of the quality that we've produced from our center because of our informatics platform.

But one of the challenges I find the most is the visibility of information across multiple disciplines is extremely difficult. The vendors haven't gotten the point that I need to be a user-friendly user and that's very difficult in many systems. We have a very good tool but it still is limited.

And when you're asking me to cross the four walls of my hospital now to intervene and interact with a next level of care provider that doesn't even have an EMR, LTACs, SNFs, home health, etcetera, that bidirectional interface is way overlooked.

I'm real concerned when I look at the Stage 3 issues that we have to portray in the future we're not ready. I honestly am really concerned because in my hospitalist group we are very attentive to what comes into the hospital and what goes out and it's extremely broken.

We have extreme health literacy issues through our emergency department, through collecting medications and that is not being addressed by throwing informatics at it when you can't read. I have patients I can't sign up for my CHF program because they don't know what the pound sign is to enter the key into the phone.

So, I challenge you to somehow figure out a way and I don't know what the answer is to all this and I'm implementing, I'm using, I have implanters and they're using. We have quality measures based on core regulatory compliance. When Joint Commission was in my hospital last week and they called me to do this the week before, surprise Joint Commission showed up, that never fails, I was trying to present something.

I love Joint Commission, I challenge them to come in and tell us where we need to improve and that's the attitude of our executive staff and our medical staff. And, honestly our informatics platform was, I guess, not perfect because again, no visibility around certain elements of education for stroke patients for example or certain elements of documentation for our orthopedic population. It's in there but they have to drill so deep to find it because the front end usability of the tools are not good.

Process issues, the collection of medication as folks come into our institution is ridiculous. It is one of the most simple and I've talked to Paul about this at NQF before, because it's one of the most challenging things we have to gather and it's probably one of the most important things clinically I need to take care of a patient when they're unresponsive in the emergency room. If I don't have that information or if I have that information and its wrong it could potentially lead to medication errors and that's happening daily in our hospital.

It's very challenging when a patient gives you information you have to believe it. Unfortunately, when you find out from the pharmacy it's not real it's challenging. So, a lot of disgruntled folks not understanding the true impact of medication collection and I think my point to this whole thing is this is a very difficult process that we're implementing.

I am a total foundation developer for all of these tools. I enjoy them. It's very effective, but I think we need to really step back and make sure that everybody is using the tools effectively, including the patients.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Thank you Chris. Lipika?

Lipika Samal, MD, MPH – Clinician Investigator, Division of General Internal Medicine & Primary Care -Brigham & Women's Hospital
Thank you for inviting me to speak at this meeting. My comments are based on my own experience as a primary care physician and researcher in Boston at Brigham and Women's Hospital where I currently practice in the general internal medicine clinic. Previously, I practiced in four primary care clinics in Baltimore. I have also provided inpatient care at John Hopkins Baby Medical Center and John Hopkins Hospital.

First, I want to reflect on the progress that has been made in recent years remembering how I sat in a room like this one in August 2010 and listened to testimony on Stage 1 Meaningful Use requirements. Despite this progress recent studies have shown that Health IT continues to lag behind expectations for improvements in health care quality and reduce costs, as a result much still needs to be done.

In this testimony I will direct my comments toward care coordination from the perspective of a primary care provider or PCP. I will describe the referral process as a loop in its simplest form a PCP refers a patient to a specialist in order to answer a clinical question. The patient is evaluated by the specialist, the PCP receives recommendations and the recommendations are acted upon thereby closing the loop.

Two years ago I worked with a team of researchers and measure developers from Johns Hopkins and National Committee on Quality Assurance. We conducted interviews with clinicians within integrated delivery systems that have adopted shared electronic health records, these interviews revealed the internal referrals did not involve a formal communication of the clinical question to be answered, instead providers were expected to obtain relevant information by reading each other's notes.

Speaking from my own experience I can attest to the fact that there is great variability in documentation of the clinical question. For example, I recently referred a patient to a urologist due to consistent hematuria which is a small amount of blood on a urine test.

However, the specialist note contained and assessment of the patient's long-standing incontinence leaving me to wonder whether the specialist knew about the hematuria and did not think it was worth mentioning or more worrisome to me that the specialist did not recognize the presence of the hematuria. In this instance I e-mailed the specialist and some important clinical information was then silo'd in my e-mail account, however, I want to emphasize this point it was not recorded in the patient's medical record.

To address referrals we have two newly proposed functionalities for EHRs in the Stage 3 Meaningful Use criteria. The first is electronic order entry for specialist referrals. This function could be an important tool if it were leveraged to promote the tracking of referrals as a guarantee that the referral loop is closed.

The second newly proposed functionality concerns the referral loop explicitly, it is for the specialist to acknowledge receipt of the referral and send information back to the referring PCP. In addition to the clinical question to be answered pending studies and pertinent medication changes and other patient specific information should be communicated as well. Clinicians will embrace electronic referrals if they are designed in a way that does not require duplicate data entry by which I mean documentation in clinical notes and in a separate template.

The third newly proposed functionality I would like to address is notification to PCPs when patients are seen in the emergency department or admitted to the hospital. This past year I worked with David Bates, Patricia Dykes, a team of researchers from the Brigham and the National Quality Forum to interview clinicians across the country about transitions to emergency departments, skilled nursing facilities and home health agencies.

We found that generally clinical information is still sent as packets of paper or faxes. An example of a gap I myself experienced was when a patient was transferred from a skilled nursing facility to an acute care hospital outside of my organization and then transferred back to the skilled nursing facility. The patient told me that she had been diagnosed with acute renal or kidney failure at the hospital but the problem was not mentioned in her discharge summary from the nursing facility.

I suspect that the renal function had improved by the time she traveled from the other hospital back to the nursing facility. If I had received a notification that she had been hospitalized I could've requested a discharge summary and importantly I could have had that information in front of me at her follow-up visit in my clinic.

In conclusion, new functionality to address care coordination with PCPs has high impact from a clinical stand-point. Electronic referrals to specialists will improve clinical outcome, patient satisfaction and clinician satisfaction. Notifications for hospitalizations will promote care coordination across all healthcare settings including skilled nursing facilities and home health agencies which are not incentivized to adopt EHRs under Meaningful Use. Including these entities is necessary to reduce re-hospitalizations and cost. Thank you for your attention and I look for to the question and answer session.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Thank you. Sarah?

Sarah Collins, RN, PhD – Nurse Informatician, Knowledge Management Group – Partners Healthcare System
Good morning, I'm Sarah Collins Nurse Informatician at Partners Healthcare. I'd like to begin by defining four terms that I will use, clinician referring to all types of healthcare professionals such as nurses, physicians and other professionals. Setting, referring to all care settings. Domain referring to all clinical disciplines and specialties and common ground defined as shared knowledge or mutual understanding between two communicators.

Clinical documentation is the primary communication tool for care coordination between and among all stakeholders involved in the healthcare delivery process by serving as the record of the patient's health state and as an artifact of actions including communication events performed and planned in response to those health states across settings and over time.

Supporting compliance with regulatory requirements is merely a byproduct of clinical documentation. Documentation is comprised of structured and unstructured data that when interpreted by a clinician or a patient should convey six types of information. The patient's past and current state, clinical activities, communication events, response to clinical activities, planned activities and clinical goals for future patient states.

These six types of information are not consistently available in a computable EHR format, they may be missing or shared as part of a paper or faxed document and in that form do not support effective or efficient decision-making.

In its ideal state clinical documentation is most useful to coordinate care when it establishes common ground about a patient's plan and goals by communicating information among clinicians, patients, family separated by time, domain or distance.

The plan is dependent on the state of the patient. Therefore, the first thing aim is to establish a shared understanding of the current state of the patient, by doing so shared clinical goals for future patient states can be collaboratively established.

The delivery of coordinated care requires the operationalization of patient centered teams that actively align goals with patient preferences to formulate personalized patient goals of care that can be used in shared decision-making discussions to coordinate care.

Clinical documentation can support care coronation through three specific mechanisms, context specific summarization and visualization of computable patient data across domains, settings and time, shared care planning tools that support care process linkages to establish common ground across domains, settings and time, and collaborative documentation that integrates communication tools with structured data to tell the patient's story.

I'll speak to each of these three mechanisms briefly. One, patient data is silo'd across settings. We need dynamic summaries and visualizations of patient data to promote shared understanding of the patient's state at the point of care that is based on the type of content not the source of data. To do this requires interoperability standards for all settings of care and computable content to help process data and anticipate needs for context specific consumption of data at the point of care.

Two, care planning concepts are not linked and are silo'd across settings and domains. Many interdisciplinary care planning tools that exist within current EHR systems actually exclude physicians. These silos will propagate misaligned goals and isolated plans leading to poor outcomes and potentially unsafe care. Care planning should be patient centered based on a shared ontological infrastructure that links plan of care concepts from the cyclical care delivery process across settings and domains.

Three, each functionality is often silo'd based on regulatory requirements or who is documenting such as a nurse or physician or how they're documenting such as a semi-structured note, a flowsheet or a structured form. These result in a fragmented story of the patient and an increased reliance on verbal communication that leads to a continuous loop of out of date information and underutilization of the EHR.

Collaborative documentation should integrate communication tools with structured data to tell the patient's story by one, allowing the clinical user to contextualize, annotate and link structured data to convey clinical relationships, temporal associations and clinical interpretation.

Two, by allowing messaging to coordinate and personalize plans and goals in the context of and with specific linkages to summaries and visualizations of structured and computable patient data.

And three providing incentives for clinicians and patients to overcome sociotechnical challenges of collaborative documentation tools.

In conclusion, summarization and visualization, shared care planning and collaborative documentation tools that make explicit the state of the patient and personalize patient goals of care will promote the coordination of care.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Thank you. Madeleine?

Madeleine Rooney, MSW, LCSW – Manager for Transitional Care for Health and Aging – Rush University Medical Center
Good morning everyone my name is Madeleine Rooney, I'm a Clinical Social Worker Manager for Transitional Services and Health and Aging at Rush University Medical Center in Chicago and I oversee a team of social workers that provides an evidence-based transitions intervention called The Bridge to discharge patients.

As a social worker with expertise in care transitions I will focus my comments or testimony today on the role of clinical documentation as one aspect of care coordination serving several purposes across teams and settings.

First it communicates professionally specific information typically clinical about the individual situation expected needs and treatment recommendations. An increasing number of healthcare providers are using EMRs, however, there are many challenges about using them including the fact that they're often built with minimal input from the clinicians themselves.

They are medically focused and episode specific reinforcing fragmentation in both inpatient and outpatient settings. They are provider driven not patient focused and do not include enough of the patient perspective in understanding health challenges and needs.

My team focuses on the psychosocial determinants of health that often get minimized as we talk about the patient narrative or story in most medical settings. I would like to say I think we need to continue to challenge the medical model.

Narrative information in our EMR is not reportable which restricts our ability to document and obtain valuable data about the patient for more complete understanding about what is needed and outcomes. Many of my colleagues also complain that parts of the EMR are time-consuming and not very adaptable to challenging clinical situations, change in clinical situations.

After several years of navigating the logistics of where our work belongs in the EMR my team is outpatient-based but provides an intervention that corresponds to an inpatient episode. We have created a post discharge summary built for the EMR that will inform future episodes of care both on the inpatient and outpatient side.

Another function of clinical documentation is communicate care plan needs across care settings. One significant challenge is that healthcare systems are complex with different documentation structures and practice behaviors including how patient information is gathered and shared. Patients often transition very quickly so providers are pressured to share information that is professionally relevant, concise and timely.

Historically hospitals and community-based providers have not communicated well or worked together toward common goals. Several challenges in bridging these gaps include the cost of developing new IT systems, restrictions in sharing personal health information and a lack of adaptability in connecting IT systems.

One innovative tool called the perfect form is an example of efforts to improve communication, collaboration and accountability between hospitals and home health providers. It was developed at Rush after research finding showed significant problems in the provision of home health, it currently is a paper tool, however, some of the agencies we work with have integrated it into their interdisciplinary conferences and electronic databases.

The tool outlines mutually agreed-upon expectations of care for home health agencies and action steps for prompt resolution of problems. It includes a protocol for communication back to my team at the hospital about the status of care expectations and for assistance in resolving care plan issues no later than 72 hours after discharge. It shows promise for integration into daily practice and discharge planning IT.

In conclusion successful care transitions will require us to change our thinking and to develop communication patterns that go beyond distinct episodes of care to care as a process that is fluid and continuous. Clinical documentation as an aspect of care coordination including the technology to support it must change to one that accurately reflects a more holistic and integrated view of care, patients are not their disease states, across disciplines and care settings. Thank you.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Thank you. Larry?

Lawrence Garber, MD – Medical Director for Informatics – Reliant Medical Group
Thank you. Larry Garber from Reliant Medical Group I'm a physician in Central Massachusetts. Thank you for having me here today. I'm going to focus on just four issues specifically what are the data needs of members of the care team, what are the standards to support those data needs, how do you keep those standards up-to-date and how do you know what to capture when.

So, typically when we're sending information to other members of the care team we just send what we think they need. Dr. Terry O'Malley of Partners had this novel revelation that maybe we should ask the recipients what they need.

So, as part of an ONC grant we received over 1000 surveys from people from hospitals, nursing homes, home health agencies, etcetera, asking about what are their data needs as receivers and so we received from…we had case managers, nurses, physicians, patients all giving us information on what their data needs were and we analyzed these and realized that they are about 325 data elements that are necessary as a patient moves from one care team member to another across transitions, that 325 data elements compares to about 175 data elements currently in the CCD.

We analyzed these, we realized that they actually fall into four groups of information as you think of five different types of transitions, sorry, five and so there's a…the first two transitions are when you're sending someone for a specific test like a colonoscopy or a PET scan. The information you send is what they need in order to safely care for the patient and then the data set that comes back for them is the second one.

The third and fourth are the payers when you're sending someone for a consultation or to an emergency room because that's really just a consultation for a sicker patient and information they send back to you.

And then the fifth data set is really when you're sending someone from one…permanently from one care team, one care setting to an entirely new care team and care setting, so that's the largest data set.

And we reviewed these data elements with dozens of organizations both within Massachusetts and across the nation and identified more data elements and also determined that the care plan really needed to be part of that larger data set.

So, in all we actually are now up to about 480 data elements and we've been working through the ONC's S&I Framework, Longitudinal Coordination of Care Workgroup to analyze these and further define them and I'm happy to announce that we actually have secured a half million dollars more than that in both public and private funding to now…under the auspices of the S&I Framework to complete the standards development work of the three largest data sets as well as the care plan and the home health plan of care so that they can be balloted by HL7 in the August/September ballot so that they can be a national standard come November.

So, how do you know what to document? What we've…you know, we realized that while there are 480 data elements now clearly not all of them are needed for all forms of communication and so what we have done at Reliant Medical Group and we know that others can do is that you can actually embed clinical decision support within the documentation tool itself so that the right person is told what is necessary to document…capture and document at a particular moment in time we're fortunate that we have an EHR that has that capability.

As an example, I have several examples in my statement, but I'll just give you one. When a patient calls in for a medication renewal we have built into our system what information the physician needs to know at the time of medication renewal. So the system…the documentation tool that the triage nurse is using automatically makes sure that they're collecting the right symptoms that are appropriate to monitor that medication that the right lab tests have been performed.

It checks to see if they've already been done or have been ordered and if they haven't it alerts the staff so that they make sure that they perform the ordering of that test and so that all information is gathered exactly for what I as the physician need before I can renew that medication. So, it's that kind of communication where you put clinical decision support right into the documentation tool to make sure we collect the right information and it facilitates the documentation.

So, you can imagine that as standards are finalized throughout the year for what care team members need that the documentation tools can similarly identify what needs to be documented by a particular provider or a clinician and what's already been done and what needs to be filled in.

Now in terms of making sure that these standards are kept up-to-date we would very much like to see EHR functionality that allows the user when they recognize that data is required that's not part of current standards that they can submit them directly from their EHR to standards organizations so that they can be collected, analyzed and potentially updating the standards. Thank you.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Thank you. Bill?

Bill Russell, MD – Health Information Technology Consultant
Thank you, Larry. I just want to thank ONC for their vision in creating the Challenge Grant and the extraordinary support for the S&I Framework and the Longitudinal Coordination of Care. I'm a physician geriatrician working with both of those organizations and others.

So, first of all, as has been mentioned, care coordination is a process. The process input, the critical inputs are clinical data points which I feel pretty strongly need to be captured in electronic documents and available for computing by that care plan process. So, as Larry mentioned, getting the data sets correct, getting them structured in a way where they can be received by that care coordination team.

Increasingly, as care is moved into community, as people acquire comorbidities and functional impairment the care coordination activities are across episodes of care, across multiple settings, across multiple disciplines and even across aligned, not aligned providers and certainly across IT systems. The outputs of that process of course have to be available for coordinating the activities of the care delivery system.

I come at this from the perspective of a provider in the post-acute care community, the non-incented provider world and I sort of don't like the handoff metaphor that says our problem just became your problem and here's a set of data. I like the concept of a team that says we're all sort of equally accountable for outcomes for this condition and that we communicate in that way. Doctors don't always do a great job of anticipating the needs, the downstream information needs of the receivers.

So in this shared care metaphor which is interdisciplinary and as complexity increases two things are really necessary, we need to have the exchange of these key concepts and it turns out there's probably less concepts necessary for good coordinated care than there are data points in an orthopedist's evaluation of range-of-motion of a hand. So, it feels to me like it should be a problem we can solve and I think Larry and many of the other people from Massachusetts that way have done an amazing job of structuring that up and I don't want to minimize the social work contributions.

And then the other thing that is necessary is closing the loop has been implied, right? So, if information flows out we need to get the information back so that that process can be updated because it is a continuous process not a one-time event. So, two things I think need to happen.

I think we need to really consolidate our activities around expanding the information available for exchange and that is the documents and sections and data templates in the consolidated CDA as the IMPACT Project has leveraged very nicely so that social work, so that behavioral health, so that nursing, so that rehab can actually be fully be represented in those documents and not just a medical summary of a patient's care.

And the second is we need to extend certified technology across the full spectrum of care and the ability to exchange those documents and everything that's involved in doing that.

So, I'm going to leave a couple minutes. So, to me it's a relatively straightforward exercise believe it or not and I think, you know, the Challenge Grants have pioneered that and it is really about consolidating around a core set of concepts and creating infrastructure for exchanging them. Thank you.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Thank you. Jan?

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
Good morning, I am Jan Walker I am a Nurse and a Health Services Researcher and a Principal Investigator of the OpenNotes Project, which I Co-Lead with Dr. Tom Delbanco at Beth Israel Deaconess Medical Center in Boston. It's been gratifying to sit here for the past hour or so and hear so many panelists mention patients this morning. My comments will I think, to some extent, reinforce some of the points that have already been made.

Clinical documentation presents an opportunity to engage patients in their care. Medical records have long served the need of doctors and clinicians. The interest of the OpenNotes Team is in how they can meet the needs of patients. In recent years some patients have been able to read their medical records online but they have rarely had access to the full record. The missing part has been their clinician's notes.

I know most of you are familiar with the OpenNotes Project so I will only briefly summarize it. With funding from the Robert Wood Johnson Foundation we tested the idea of inviting patients to read their doctor visits notes through secure patient portals. One hundred primary care doctors and 20,000 of their patients in 3 very different institutions participated, Beth Israel Deaconess, which is an Academic Medical Center, Geisinger Health System in Rural Pennsylvania and Harborview Medical Center which is a Safety Net Hospital in Seattle.

After 12 months this is what we learned, first patients reported concrete benefits from reading their notes, they better understood their medical conditions, they better remembered the plan for their care and they felt more in control of their care. At the end of the study 99% wanted to continue to be able to see their visit notes on-line and many said access to notes would influence their future choice of doctors and health plans.

Second, doctors many of whom entered the study nervous about getting an avalanche of patient calls and messages or concern that notes would unnecessarily worry their patients, the doctors seemed somewhat amazed that their worries really didn't materialize and at the end of the study when doctors could terminate their participation not one chose to turn off access to their notes.

Based on these results all three institutions have decided to expand OpenNotes. The Veterans Administration announced in January that it would offer OpenNotes throughout its system of VA Hospitals. Beth Israel Deaconess is opening notes not just for doctors but for all clinicians who sign notes. We are getting daily requests from providers asking how to get started. The project has generated substantial media attention clearly the idea has struck a nerve.

Portals have allowed access to many parts of the medical record which contains a patient's medical history, social history, allergies, diagnoses, vital signs, test results and procedure reports. Let me make the case about why notes are important to patients.

It is the clinician's notes that identify interactions between these data points and pull them into a narrative. How has the patient changed since the last appointment? Are prescribed medications working? Are there new signs and symptoms? What does the doctor think is their underlying cause? Is the fact that the patient is still smoking making the heart failure more difficult to manage? This story is a bit of a window into the doctor's thinking. And patients say reading these notes helps them to understand what is going on and why. Things like taking a particular medication or quitting smoking are important.

In an ideal world there would be a fully transparent record that is organized in a way that everyone who needs it can see it. But until we can obtain that state we can improve coordination now by giving full and easy access to the patient who is the one person who deals with all the people involved in his care.

And the patient may grant access to others as his or her proxy. As sick patient and their caregivers interact with multiple specialists, coordinate multiple medications it's vitally important that they have the best understanding possible of everything that is happening with their care.

Ultimately this idea of a secure fully shared record is what we should be aiming for. In conclusion we have started building evidence that OpenNotes works. We hope it will be become a movement and eventually a standard of care. Though there is a lot more to learn, it is a concept that seems to be taking hold. Thank you for this opportunity to speak with you today.

Candice Faith Wolk – Patient from OpenNotes

Hello my name is Candice Wolk, thank you for the opportunity to present my story in front of you today and explain my meaningful experience with OpenNotes. Two years ago when I was pregnant I saw my doctor for a routine checkup. We talked mostly about my pregnancy and plans for childbirth although while I was there she discovered a mole on my back that she said I should have the dermatologist look at more closely.

Given my preoccupation with my pregnancy I forgot about her advice to see the dermatologist. I was pregnant my memory was not what it had been and I was more concerned about my pregnancy than I was about myself.

But a few weeks later I had a nagging feeling, I remembered Dr. Fernandez telling me something but I couldn't quite remember what it was that was the first time I went to OpenNotes to read the notes from my visit and there it was a detailed description of my visit, notes about our conversations and the reference to the mole on my back, and her recommendation to see a dermatologist.

I did in fact see my dermatologist and later had the mole cut out. On the one hand you may think of this as a routine example, it was a relatively minor item and simply remembering to see the dermatologist was easily addressed, but to me what was more important was that the experience enabled me to take an active role in my own health care.

Even now I routinely go to my OpenNotes file to make sure that what I truly want to convey to my clinicians is in fact what they interpret. It serves as a reminder to me to ask certain questions and play the role as my own health care advocate. Something I could never have done prior.

I feel with OpenNotes I'm equipped to have an actual conversation with my doctor, to ask questions I have thought through prior to the visit and to have a transparency between us that assures me we on the same page. Thank you for your time today and I'm happy to answer any questions.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Great, well thank you. Rich information offered to us. Do we have some questions from the committee members? Amy go ahead.

Amy Zimmerman – State HIT Coordinator – Rhode Island Department of Health & Human Services
I'll start and I'll start with where we landed on the OpenNotes. In your experience in working with OpenNotes, did providers change the way they…the language they used in the notes? I mean, one of the things that I found and I have had…in my family we have had to pull full medical records for complicated reasons and look at medical records and complicated situations.

I'm a little bit more adept at medicalese, but, you know, my husband is not and it was quite frustrating for him to see all sorts of medical terms and language that he did not understand. So, I'm wondering how OpenNotes has addressed that or if it changes the culture in the providers in how they communicate to patients and/or to each other and how that then gets reflected in the clinical documentation throughout?

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
You know, it's interesting, we don't know exactly how documentation changed, that's not part of what we studied, but doctors did tell us, about 1/3 of doctors said they did change how they wrote, you know, they mentioned things like using fewer acronyms, you know, I'm prescribing an antibiotic "because" and going ahead and explaining. So, I think there were some changes, I can't really say exactly what.

But on the other side, you know, patients are incredibly resourceful and they read notes and especially with the Internet today they look things up and this, you know, sort of a similar or a related issue is the question of literacy and language, and people either go to the Internet or they have someone in their circle, their family, their friends who can help them interpret and they find a way.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Well, I'll jump in with a question of my own. So, I heard a new concept Madeleine you mentioned this notion of a post discharge summary and I think it bears on some of discussion about we need kind of continuing communication that it isn't the toss someone over the wall and the care is done. So, maybe you or some of the others could comment on what you're doing to actually improve the communication especially across care settings?

Madeleine Rooney, MSW, LCSW – Manager for Transitional Care for Health and Aging – Rush University Medical Center
I think as it's been mentioned earlier today hospitals historically when patients have left pay very little attention to how well that patient was able to implement their plan of care, were services provided as was arranged pre-discharge and was there a communication back to the PCP or the outpatient practices about the plan and I am a firm believer that it's not just information that goes out of the system but I think in today's day equally important information that comes back into the system, because most patients are going to come back maybe not on the inpatient side maybe but on the outpatient side.

So, in bridging the gaps between the inpatient and outpatient providers I think there's valuable information that gets lost and so one of the focuses of my team was to work on creating a summary that could be built into the EMR that would help inform not just the inpatient team, if that person comes back, and hopefully greater than 30 days, but also the outpatient side about that plan of care. And it doesn't just focus on the medical aspects of that plan of care but equally important, you know, what is going on in that person's social environmental situation that may impact that plan of care.

And what needs…what happened that maybe wasn't identified pre-discharge? In research that we did the hospital found that about, I think it was, close to either, you know, 80% of the people that we contacted post discharge had some issue or problem that did not get identified pre-discharge and that doesn't necessarily mean it's bad discharge planning it might be that for some reason something happens unexpectedly.

So, I think the post discharge summary is innovative and is novel but very, very important I think in today's time of trying to bridge the communication gaps and really avoid duplication, and really provide very valuable information about how well that patient or caregiver was able to self manage, and again kind of the effectiveness of different services that are being arranged.

M
I would like to add to that, because I totally agree with that. We've missed the boat, the discharge is too late of a process by that point we've already created problems. If you don't have a good intake process around status, patient care, home status, education we've actually developed an electronic score that pre-rates or pre-risks somebody for discharge or for readmission on discharge and it actually has a fairly good element of predictability which is very exciting because forever we've tried to say what did we do wrong? Because, it's typically something we haven't asked or engaged the patient in or the family in, or the caregiver whomever it might be.

So, again, a multidisciplinary admission team in most centers. I don't care if you're in a hospital on the acute side or if you're in a long-term care facility you have to get it right from the intake. First of all it helps get your orders right and your process right. Second of all at discharge you're going to have an accurate measurement of what change occurred from the get go. So, it's a challenge and I totally agree, we've totally missed the boat discharge is too late.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
So, I'm struck…I'm a little bit familiar with Larry Garber's work and this notion that there's sort of a short interaction, we ask someone to do a specific thing for us, you know, do this study, get me back a result, it could be as simple as run this test and some numbers come back or it may be more complicated, do a colonoscopy and a narrative report comes back.

And then the bigger consult, something bigger is going on, I don't know what it is, and so that's also a two-way exchange, right? But that fifth one is the biggest one and there's no payer. So, I wonder what people think about that?

So, all these other conversations are conversations but transition of care except for Madeleine's example and some very new things where hospitals are now on the hook on readmissions, we don't have a feedback loop. So, thoughts about, you know, maybe where there is one? Go ahead?

Lawrence Garber, MD – Medical Director for Informatics – Reliant Medical Group
Thank you, Larry. So, one of the pieces of that large data set, the full transfer of care data set is that we do capture a lot of the contact information of the current team responsible for specific problems or medications so that if after this transfer takes place if there are questions regarding, you know, why they're taking something or give me more information about this problem, that they can…they know how to contact a person. Now, whether these fields get populated that's a whole other discussion, but at least what we're trying to do is provide buckets so that these can be…there's a place to put all this information.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
So, you know, go ahead?

Christopher Snyder, MD – Chief Medical Information Officer – Peninsula Regional Medical Center
Yeah, I'll comment again on that because I really do believe that, you know, at our center we're trying to utilize personnel to help establish almost a boarding pass type scenario where when folks leave they go with a packet of information. I think one of our challenges is that, you know, getting a partnership with the receiving caregiver is a challenge and also making sure that the patient has true awareness of that path of course is a laborious task.

I mentioned visibility around informatics earlier it's not apparent as to what's important for the SNF. As a hospitalist obviously I'm done with my service, you know, again I think the case management department at our hospital we engage usually the payer in certain areas is actually assisting in that concurrent review of information to try to make sure obviously they don't get that patient readmitted. So, it's a big challenge and I think again visibility of the content to the source you're sending them to is not well defined.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
So, I'm curious. Oh, I've got lots of flags up. Okay, I'd better look around this other table. Where should I start? George?

George Hripcsak, MD, MS, FACMI – Columbia University NYC
First, two questions, first a quick question on OpenNotes, are you also showing…have you or have you considered showing patients who looked at their notes as opposed to just seeing the note itself?

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
Something like over 80% of patients who had a note opened it.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
No, no I don't mean for research, show the patient's whose been reading their notes.

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
I'm sorry?

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Show the patient who has been reading their own note? Like what doctors have seen my note, etcetera?

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
I…

Amy Zimmerman – State HIT Coordinator – Rhode Island Department of Health & Human Services
I think the question is do patients get to know who has been reading their notes on the provider side? Do they…when they read their own note do they see everyone else that has looked at their note on the provider side?

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
Yes, there is an audit function where someone on the portal has a function where they can see who has looked at their notes.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Really? And has that had any…?

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
But that's not…that's been there for a while, yeah.

W
…

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
Yeah, it's a portal function; it's not an OpenNotes, specific to OpenNotes.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Do patients get to see it?

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
Yes.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
They do, well have there been any consequences from that?

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
Not that I know.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Okay, very good and then a question on use of clinical documentation for care coordination have there been any unintended consequences, like we fantasized in the old days notes are really good and now because of billing and fraud detection all this now they're bloated, they're hard to use, are we going to do the same thing to care coordination where we bloat that and bury that. So are there any unintended consequences to try to formalize this process?

Lipika Samal, MD, MPH – Clinician Investigator, Division of General Internal Medicine & Primary Care -Brigham & Women's Hospital
I mean, I think that the same problems that were discussed in the first panel come to the floor here and I think trying to get feedback is really the key, because everyone has a different style and I might have a different style than another primary care provider and part of it is just, you know, learning how people want to get the information and sort of a one-to-one communication at that point.

One of the things I actually wanted to…I don't why you brought up the audit history, but I wanted to mention that again. When you think about clinical documentation in the EHR we shouldn't just think about notes and that's something that you brought up, because, you know, I use the audit history of the medication list every day to understand why a patient was taken off a medication. We have graphing functions, we have other tools now that we didn't have before and these are all part of clinical documentation as well, and we should really leverage those things so that we don't have to write long narratives.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Good, Larry?

Lawrence Garber, MD – Medical Director for Informatics – Reliant Medical Group
I'd also like to follow up. In the paper world we always had this issue in emergency room, I mean, you know, we had focus groups as part of my project and we brought in nurses and doctors, and from nursing homes, and ERs, and the emergency room physicians, you know, said that, you know, I get these, you know, voluminous reports from the nursing home when they send this patient in and it has so much garbage in there I didn't have time to read that, you know, just tell me what their allergies are and I'll treat them.

And the issue…part of the problem was that every single facility had their own format in where they stored the data. So, you can't possibly expect an emergency room physician to, you know, be able to know exactly where to look.

As we now go into the electronic world where we're defining standards for the data that's being sent, you know, the next step obviously is, you guys know better than anyone, is to be able to incorporate that data directly in the electronic health record so that you know your electronic health record in the emergency department and you know that when you want to look at the medication list here's where you look and here's when you want to look for allergies here's where you look or immunizations you look here.

So, that there will be standard places to view these so that it's not as overwhelming as receiving, you know, massive documents that you have no idea what the format is, you know, you get used to your tool and I think that will enable us to handle the 480 data elements. You can look at what's necessary and decision support can maybe, you know, bring to the forefront the things that are most critical for you to see.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Bill?

Bill Russell, MD – Health Information Technology Consultant
One other thing and that is the risk, the risk is that meaning of words across multiple disciplines and the level of ambiguity is substantial and so that all has to get sorted out before the data…before it's sort of computed through the entire process, right? And I know that S&I is working on that. So, to me it's not just the data overload but the substantial risk for confusing the recipients of the information.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Sarah?

Sarah Collins, RN, PhD – Nurse Informatician, Knowledge Management Group – Partners Healthcare System
So to your question about unintended consequences, as we look at clinical documentation for coordination and move more towards collaborative tools perhaps as opposed to, you know, silo'd notes something that has come up is that there are different socio-technical requirements of that. So, my documentation is for somebody else to read. So there are different incentives there.

In a study that I did of a prototype of a tool of common goals which allowed clinicians to leverage more of a discussion board then just notes, one of the quotes really from a resident that I was interviewing based on a…he was saying "well I'm worried that this documentation responsibility will just fall to one discipline" and he was saying that may end up being nursing, you know, so we don't want these collaborative tools to just end up, you know, having responsibility that clinicians are documenting below their level of practice.

Christopher Snyder, MD – Chief Medical Information Officer – Peninsula Regional Medical Center
I was going to talk about that too. When you look at documentation, we had a significant push in the 2003 timeframe for utilizing the CDI nurses for clinical documentation as queries concurrently to try to justify levels of severity based on labs. In Maryland we're a waivered Medicare state only one in the union so we're special. We have HSOC who compiles our rates so we educated physicians to document for example CKD Stage 3 or 4 to drive level of severity up so it appropriately met the lab ordering for the next day.

As that's gone forward we've actually had unintended consequences because now we're having to back off on some of that because now they are complications. So, we have potentially preventable complications being documented in a post operative period for our orthopedic patients impacting our regulatory responses with health grades for example.

So, we're now a two star because we taught the doctors to do it the right way and unfortunately Maryland and health grades don't comply with each other and their rates are different. So, it is an unintended consequence of, you know, improving clinical documentation to support medical necessity drives risk.

W
I think I just want to build on the last couple of comments and I think an unintended consequence would be we perfect the technology so well that we no longer have the conversation and I think that that really is going to result in some very challenging and not so good consequences, because I think as professionals there is a richness to the work that we do and I think in having those verbal conversations with each other it brings value to what we see in the EMR and even some of the quantitative data that we all look at. It does bring much more value.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Okay, Paul?

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thanks, Jan; I had a question on OpenNotes. So, your first report out is on the results from surveys of doctors and patients, are there other studies underway? We've talked quite a bit about the kinds of studies, the quality of the note, it's impact on other things. Are there other studies already underway to look at it more formally the impact?

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
We have some papers underway looking at the data from the first cohort and I have to say they're all in the analytic stages. But we would like to look at some things like medication adherence because patients did say that they were taking their medications better. We would like to look at things like maybe decay or not overtime or whether, you know, when notes were new patients looked, did that sustain, we're going to look at that. We are talking about doing some studies in populations beyond primary care; those are all under some discussion and funding searching at this point. But we plan to expand this beyond this original primary care cohort.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Anything to do with the accuracy or quality of the note itself?

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
I'm sorry?

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Anything to do with the accuracy or quality of the note itself? It was interesting; the first panel had an interesting suggestion of having the transparency drive the accuracy and information content which is one of our problems.

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
Well, we don't have data any on that but it is a very interesting idea that this kind of transparency may look at…may encourage patients to correct notes. It may encourage patients to speak up about errors that they find and thank you for that reminder; because that is one of the areas we would like to study.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
But it's not underway right now?

Jan Walker, RN, MBA – Co-Principal Investigator - OpenNotes
Not yet.

Candice Faith Wolk – Patient from OpenNotes
Although, I'd like to add that as a patient I used to go to the doctor and the doctor would say "how do you feel" and I would say "good." And I'd leave, you know, everything was good, I sort of came from the mindset that the doctor would present something to you if they found it. I didn't realize that I had to give them some direction as to where to look.

And what this portal has provided for me is a way to really take it past good and really make sure that what is conveyed in that visit is truly what the patient, what myself, wants the doctor to know and what the doctor is interpreting is truly what I want them to interpret.

So that more than them hearing "oh she's good, she's fine" I might be good but I might have a pain in my back or I might have this or I might have that and I can actually do a checks and balances with OpenNotes in order to receive, you know, that transparency and that confirmation.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Okay, Christine?

Christine Bechtel, MA – Vice President – National Partnership for Women & Families
Thanks, so Neil; I want to come back to the work that you're doing around patient generated health information which I think is really spectacular. We as you probably saw in Stage 3 tried to suggest some potential ways that we could advance the idea of making electronic health records more easily able to collect patient generated data.

I think though that you go into and have a depth of understanding from your experience around whether we…you know, and could assess whether we hit the mark on that or not through those criteria. So, I have two questions, one is are there kind of generic functionalities that we should be trying to advance through Meaningful Use in order to create some economies of scale so that not everybody has to make all of the investment that for example you have to make? So, that's my first question.

Neil W. Wagle, MD, MBA – Medical Director - Brigham & Women's Hospital & Partners
Yeah, I would say that, you know, it depends on what the nature of the data that's coming in. So, we talked in June last year in this committee about taxonomy of patient health generated data and it becomes very difficult if that data is in a narrative form, so if that comes in text that's hard to incorporate. What we've tried to do is focus in on data that can be boiled down to numerical information or to information that can go into coded fields.

So, our challenge with our electronic health record has been how do you store this? Can you treat this information? How do you treat this information? Can you treat is just like lab results or radiology? And I would say a couple of things. One, you need it to be numerically in the system, into a coded field so that one you can have decision support around it so that the system can recognize an alert value and have the same sort of decision support around alert values like labs.

Two, it needs to be numerical so that you can trend it. So, a patient reported outcome is valuable in isolation but it's even more valuable where you can see how it's been moving over time and in response to particular interventions. So, if an intervention occurs have you achieved the outcome that you desired or is there still more that needs to be done.

And then I think there is a potential role for using this in the coordination of care because often times you have data that comes in and is not visible by the right provider. For example, we have patients going through cardiac surgery and we know that often you become depressed after cardiac surgery. But the cardiac surgeon isn't the one appropriate person to deal with that information but he may be the one that's in the clinical setting that's collecting that information.

What would be great is if the system can then take that information and say, hey, this patient is depressed but we don't need to let the cardiac surgeon know that, we need to let the primary care physician know that, we need to let the mental health worker know that and so these are the functionalities that I would say are important.

Christine Bechtel, MA – Vice President – National Partnership for Women & Families
So, and that actually gets to my second question which is it sounds like that's an idea in theory but it's not what you're doing a practice right now? Or is it?

Neil W. Wagle, MD, MBA – Medical Director - Brigham & Women's Hospital & Partners
It is what we're doing in practice. You know we've had to build a lot of these systems from scratch because our electronic health record doesn't have those capabilities. So, we are in the process of getting that in place.

I'll say that, you know, the big challenge we've been having internally is, you know, this committee has a lot of power. Right now a lot of our resources are being put towards complying with Stage 2 and so I'd say that that's incredibly meaningful I think to direct you in your efforts that people are really working towards making this happen, but I'd also say that what you exclude or what you leave out it was also relevant because these efforts are going to crowd out those efforts.

Christine Bechtel, MA – Vice President – National Partnership for Women & Families
Yeah, and I think that's, you know, part of what we'll talk about tomorrow is how do create the freedom for organizations who are more advanced in their thinking regardless of size or location, right? It doesn't have to be just the big guys, to really innovate and to say, you know, yes we've kind of hit the most important things around some of the Stage 2 criteria but, you know, frankly Stage 3 ought to be about allowing some innovation.

So, you know, point taken, but since you are doing the use of, you know, patient generated data in practice, when I thought about that idea, how…is the patient identifying the care team members? How do you know who the primary care doctor is and at least from a patient's perspective in your example I would want my cardiac surgeon to know that I am depressed.

So, I want the whole team to understand that because I may decide to show up over at my physical therapist or my nutritionist in a couple of days too, but then again there's an element of I also want to be the one who's deciding who sees that information and when particularly if it's something that I would define as a sensitive health condition which is something only I can define in many respects, right? So, have you built some processes and ways of doing that but still that allow the technology to continue to be a facilitator?

Neil W. Wagle, MD, MBA – Medical Director - Brigham & Women's Hospital & Partners
I think that's a really great point. What we sort of try to keep top of mind is that there's increasingly this torrent of information that's flowing at providers and, you know, maybe this is a little bit paternalistic, we've tried to keep the patient…our whole effort is to keep the patient at the center of the story.

But what we're trying to do is say who is the right provider and we're making judgments about that and using our electronic systems to identify that person's care team and get the information to who we feel is the right person, it's always available. So, it's available to any of the team members and I think as people get familiar with it they'll use it hopefully broadly. We've actively put it in front of those individuals who we think are best suited to respond to it.

But, you know, I think you're absolutely right, I think a functionality where the patient could have some say in who it's actively put in front of maybe worthwhile.

Christine Bechtel, MA – Vice President – National Partnership for Women & Families
So I assume you haven't had any huge pushback from patients like "hey, I find it creepy that this, you know, provider who wasn't part of my particular care episode just called me on this?"

Neil W. Wagle, MD, MBA – Medical Director - Brigham & Women's Hospital & Partners
On the contrary, patients are extremely excited about a couple of different aspects. One they're excited that we're asking the questions in this first place. A lot of the questions that we're asking they've never been asked before. They said "this is great, this exactly what you should be focusing on" which was a pleasant surprise to us, actually, we were worried that wouldn't be the case. But they're also interested in having the right person get that information. We haven't had any pushback yet, although, I'll be honest we haven't specifically asked about that.

Christine Bechtel, MA – Vice President – National Partnership for Women & Families
Yeah, I'll bet you…so I just put the things together in my brain and maybe the coffee kicked in, but my guess is that the willingness to provide you with data about my mental health state is in fact serving as a proxy consent for you to use that in a way that helps me get better regardless of which provider, that hopefully is a trusted member of my care team, reaches out. So, I appreciate the clarification and really good work.

Neil W. Wagle, MD, MBA – Medical Director - Brigham & Women's Hospital & Partners
Thanks.

M
A process we found very effective was to provide the clinical summary with the appointment reminder not just at the end of the visit. So, at the end of the visit and then before the next visit and the patient took ownership of the reconciliation process. So, they would come in with their appointment reminder and their clinical summary with the updated medication list, with the updated problem list, things that we hadn't gotten in the primary care setting. So, a little extra work sometimes for the primary care doctors who are doing it but a much more complete and accurate record.

Lawrence Garber, MD – Medical Director for Informatics – Reliant Medical Group
And, I'd like to just add, you know, as you think about patient generated data and reinforcing what was said is that it is important to think about the recipients. I mean, it is all about the patient but it is also about the providers who have to manage the data.

So, you know, we'd have patients upload their blood pressures directly into our electronic health record and we've set it up so that even though patients may upload their readings 10 times a day that we really don't need to see those readings maybe for a week at a time or even two weeks and that we want to see what the average is over that period of time.

So, even though its filed directly into our record anyone can see it at any time if they look in the patient's record, it's not really brought to the attention of one of us until we've collected two weeks of batch let's say. And it's not brought to my attention as a primary care physician it's brought to my nurse, part of the care team, so that they can review it and help make decisions and bring the important stuff to me.

If at any point a critical reading is uploaded that's immediately messaged to us, but it's very important to keep in mind that, you know, in order so that we don't completely overwhelm the health care system that we do have these decision supports built into it.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Don?

Donald W. Rucker, MD, MS, MBA – Vice President & Chief Medical Officer - Siemens Corporation
I had follow on question for Neil. So, in looking through your document that you submitted, very interesting, I was curious what you do with like really sick patients, right? So, the people who have multiple comorbidities, right, I mean, that's where most the care dollars are spent, who at least…and I do emergency medicine, come in with essentially global sets of symptoms, right?

Headache, chest pain, shortness of breath, abdominal pain there's a large cadre of those folks who have these things and I was just curious how you deal with the people who are on the sicker end of the spectrum or whether they're yet in your work and in particular I was curious what you do if somebody reports chest pain, right? Because if you come in to a lot of settings with chest pain that's essentially, you know, a troponin and an EKG right off the bat and I'm curious how you sort out potentially fatal, you know, immediately fatal symptoms, those are my questions.

Neil W. Wagle, MD, MBA – Medical Director - Brigham & Women's Hospital & Partners
So, the first thing like with any experiment the more complex your variables are the harder it is to tease out which variables are resulting the outcomes. So we've been looking intensely at these patients for a number of different reasons mainly because we want to say how are we going to start approaching this very complex very sick patient and make their physical functional status, their mental health how are we going to make these things better?

What we're hoping to see as we go on is that these values provide the impetus for certain providers to fix at least certain components or address things that make the patient's life better, their mental health better and then as those things become better maybe we can start addressing, you know, each of these problems one at a time.

You know, there's no great answer. We're hoping…you know, this data is rolling in and we're hoping to see that in patients that we're collecting this information on, the mechanisms to improve their outcomes will manifest.

As for the chest pain question, this is a great question we've had two questions around this, one liability. So, if you were including this information that's possibly alert level information into the record is the physician then liable for that information "look I told you I had chest pain and nobody did anything about it." But, you know, liability aside we want to get information that's relevant and act on it. So here's what we've decided to do.

One, as soon as the patient takes this, the patient reported outcomes they get a snapshot report that says if they have an alert level it says, you know, immediately call your provider this is not a substitute for, you know, routine care and that seems to handle much of the liability.

But we also have that information going into a coded field then we set thresholds. So, if someone says "I have chest pain" and it reaches a certain level that we, you know, consider critical it generates an alert that's goes to the appropriate person.

We've actually thought a lot about whether to include narrative components and I think that there is a lot to be gained from patients including a narrative and having that as a point of discussion. But as you know anyplace you leave open for a patient to enter information they can potentially say "I have crushing chest pain right now" and you can't generate that same sort of decision support around that. So, for the moment that has led to the decision that we're not going to collect open ended narrative information and just restrict it to information that can go into coded fields.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Go ahead Joe.

Joe Heyman, MD – Whittier IPA
Two things, one getting back to Christine's question, why is it that you would not ask the patient first whether or not you can give that information to the other member of the team? It seems to me if I were a patient who had either a psychiatric condition or perhaps some reproductive health thing that I would want to know first before you notified somebody else who I'd never seen before.

Neil W. Wagle, MD, MBA – Medical Director - Brigham & Women's Hospital & Partners
Yeah, the way we start out when the patient first looks at the tablet there's an animation that orients them to what's about to happen and what's explained in the orientation is that this information is going to be used by the care team and it shows the range of providers that may be seeing this information. We stress that the information is confidential in that it's used between the patient and his or her own care team and so that's the explanation that we give.

We've have few patients then decline to fill it out knowing that it's not just between them and the doctor they're about to see but between them and their care team. So, you know, we haven't had any issues come up yet.

Joe Heyman, MD – Whittier IPA
The other thing that, listening to this panel and the previous panel, one of the things that's occurred to me is you have all these different members of these teams and you want to coordinate the care and all of them have different workflows that require them to document things in different ways and then those same people, on the same team, when they need information they need information in different ways from each other.

So, it seems to me that it would be difficult to require a single health record to be able to document in different ways then take the data in and be able to provide it out in different ways and I'm just wondering if what we're hearing is that we need some other piece of software that's outside of the medical record that is used particularly for care coordination so that it can remove what it needs from whatever you've document and then present it in a way that you particularly need as your particular place on the team. I'm just wondering what you think about that?

W
Well to that point, I think that it's useful to always remind ourselves that the process of care, patient care really is the scientific process. So we talk about in nursing the nursing process assessing, planning, intervening, etcetera. It really is just that scientific process and so the way that our EHRs are today it's difficult to just, you know, put that on top of it. But I think that perhaps the solution is to look at the infrastructure of how we model them and keep that process in mind because while in each instance of patient care it may not be apparent that your documentation is reflecting all of those aspects of the process, you know, it is part of it.

W
I also wanted to comment on that. So, I just wanted to remind everyone the visual of, you know, a nurse at a home health agency receiving a gigantic packet of papers from the hospital and, you know, those notes were never meant to be read by one human there are notes from every discipline there and they meant those notes for other people in their own discipline. So, that's what we're facing right now and I think just, you know, as I was saying before clinical documentation is not just the notes it's everything that goes into the process and so we really do need tools like something to digest the information, synthesize the information and intelligently present it at the right time to the right person.

M
I think that gets really to what I referred to earlier which is the need for much broader register of standards for the documents to support nonmedical but very important, you know, team members and the issue of sort of semantically harmonizing a core set of key concepts the way impact has identified, right? So, that people would be asking the same screening questions for depression, the same questions and answers for functional status, the same terminologies for pressure ulcers for example.

And getting that core set of…because we know there's a handful of complications that undermine success for a huge number of patients and just begin to work that process through as I think you've done with functional status, cognitive status and pressure ulcers and then just expand those vocabularies and those value sets to be inclusive of the healthcare team and I think you'd be off to a good start.

Christopher Snyder, MD – Chief Medical Information Officer – Peninsula Regional Medical Center
As a hospitalist when I document in my progress report I have an intent for what I'm documenting at the time I document, that intent is really specific based on my thought process, typically it's a clinical intent first then it's a coding intent, then there's a medical legal intent. So, it's based on different sources and I think this is really a valuable discussion, because my intent really right now that viewability of my intent is buried in many cases.

And there's not a day that goes by that Dr. Thompson, one of the pulmonologist, comes up and says "well, there's that five page note you all printed out." And I say "Tom/Greg look at just the bottom, look at the assessment and plan that's what you want to see" and it's apparent to me that there are sources and I may ask the GI guys, they may want a different section, or the nursing staff, or the case managers, or social workers they look at a different section.

There's not a day that goes by where somebody is not allocating my documentation for their need in the next level of care and unfortunately the author, the physician or the mid-level is typically held to a standard saying "this is a horrible note." And I hear that on a daily basis as the author, very challenging and I'm not sure what the answer is but I do hear what we're saying is correct. We have intent but we need to give the source of who's receiving that and that message the information they need to perform their task.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
Amy?

Amy Zimmerman – State HIT Coordinator – Rhode Island Department of Health & Human Services
All right, well this again follows a little bit along that and it may be more targeted a little bit to Larry but being right down 95 we're very grateful to have Larry there and the question really goes to two points, much like Massachusetts which I believe has a voluntary universal transfer form, in Rhode Island we have a state required continuity of care form that's required from transition of facility to facility and I know there are other states that have this to. So, from the state, you know, from a state perspective I'm always trying to figure out how are we going to get that to align with national standards and where we're going with Meaningful Use?

My question is this, especially in…where we have still many long-term care facilities and home health agencies that are not electronic yet and hospitals and large, you know, integrated networks that want electronic. So, I have two questions. One is sort of what is the experience in terms of this sort of half paper half electronic world when we're talking about transitions of care across settings that are all at different points of becoming electronic?

And the second question really has to do…it gets back to a comment, I think, Larry you were making around sort of, you know, different people want to look at the information in a concise way. I mean, one of the things that we're hearing constantly in, at least my state, is a push to sort of have this standardized clinical summary, continuity of care, transitions of care form, however, we call it, wherever it may be, to actually from a style sheet point-of-view be consistent across, in my case, the state, because everyone would then be trained to know exactly where to go to look for the information and does anyone have experience with that versus how it renders in your own EHR? So, this is sort of tension that we have all along.

And the third tension we have, if anyone can address is this issue that the long-term care, home health sort of non-hospital-based providers often want a lot more information than the hospital generators from an inpatient or ED state feel they have the time to sort of…they're still saying there's a lot that they can't pull out of their EHR that they have to then data enter that just doesn't come automatically out of the EHR and so we have this constant tension between how to blend this in a way that can sort of meet multiple needs but really, you know, with the intent to provide the information that's needed around a transfer of care. So, I know I put a lot out there but any response or thoughts, or reaction would be helpful.

Lawrence Garber, MD – Medical Director for Informatics – Reliant Medical Group
Do I have an hour is that okay?

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
We've got 10 minutes.

Lawrence Garber, MD – Medical Director for Informatics – Reliant Medical Group
So, one thing you brought up was the issue of technology deployment, you know, the fact that we live in communities particularly where we're doing our project in Central Massachusetts where very few of the nursing facilities have electronic health records yet we want them to play in the electronic health information exchange world.

So, as part of our ONC grant, which is the IMPACT Project that's been mentioned, we're developing a very thin and actually it will be open-source, free open source tool that allows a nursing home to use a web browser to be able to access a HISP mailbox and view this CDA-based document that they've received and to be able to actually use that as a starting point or reconcile two of them as a starting point for creating a new CDA document for one of these transfer of care summaries or shared care summaries or whichever and so that they can participate without having to have an electronic health record.

And the way we're making that also fit in say the nursing home workflows is that when their patient is crumping, getting worse and the first thing they're doing is using interact tools to complete an SBAR and then after that they're completing an interact transfer form and so instead of having to do that on paper or copying it from somewhere they can actually start with what they received when they got the patient in the first place from the hospital, the electronic data.

They can update that with, okay, they now they have these medications or they can pull in their NDS which has their current wound status and then they can, you know, create the SBAR and then they can create, you know, right in this tool create the transfer form and then send it.

So, they can reuse data to make their workflows more efficient and so I think that…you know, we're going to be piloting this in May, so we'll let you know then if in theory, you know, reality it comes out to be the same. But, I think that you need…you know, we need to get the rest of the long-term post acute care into true electronic health records and this is just a stop gap for that.

In terms of the style sheets to have a consistent view, you know, I guess I don't have a good answer for that, you know, this is something that I think is important. I'm not sure whether…I'm not certain whether part of the HL7 ballot there's actually a style sheet that comes out of that and I saw Don Mon in the back and maybe he can…I don't knows from the implementation guides whether those would also include that.

In terms of, you know, the ability to capture the information we actually piloted the large data set on paper and among these 16 organizations in Central Massachusetts and the vast majority of them were able to obtain all of the data elements that the receivers needed. So, even those this was far more than what's in the CCD they were actually capturing the vast majority of it already it's just that it was in different places and so most of…so we think that this is doable and hopefully in the electronic world with standards by the reuse of data this will actually happen.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
So, any other closing comments or questions? It's just about lunch time? Okay, well thank you very much for your time. Great testimony, very good discussion this morning.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you and we're pretty much right on time and so we have a lunch break until 1:30 when we'll begin with panel three. Thank you.

MacKenzie Robertson – Office of the National Coordinator
If I could ask all of panel three to please come up to the panelist table we'll get started in just a minute. Could the panel three panelists please come up to the table please? Operator could you please open the lines?

Operator
All lines are bridged.

MacKenzie Robertson – Office of the National Coordinator
Thank you, we're just now reconvening after lunch for panel three and I will turn the agenda over to Paul Tang to do the moderating.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Okay, thank you and welcome back, everyone. So, in the morning we talked about the clinical documentation for primarily for the patient's point-of-view and directly with the patient. We also talked about how we improve the care coordination or use this instrument to help us improve the communication and coordination for patient care.

In the afternoon there are other uses not necessarily…they both…they still contribute to patient care but they're a little bit removed and this panel three it's secondary uses and again the secondary uses doesn't mean it has no impact. We hope that it comes back and impacts not only the population but individuals.

So we have a rich panel here as well and we'll begin with Michael Buck from the New York City Department of Health and Mental Hygiene. Michael?

Michael D. Buck, PhD – Director Biomedical Informatics – New York City Department of Health and Mental Hygiene
Great, so my name is Michael Buck and I am currently the Director of Biomedical Informatics for the Primary Care Information Project or PCIP within the New York City Department of Health and Mental Hygiene.

PCIP has helped over 8000 providers in over 1000 practices to adopt and use an EHR since 2005. Our bureau focuses on using EHR clinical data to measure the health of the community, assess gaps in care, allocate resources through informed policy making and to provide feedback to those providers so they can maximize their own healthcare delivery.

Through our partnerships with multiple EHR vendors we have received regular daily and monthly transmissions of our aggregate count data from our network of practices in a variety of areas including acute, chronic, disease quality measures, syndromic surveillance, Meaningful Use, pay for performance and so on.

In our bureau we have limited our EHR data usage to aggregate counts which means we do not require any patient PHI to implement our programs. This aggregate data approach allows us to minimize privacy risks, maximize provider participation and to simplify technical implementations.

Overall we have found that instead of spending significant time and resources building systems that can only send us a limited set of individual quality metrics for a few clinic conditions such as only for syndromic surveillance or only for disease registries, we now focus on developing what we call dynamic query platforms with our vendors.

For example, we currently have 600 eClinicalWorks ambulatory practices that have over 300 million patient records. Every night we can develop our own custom built quality measure queries send those out to those practice's systems and the next day they respond with the aggregate data counts allowing us to take a real-time pulse of the approximately 20% of the New York City ambulatory care market. This approach has allowed us to gather information for areas affected by Hurricane Sandy and for new public health campaigns that could not have been done with a limited set of quality metrics.

While we have enjoyed great success with our current systems and approach using proprietary vendor solutions in order to scale beyond a handful of vendors this would require national interoperability standards to be defined and implemented widespread.

Fortunately, over the last year the Query Health Initiative within the ONC S&I Framework has targeted this exact area to enable the dynamic querying of systems the initiative has identified the need for a common clinical data model and value sets based upon existing standards including the consolidated CDA, QRDA and the National Quality Forum's Quality Data Model as the primary source of information. Second, a common query definition syntax is also necessary as defined by the HL7 HQMF format.

Along with the appropriate policy and privacy guidelines these clinical and technical standards are now being field tested by multiple Query Health pilot sites using production ready tools including i2b2, PopMedNet and hQuery. Most of these standards are fortunately already required for 2014 EHR certification for vendors as relates to quality measure capability for Stage 2 of Meaningful Use.

It is our recommendation that in Stage 3 EHR vendors be required to extend their systems further. They should move beyond the limited evaluation of a handful of individually specified CMS measures to a more dynamic query platform in which multiple clinical questions for public health, research, new payment models could be explored and answered dynamically and on demand.

We also recommend that the statewide HIEs and their associated vendors receive ONC guidance and support to implement similar dynamic query platforms as many are pursuing the development of significant data repositories to support their business models.

Last month PCIP in partnership with the New York State Department of Health started its work to integrate the Query Health platform into our statewide HIE network as managed by the New York eHealth Collaborative. This approach should give us significant visibility in both the ambulatory and inpatient environments in the next few months.

In addition, the use of the systems will enable institutions like our public health department to begin aggregating, analyzing and feeding this information back to providers and patients so they will be better informed as to the health of their community. We encourage the development of clinical dashboards and portals for these groups so they will have useful access to this important feedback.

In summary, our primary recommendations are to support the development and implementation of dynamic query platforms as described by the Query Health Initiative and two, to encourage and require vendors to develop quality feedback mechanisms for providers within their systems in the form of reports and actionable summary dashboards. Thank you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Perfect, all right. Roland Gamache from Indiana University School of Medicine?

Roland Gamache, PhD, MBA – Assistant Research Professor – Indiana University School of Medicine
Thank you. I would like to thank the panel for the invitation to present my comments here this afternoon. My background is actually 18 years with the Indiana State Department of Health and I've been with the Indiana University as a faculty member for four years now.

I would like to put some of these comments in perspective a little bit. What I'm try to get at and a lot of the different areas I'm talk about are some quality measures related to quality principles of how we are trying to use the secondary use of data and part of that is the feedback mechanism and getting population-based feedback back to the clinicians that actually impacts the clinical encounter.

So, the data needed for the EMR, one of the systems that we've had in place in Indiana is an automated reporting to public health using a notifyable condition detector. I think Dr. Grannis is going to describe that in a little more detail so I don't want to spend too much time on it.

But, we're trying to reuse that information that we collect and part of the feedback or part of the mechanism that drives that forward is that the clinician needs to spend less time now reporting results to public health. So, the results get there or they get there faster and there's less time needed by the clinician in the process at the same time.

Also you can use some of these similar measures for some of the public health-based registries including cancer and we're currently working on a project with the State of Kentucky in order to look at the automated reporting of cancer cases, particularly pathology reports from pediatrics so that we can get children enrolled in the programs faster. If they don't get the information timely these kids can't be signed up into some of the protocols that might benefit them better because all the information wasn't there and they may not know that they were qualified for that particular program or not.

On a more complex issue related to data usage we just worked on a paper looking at LOINC codes and this is particularly…what I was concerned about were the areas where there wasn't a high implementation of LOINC and standard codes in the EMR yet and what people need to do in that transition and it's working a lot with people in rural health areas so that's kind of what drove me in this space a little bit.

But, if we look at some of the implementation a lot of clinician groups and hospitals particularly will use the top 2000 to start coding to look at LOINC codes that they're going to start coding with. So, we'll start with that code set first. What does that mean to public health reporting then if we don't use those…if we just use those top 2000 codes? So, we looked at what the codes were, there are about 450 in our database that were used, LOINC codes out of the 60,000 that are there and all but 130 of them were in the top 2000.

So, that communication between primary care and clinical care delivery and public health I think is really important, because just by adding a few more codes to that 2000 you could easily take care of 98% of the public health concerns regarding automated reporting then.

On looking at some of the privacy issues and reporting for standards across…particularly across state lines, Indiana and Ohio have been sharing syndromic surveillance information for a number of years and on a couple of occasions we've had a couple of Super Bowls in Indiana, one was actually one we participated in, it was in Miami, Florida against the Chicago Bears at the time and Indiana, we were able to share that information because all these different public agencies used the same software at the time in order to look at syndromic surveillance information. So, we actually shared that information during the game of what was going on and it happened as well during the Super Bowl this year or last year as well as at Indianapolis. So, those are two places where you get set up in a timely manner and so the systems were in place to do that.

Some of the other concerns Indiana has kind of minimum requirements for sharing content of information, but what I haven't heard anybody bring up yet are things like FERPA and some of the antitrust requirements as well that sometimes get in the way of sharing good information. Part 42 of the substance abuse requirements has a more stringent requirement for sharing information as well.

One of the other ones that we were able to do is looking at a TV project for sharing alerts and this was a partnership with public health and again this looked at using the information from the public health department to the clinician trying to get that feedback loop of timely information from public health to the clinical group in order to ascertain cases of TB in the indigent population that we didn't see by normal means. So, those are the main areas anyway that were of interest.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you. Shaun Grannis from Regenstrief?

Shaun Grannis, MD, MS, FAAFP – Regenstrief Institute, Incorporated

Great, thank you for the opportunity to provide perspectives on the role of clinical documentation for secondary uses. My professional mission has largely focused on developing and evaluating strategies for leveraging routinely collected clinical data for secondary use and I bring perspectives from my experience at Indiana University and Regenstrief as a Biomedical Informatics Research Scientists, a Family Physician and as a Director of a CDC funded Center of Excellence in Public Health Informatics where I've developed, deployed and evaluated operational health information exchange and public health informatics solutions regionally, nationally and internationally.

Two concepts are fundamental to what I'm going to say today and so I want to get them out there and defined and they are primary use and secondary use. Charlie Safran's article in 2007 JAIMIA succinctly designed primary use as data collected about and used for the care of an individual patient. Secondary use is everything else it's the compliment, it's the counterpart. So these are things like…and we've talked about this but I want to say what I think secondary use is.

There are things like population health analysis, research, quality, safety measurement, provider certification, accreditation, marketing, other business applications including strictly commercial activities, why did I define that? Well, Dr. Mostashari this morning said the population, the audience for this data is growing so the primary purposes for which this data is being collected is growing and changing.

Therefore, the secondary use, the complimentary uses of this data is also changing and we have to manage that for clarity. Lack of agreement or persistent variation on the definition of what we mean by secondary use will hinder effective public policy and I haven't heard us debate or wrangle on what we mean by secondary use yet. So, with that in mind I'm going to try the four step framework that I've used in my work for achieving successful secondary use of data.

This isn't rocket science but define the requirements for the particular secondary use case you want to use. Farzad said "who are the audiences that you're gathering this data for?" Assess the goodness of fit of currently collected data for desired secondary uses. If that data is fit for a desired purpose then secondary use away. If not, then this is where we have to develop strategies to get more different new data.

And so, note the four step framework I've just described has two implications, you either use what you've already got or you get more data. Those are the only two choices we have, either use what you've got or you get new data.

So folks have already said today and I'm sure others will further discuss why the secondary strategy…the second strategy of acquiring new data that poses further burdens on already encumbered care providers represents a significant challenge.

So, I'm saying doctors are already busy, ask them to gather more data is probably not be a successful approach. So, with those initial premises in place I want to describe a couple of experiences I've had with real world secondary data use for two real purposes, number one, you guys had some questions you wanted us to answer and number two, I want to illustrate how this framework has worked in helping us develop successful sustainable secondary use of data.

So, H1N1, I'm going move quickly now, H1N1 as we all know came about nobody had any tests for H1NI data so we all scrambled to decide how to detect this. Well, we used chief complaint, ICD-9 codes, laboratory tests and actually came up with a way to recognize when physicians were over testing when prevalence of the disease actually wasn't there and so we could actually see when the actual population prevalence was high for H1N1. We did that for local public health.

Federal public health working with our CDC partners they wanted temperatures on all patients who came in the emergency departments. Of our 100 emergency departments in our syndromic surveillance system one hospital gathered temperature electronically. After getting over the CDC's incredulity we actually got to a point where we could say why did you want temperature? Well, we wanted to identify high risk cohorts.

So, we said, wait a minute, we can't get temperature but, you know, what we gather location data, inpatient, outpatient, emergency department. If we identify patients who come into the ED with a chief complaint of influenza and then are admitted to the hospital, aren't those high risk people? Yeah, that works. So, it took us six weeks to arrive at that decision with the CDC but we were able to accomplish their secondary use by thinking through the data. I have a long list of other secondary use cases, but I'm going to, with my 34 seconds left, I'm going to go to summary.

So, our experiences strongly suggest that routinely collected clinical data can meaningfully support a variety of secondary cases but to do so we need clear definitions and expectations for the secondary use cases we wish to support before gathering new data elements we should evaluate whether already collected data can support secondary uses, a joint assessment requires deep knowledge of the informational characteristics of existing clinical data and clinical data collection processes as well as frankly creativity. Much more can be said but I'll end my comments there and I look forward to a robust dialogue.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you, Shaun. And next is Marc Overhage from Siemens.

J. Marc Overhage, MD, PhD – Chief Medical Informatics Officer – Siemens Healthcare
Well timed and I would have yielded minutes to the gentleman from Indiana if he'd asked. Thank you, my name is Marc Overhage and I'm trying to bring the perspective twofold, one is 25 years or so as a health services researcher and informatician in Indiana where I both used and generated clinical data through EHRs for research, quality measurement and public health, but also solicited input from my colleagues at Siemens Healthcare where they've been able to learn from our customers across the world about some of the challenges and issues related to the role of clinical documentation for secondary use.

And one of the things that struck me as I tried to think about where I could say something interesting and worthwhile instead of repeating what others have said is to focus on the disconnects that happen at the data acquisition point if you will.

And if you think about the process of data being acquired from a patient by a clinician, it has to be remembered, recorded into a system of some kind, an electronic health record and that remembered part turned out to be more important than I realized when I first started thinking about it.

So, for example, so one disconnect or challenge that we have is that the clinician is often forced to remember this data before recording it for a whole variety of reasons. We haven't mastered yet a great way for a clinician to record information while they're face to face with the patient without interfering with the interaction and the relationship. Often the constraint and the amount of time that we allot for a patient visit for economic reasons leads to the fact that the clinician may not record their findings for hours, days, weeks or months in some cases.

The third thing is that our electronic health record systems which we're so proud to see deployed slow them down in that process. We have good evidence that it's multiple minutes per patient that documenting in an electronic system consumes which just further exacerbates the problem.

And then on top of that when you think about the number of data elements that are required for a clinician to collect for the multiple purposes even if you restrict it just to the billing and clinical care use cases, you're talking about hundreds of data elements in a particular encounter and then recall the number of things we can keep in short-term memory and process, and think about the opportunity for failing to record to transfer the data that we learned and perhaps used in our clinical reasoning to the record at a later point in time.

And so, I think that that gap of those things which are clinically relevant, I gather and I want to record but because of all these barriers may fail to record is one of the very significant issues.

A second one and this is probably just as important it gets to be a little bit glass half empty/half full and I think Dr. Grannis alluded to this, is that many researchers would ideally ask that providers collect additional data elements that they don't need for their routine clinical care, public health uses, research uses and so on, all might benefit from certain data being captured that are not necessarily part of routine clinical care but in fact there is no business case for doing that, that extra time, it exacerbates the recording of clinically relevant problems, as I talked about, and on top of that the elements that you might collect are not necessarily going to be at the level of structure and rigor that you might desire for clinical care.

So, a concrete example being the researcher would like to see the SF36 for every patient. I might, as a clinician, be happy with the "how are you doing today, John" the answer to that question is a proxy for that detailed measurement, again, because of the time constraints and so on.

So, given that every data element that might be needed for secondary use isn't going to be captured, inference is critical and Dr. Grannis gave some examples of using that, but that inference might be a whole variety of forms. It might need to account for missing data and in fact that can work. It just depends on what your secondary use is.

Because inference itself and errors that occur as a result of inference are not necessarily intolerable. What becomes intolerable is when the errors derived in inference are biased in some way, but this gets to how we are try to use and interpret the data.

So, lastly, I think the increasingly electronic data that we have from data sources, from instruments, from sensors, from the electronic health record obviously create many more opportunities to capture and reuse data for multiple purposes but we have to live within the boundaries, the constraints of both the practicalities of what the clinician can do as well as within the constraints of what data could be available in order to accomplish these secondary uses. Thank you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you. Marjorie Rallins?

Marjorie Rallins, DPM – Director of Measures, Standards and Informatics for the Performance Improvement Division – American Medical Association
Thank you, good afternoon I'm Marjorie Rallins and I'm the Director of Measure Implementation and Informatics and Staff to the AMA Convened Physician Consortium for Performance Improvement otherwise known as the AMA PCPI. Many of you know that the PCPI is nationally recognized for measure development, specifications and testing of clinical quality measures, and enabling the use of those measures with the data collected from electronic health records.

Since the inception of PCPI in 2000 we are aware of the greater need of outcome measures and the focus on complex themes such as care coordination and shared decision making and they have a significant impact on the clinical documentation needs and functionality of EHRs. So, my testimony today will address those questions pertinent to our experience and through the lens of clinical quality measures.

First we'd like to discuss the interplay between data needed for secondary use and data collected in EHRs. We believe the linkage of data collection with the natural workflow of the physician and healthcare team is critically important to achieve effective clinical decision support and automated quality measure reporting.

At times the linkage of data collection with workflow is challenging especially when the necessary information is located in unstructured fields. Relevant data for care coordination and shared decision making are frequently stored as unstructured free text and scanned reports from diagnostic systems.

Imagine the care of a patient post discharge that was coordinated appropriately and where the patient's preferences were actually factored into the treatment plan but because the data aren't structured it is difficult to assess through automated methods that these actions actually occurred.

So, we believe a solution to this challenge could be reached through continued collaboration amongst stakeholders to identify a set of standardized common data elements that are or can be integrated into workflow and also enable automated quality reporting.

Moving on fundamentally we believe that capturing data in structured data fields is optimal for secondary uses of data. However, realistically we know that a certain amount of unstructured fields will remain in the EHRs. Again, we recommend collaboration amongst stakeholders to identify a common data model so that the context of use for unstructured data is understood, leveraged and able to be analyzed with structured data.

Furthermore, while quality measures rely on data related clinical documentation they also benefit from the metadata that surrounds the elements in EHRs and clinical registries. For example, for a closing the referral loop measure we need to know if and when the ordering physician reviewed the consult report. It isn't sufficient to just know that it was received by the initial practice that made the referral.

So, assessing the process of reviewing the consult report can be achieved using metadata which then relieves the physician from selecting the check box. We could simply have the system track data like this and then be able to report on it with quality measures.

Finally, we'd like to briefly touch on the role of inference and capturing data for secondary use. What's important for us is to be able to infer clinical decision making from the information that's actually documented in an EHR, for example, triggers related to abnormal lab values can indicate the need for further investigation and study.

Inference can also be helpful to identify those clinical actions that is did not happen and that's really important for reporting the results of overuse measures or measure exception reporting. For example, a note might state that an ACE, ARB was not ordered for a patient, for a heart failure patient, because of their intolerance to the medication. And currently we use very complex negation in our measured logic.

However, we believe that logic could be rendered much more elegant if it were able to leverage the inference capabilities such as the timing and order of things that happened upstream in the electronic health record or clinical registry. So, again, I appreciate the opportunity to comment and look forward to discussing these further. Thanks.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you, Marjorie. And Rosemary Kennedy from NQF?

Rosemary Kennedy, PhD, RN, MBA, FAAN – Vice President for Health Information Technology – National Quality Forum – Associate Professor Thomas Jefferson University School of Nursing
Good afternoon, I am Rosemary Kennedy Vice President of Health Information Technology at the National Quality Forum, Associate Professor of Nursing at Thomas Jefferson University and a Practicing Nurse.

My testimony is based on a broad definition of clinical documentation and will focus on its subsequent use in quality measurement and improvement. The EHR in addition to being a tool to support documentation and care delivery is now a tool to support quality measurement and improvement. This paradigm shift from focusing on individual patient care to performance measurement forms the foundation for disconnects as well as opportunities to use EHR data for secondary uses.

Solutions though extend beyond technology and they go into organizational culture, methods to streamline implementation of EHR documentation and process reengineering. Solutions require tighter collaboration between three domain areas, quality measurement, informatics and process reengineering. Although there are many disconnects I will focus on three major areas as well as solutions.

First, some quality measures use denominator exceptions to remove patients or events from the denominator. My fellow colleagues refer to exclusion criteria and the challenges related to documentation. One concrete example, for instance there may be a valid reason for not ordering a discharge medication. Therefore the measure requires discharge medication not ordered and not done along with a reason.

However, exceptions are not frequently captured in EHRs, as Dr. Overhage alluded to clinicians are challenged to record what is actually needed for care delivery yet alone exceptions. This requires additional data entry which could increase the documentation burden and costs, consideration of the return on investment for certain data elements is really needed as well as additional research. Inference may help in this situation by leveraging sources of documentation from all members of the clinical team.

Second for other quality measures there is a slight semantic mismatch between data required for quality measurement and EHR data. Some quality measures require principal diagnosis as an example. This is typically confirmed after inpatient discharge and is usually stored outside of the electronic health record, not something I usually pass on to a clinician as I'm doing rounds or a shift report, this creates a disconnect.

Currently measured developers are collaborating with all stakeholders to evaluate whether another diagnosis, such as discharge diagnosis, primary diagnosis were more closely aligned with care workflow while still preserving and potentially even enhancing the meaning of the quality measure. This collaboration shows the value of bringing measured developers, clinicians and vendors to the table.

In other situations there is tremendous variation in data capture between providers, in other words they all use different value sets and codes. Many of these issues are being addressed by the National Library of Medicine Value Set Authority Center.

The eMeasure Learning Collaborative was an HHS funded initiative convening stakeholders across the entire healthcare spectrum to discuss challenges and identify solutions on the effective use of EHRs for electronic performance measurement. This goes back to my point that in order to move the needle forward we need to have collaboration between quality measurement experts, informatics, clinicians. They identified recommendations around three major areas including organizational leadership, data representation and workflow.

Recommended solutions include creation of forums for joint interactive communication between measure developers and stakeholders from the entire healthcare enterprise early in the electronic quality measurement process particularly when measure developers are selecting and representing data within eMeasure logic, this will help to align documentation with secondary uses of data. Also NQF's experience in this process we actually identified solutions and opportunities to leverage the data stream that's currently occurring in electronic health records.

Second, development of methods into integrate intent of the quality measure into processes of care not just point of care documentation. This includes decision support alerts, prompts and dashboards integrated into workflow whereby measuring intent is made meaningful during care delivery. As a concrete example, a dashboard that I receive is that a large number of patients are at risk for falls over the past 40 hours based on clinical documentation, it provides a clinician an opportunity to actually adjust care while it's occurring as opposed to after the fact.

Creation of methods to share quality measures directly with patients. Currently at Thomas Jefferson University, quality measures are included in a discharge summary along with other documentation. This is a review with the patient during the initial home care visit aligning the quality measure and what the organization is trying to achieve with point of care documentation.

Fourth, development of implementation road maps leveraging best practices to reduce implementation cost to support the leadership teams in these organizations in terms of teaching them how to use point of care documentation for secondary use and a total re-evaluation of existing electronic clinical documentation methods and practices, this could span technological innovation and/or changes in work processes that is leverage all members of the entire clinical team including the patient.

Research study at Thomas Jefferson University, patients are entering information into their personal health records and they assume it's going to be available for their primary care physician in the initial visit. Thank you for this opportunity to provide testimony.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
And next is Joe Selby from PCORI.

Joe V. Selby, MD, MPH – Executive Director – Patient-Centered Outcomes Research Institute (PCORI)
Thank you, Paul and thank you to the ONC and the panel for this invitation. I speak on behalf of the Patient-Centered Outcomes Research Institute. I will reveal a bias going in; I shared this with Dr. Grannis and Dr. Overhage, and Dr. Kennedy this long held sense that, particularly speaking as a researcher, so I'm one down the stream from performance improvement and quality measurement. Researchers have a very long history of making do with the clinically collected data and a principle that I had to abide by quite strictly at Kaiser Permanente for a number of years was to do no harm and was to make do with the data that was generated in the clinical process.

So, my inclination going in is as others have expressed, do not get in the way of clinical care as you begin to talk about what the EHR could do for research. That having been said, several things have changed not the least of which is the arrival of the EHR.

Marc spoke about the need for a business case that goes beyond delivering clinical care and I think performance measurement has really led the way there and shown, expanded the business case. So, I've seen the need for performance data drive the installation of one of the first major instances of EPIC at Kaiser Permanente. Reimbursement, accreditation and public reporting of quality have pointed to the fact that expanded use of the EHR to collect new data is in the business case of clinicians and healthcare delivery systems.

More recently the arrival of comparative effectiveness research, the notion that the nation could become a learning healthcare system, the notion that practicing in the absence of certainty about what is the right treatment, the notion that patients have questions that need to be answered has pointed to a new reason, that is not yet a business case, but a new reason to begin thinking about the EHR and clinical care in general as a source of data for research.

I have in fact, been persuaded that you can build a good case that it is unethical not to collect data and ask questions and answer questions in the process of delivering care. So, among the initiatives that I hope the ONC and Meaningful Use is able to pursue over the years is the involvement of the healthcare systems and the clinicians in those systems in the Meaningful Use of that data for, among other things, research.

I will admit that PCORI shares the vision of a national infrastructure for comparative effectiveness research. We share it with ONC, we share it with NIH, we share it with the FDA, AHRQ and many others.

So, I'm going to speak…I think I'm the first one to speak actually from the perspective of what research could need and again, I say, now that we acknowledge that there is an ethical imperative to build research into clinical care it makes sense for me to make these comments.

Comparative effectiveness research is first and foremost about comparing two patient groups, one group treated one way and the other the other way. We need to know with great detail, with great certainty that those two groups are not fundamentally different. So, the differences in outcomes we observe actually mean that the treatments are different and not that the patients are different.

We need more data in a variety of areas. We need better data. We need more complete data. So, excellent demographics and demographics go beyond race, ethnicity to primary language and educational level. We need complete data on comorbidities and this is often difficult to capture particularly at the point that a patient enters an electronic health record in a system of care for the first time, ideal time to collect data on comorbidities and also patient reported behavior.

So, the notion…I worked at Kaiser Permanente where the health risk appraisal was widely pursued but it wasn't put into the electronic health record except as a picture, it was a blob in the electronic health record, no use at all for research whereas there was no other place to get that patient reported data. So, patient reported data on comorbidities, patient reported data on behaviors and of course, selective use of patient reported data on outcomes. That needs to be guided by again the principle that that outcome has clinical utility, I think, otherwise, you would be forcing a lot of unneeded work onto clinicians.

Disease specific data, if it were possible to gather more data once the diagnosis is made so one actually can look at and understand the severity of the certainty of the diagnosis. Inference is good but you could really enhance inference. That same data helps you identify the sub groups that in CER are critically important to understand whether treatments work the same on everybody.

Data on social support is a type of data that has clinical meaning, how much social support does this patient have. It is a demographic that's rarely captured. Structured data on treatments particularly treatments in the form of procedures and devices…

MacKenzie Robertson – Office of the National Coordinator
Joe?

Joe V. Selby, MD, MPH – Executive Director – Patient-Centered Outcomes Research Institute (PCORI)
Are often collected in separate registers.

MacKenzie Robertson – Office of the National Coordinator
Mr. Selby I just want to say your five minutes are up.

Joe V. Selby, MD, MPH – Executive Director – Patient-Centered Outcomes Research Institute (PCORI)
Okay, I can stop at any point. Let's see, just in closing, the notion that a CER is a new use of electronic health record data is not going to work unless the providers and the systems in which they work are brought into the business case for CER.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Good, thanks, Joe. And then Becky Kush is on the phone?

Rebecca D. Kush, PhD – Founder, Chief Executive Officer, President & Director – Clinical Data Interchange Standards Consortium (CDISC)
Yes, can you hear me okay?

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
We can hear you.

Rebecca D. Kush, PhD – Founder, Chief Executive Officer, President & Director – Clinical Data Interchange Standards Consortium (CDISC)
I'm sorry that I can't be there in person and I have provided my written comments and the answers to the questions as well as some pictures because they might be better than my face actually. And I'm providing my remarks specifically to address research. So, I'm very pleased to follow Dr. Selby in that regard. I believe that my remarks will support a number of the principles that were covered in the morning about the AMIA report.

Last week we hosted a meeting on the topic of essential standards to allow able learning for a learning healthcare system. One consistent theme during the opening remarks by experts from around the country was that the quality of the information in the EHRs is critical for a number of reasons. Poor quality data engenders a lack of trust by all stakeholder communities, users, providers, patients, everyone.

My own experience has actually born this out in looking at what was entered on my medical record, my electronic medical record after a simple annual physical, I was extremely disappointed to see that the information did not accurately or appropriately reflect what I thought were the salient parts of my encounter.

Clinical research processes, particularly those for regulated research, are focused on creating trustworthy databases with minimal errors, along with audit trails that capture any changes that have been made, why they were made, when they were made and by whom. The electronic systems must be validated to ensure data integrity and these are requirements per the Code of Federal Regulations 21 CFR Part 11 and related FDA guidance for e-sourced data such as EHR data, computerized systems used in clinical investigations and global good clinical practices. So, those are the regulations and guidance we follow.

To enable the capture of high quality structured data for research in a standard format CDISC has been working with stakeholder communities, FDA, IHE, ONC and others for over a decade to develop standards and integration profiles.

The CDISC healthcare link initiative emerged in 2003 to address the best means by which EHRs could be used for research purposes. Specific goals were to make it easier for clinicians to conduct research weaving it into their care workflow to improve data quality and to enhance patient safety.

A set of enablers is now freely available these constitute an interoperability specification and include an integration profile called retrieve form for data capture and the number of associated profiles to address research protocol processes, security, privacy and other research related activities.

There is a standard called CDISC CDASH which is a minimum core data set that is common across all research protocols and paves the way for data aggregation across investigative sites and ultimately submission of tabulation and analysis data sets in the appropriate standard format for FDA reviews. And also clinical research document which maps the C-CDA into CDASH and other content profiles.

An example of RFD use was a project called ASTER which was conducted at Harvard with Pfizer and CDISC and is published in journals now. Clinicians, who had never reported serious adverse events, because it took 35 minutes too long to fill out a form and fax it, began reporting these events through a process involving the RFD.

Upon discontinuation of a drug the adverse event form popped up in the EHR window with part of the fields completed. To complete the remaining fields and send the form with accurate high quality accurate data in a standard format, structured data took the clinician less than a minute so the report already started occurring.

RFD was used by CDC to track H1N1 incidents. The key features of these process improvements, standards and workflow enablers are that the workflow improvement for secondary process and use of that data was integrated into the clinical care.

A remotely managed forum with structured standardized content was used with global research standards and it did not incur…require that the EHR vendors hard code their systems nor did it require that the EHRs be validated per 21 CFR 11, but rather the processes validated and FDA has agreed with this.

There is also an information model, the bridge model that links healthcare and research standards and includes adverse event domains. These data enablers are available now and can be leveraged, some are cited in the recent ONC structured data capture initiatives scope statement and charter, they are…

MacKenzie Robertson – Office of the National Coordinator
Hey, Becky, this is MacKenzie; your 5 minutes have expired.

Rebecca D. Kush, PhD – Founder, Chief Executive Officer, President & Director – Clinical Data Interchange Standards Consortium (CDISC)
I'm finishing. So, they will thus extend the capacity for research in our country and provide information for a learning health system to benefit all of us. Thank you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thanks, Becky. And last but not least, Chris Chute from Mayo Clinic.

Christopher G. Chute, MD, MPH, DrPH, FACMI – Professor – Mayo Clinic College of Medicine
Hi, I'm Chris Chute and thank you very much for inviting me. I'm an Internist, Epidemiologist and Informaticist. I think the reason I'm here is I'm also PI of the SHARP secondary use grant as well as Co-PI of one of the Beacon Grants in Southeastern Minnesota. I think I want to define what I mean by secondary use as a starter and simplistically we all use clinical information to take care of patients. So, if we're doing it directly that's arguably primary use.

A simplistic way to think about secondary use is when you're looking across patients, when you're looking at more than one patient at a time either to learn something, to act on something, to measure something. So, that whole panoply of use cases is what I would roll into the concept of secondary use.

There are three observations I want to make about it. One is the issues of interoperability, two are the issues of granularity, and three are the problems and I use this term provocatively, a problem, of privacy and of course, I may go into issues of bias.

In the context of interoperability we all recognize that there are piles of vendors out there, idiosyncratic proprietary formats, Meaningful Use has gone a long way towards mitigating some of those variations that we will see, but not entirely and that's when I'm going to get into the granularity issue.

There is another access of interoperability that we often don't think about and that is the domain access and by domain I really mean the quality community which has gone forth and created its own quality data elements and its own standards and ways of representing data.

Heaven help us, the research community where I've been guilty of contributing to research specific data elements either through NCI or through other organizations. I worked very closely with Becky Kush and I applaud her efforts and others to unify the notion of data elements, but nevertheless we have research views of this.

There is emerging the analytics community that is at risk of creating yet another variation of clinical data rendering and detailed standards which finesses into this question of granularity.

I've already articulated that Meaningful Use is good for you in terms of having comparable and consistent information and the mantra that I always make is if you want to do inferencing on data it really, at the end of the day, has to be comparable and consistent. Otherwise, whether it's a maximum likelihood estimator or a machine learning algorithm, or somebody just counting tables, you have to bend the data and comparability and consistency is important, that is also important at a detailed level of representation.

So, the granularity question is terribly important. While the consolidated CDA is a great leap forward and I think we all applaud a consolidated CDA as an important innovation in development. If you look within it, for example, a vital sign, we don't necessarily have the level of specificity that something like the clinical information modeling initiative is promising to bring. So, I see us on a journey and I think that most secondary uses cannot be done in a turnkey fashion yet with a level of interoperability and specification and granularity that we presently have in Meaningful Use. We have some distance to go and I think few would quibble with that, but let's not lose sight that we're not quite there yet.

The third point of privacy, as I said, is somewhat provocative and if we look at the balance between the legitimate right of patients and others to have privacy and security around their information it must be cast in the balance of what are the societal risks and benefits of complete privacy and by that I really mean sequestering of information that is not available to comparative effectiveness research or to outcomes research, or to other kinds of knowledge generating activities which at worst would generate knowledge from healthy volunteers that is profoundly bias.

We are all familiar with the famous example of postmenopausal estrogens where all the observational data done, incidentally, for the most part on healthy, affluent, well educated women suggested that postmenopausal estrogens were good for you, as it happens of course, that was an artifact of the selection bias and gets to the underlying tension where the community must understand the opportunities of say data donorship, much like organ donorship, where the public should be engaged in this debate and an understanding that allowing the data to be analyzed for a societal benefit so that we can all learn what helps and what hurts is actually a positive force. Thank you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Very good, thank you. Thanks very much to the panel, excellent summaries and excellent issues. I think if we look ten years potentially even five years ago and we talked about secondary uses of data, I think one of the common themes would be we want oodles of them in structured format and I think one of the themes here in this new age and with all of the experience we're gathering on implementing these systems and using them is that you all spoke of essentially sort of an ROI of data capture. There is a real cost and we have to respect that even as researchers who benefit from a lot of data.

The other, you almost all mentioned the importance of workflow and balancing that against the need for the data and how do you get along without specific data. Shaun talked about, well things…can we get along without because we actually do have a lot of data in structured format, can that substitute? And Michael brought up the query platform.

So, I think that's setting me up for the question of in your minds looking at secondary uses of data, how can Meaningful Use play a role? We have objectives. We have quality measures. We have certification criteria are some of the levers that are available in the Meaningful Use Program. We are open to other methods. So, I wouldn't be limited in your thinking in terms of what we've used in Stage 1 and Stage 2, but what are the ways that this policy lever can be used to help contribute to secondary use, the Meaningful Use secondary use of data? Shaun?

Shaun Grannis, MD, MS, FAAFP – Regenstrief Institute, Incorporated
I'll take a crack at that. So, part of my 18 pages of testimony that I was trying to fit in 5 minutes talked a little bit about this. The strategic approach I think I would be thinking about to answer this question and I was hoping you'd ask this question, so…I think there are two ways to get at either promoting methods to better understand the data we already have and I think that's…I'm very interested in understanding the quality of the data that, you know, the NIH is funding CTSIs or they're betting to farm on observational clinical data.

The learning healthcare system is premised on quality data that we can use to…even Farzad's initiatives are premised on that we're going to be exchanging good quality data. So, we're betting the farm on this data and we don't know what its quality or informational characteristics are. So, I think some initiatives could be put in already existing data.

On the get more data side, I think there are two approaches. One is it's either breath or death. I can tell you in the data request where we receive from our Health Information Exchange, vital signs come up in so many use cases where we realize we don't capture good vital sign data today.

And so if you wanted to go for breath of secondary use cases, identifying a small cohort of data elements that may support, potentially a broad set of…and I don't claim to define what those are now or go for some specific high value individual specific use cases like, we keep saying and Marc and Clem said this back in 2001 for electronic laboratory reporting if labs would just put in the abnormal flag when a result was abnormal make our job easier, just one field like that and there's some put in normal ranges consistently. You know, so there's some specific use cases that we could really tackle and there's a breath of use cases that we could think about tackling and I think strategically this group needs to struggle with that.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Yeah, Marc?

J. Marc Overhage, MD, PhD – Chief Medical Informatics Officer – Siemens Healthcare
So, this is probably at the edges of what Meaningful Use can address, but I'll throw it out anyway, and that is you prefaced your comments, Paul, by talking about the return on investment of data capture and today we require clinicians, if they want to get reimbursed, to capture a variety of data that probably doesn't serve either clinical care nor most of our secondary uses other than billing.

And so, if I were to wave my magic wand I would love to see us be more rational about what other data we force our clinicians and the teams taking care of patients to capture in order to reduce the noise and the extra work there so that we can invest that work in capturing the data we do need for clinical care well but also potentially capturing some of the other kinds of data elements as Joe Selby described that would allow us to not only do better research but also do better clinical care.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Rosemary?

Rosemary Kennedy, PhD, RN, MBA, FAAN – Vice President for Health Information Technology – National Quality Forum – Associate Professor Thomas Jefferson University School of Nursing
Just to reiterate, what Marc said, I think in Meaningful Use the philosophy is focusing on data that needs to be captured and maybe less on data streams that are already in electronic health records and how those data streams can be leveraged that's number one.

And second focuses on data sources. There are three sources if you net it out, either the clinician enters the data, it comes from a device or comes from the patient and I think from a Meaningful Use perspective the focus has been on the clinician entering the data and less on data that comes from devices and how those data elements can be leveraged and data that could potentially come from consumers and/or patients.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Good, thank you. Joe?

Joe V. Selby, MD, MPH – Executive Director – Patient-Centered Outcomes Research Institute (PCORI)
So again, speaking from the researcher's perspective, no matter how good the data gets at the site of clinical delivery they are not going to serve CER very well unless those data can be linked with other sources of data. Among the ones that come to mind are payer data, actually the only source, in most cases, of denominator information, and ultimately also payer data for outcomes.

So, anything that Meaningful Use can do to hasten the linkage, the efforts made to link data from care delivery sites to downstream delivery in other sites for the purposes of really creating the longitudinal picture serves research very well.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Chris?

Christopher G. Chute, MD, MPH, DrPH, FACMI – Professor – Mayo Clinic College of Medicine
Two observations, structured data is of course the joy of a researcher but the bane of the clinician and they're not mutually incompatible. I think it's important for Meaningful Use policy generation to recognize the opportunities in natural language processing where clinicians can dictate information arguably in a way that can be salvaged, if you want to think of it that way, and as many of you know there are now open source commodity level clinical natural language processing tools and resources, so this is not an exotic science or expensive one any longer. I think it's almost commodity and we should think about that as we think about the spectrum of data capture in addition of course to patient generated data and other modalities.

The second observation is the notion of data linkage. You can't duck the identifier problem. I know that there are…I've heard some rumors around some political difficulty on that matter, but the reality of data linkage being done essentially deterministically through approximating algorithms is absurd on the face of it in terms of secondary use, there is no other word I can use. And if we want to have reliable inferencing and understanding, and knowledge emerging from data for heaven sakes we should be able to link it intelligently.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Yeah, I agree. Michael?

Michael D. Buck, PhD – Director Biomedical Informatics – New York City Department of Health and Mental Hygiene
I think part of it to is the usage of the secondary data, I think as much as possible we can enable more people to have the transparency to the data regardless of its quality I think it begins the grief cycles where people realize, hey, you know, this data isn't perfect but maybe it leaves me something. As was noted earlier the CDC really wanted a specific temperature field.

Just last week when we were querying our existing systems people wanted…they thought they had to have this exclusion criteria in this very robust measure and after convincing them, because we couldn't do that with our particular system over time, they realized, well maybe that wasn't as important and it still got them the 80% of the information they needed to operationally be able to execute. So, I think choosing, you know, systems and platforms that enable people to, you know, fish for themselves and sift through that error themselves and realize that the error isn't the end, it's, you know, kind of the beginning of a quality improvement process is important.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you, other questions from the group?

Rebecca D. Kush, PhD – Founder, Chief Executive Officer, President & Director – Clinical Data Interchange Standards Consortium (CDISC)
This is Becky Kush, could I make a comment?

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
This is who?

Rebecca D. Kush, PhD – Founder, Chief Executive Officer, President & Director – Clinical Data Interchange Standards Consortium (CDISC)
Becky Kush.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Go ahead, Becky.

Rebecca D. Kush, PhD – Founder, Chief Executive Officer, President & Director – Clinical Data Interchange Standards Consortium (CDISC)
I'd like to say if I had a wish list on going forward I'd like to ask people to support the recently launched structured data capture initiative and also I would like to see coordination across the metadata and CDE repositories across all the federal agencies to support what Chris Chute was talking about.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you. Don?

Donald W. Rucker, MD, MS, MBA – Vice President & Chief Medical Officer - Siemens Corporation
Yeah, I had a question. So, in Meaningful Use it's probably going to be that we will…that Meaningful Use would require some additional data entry even as everybody acknowledges that's to be avoided. Do any of you have sort of opinions on how we should price out the cost of acquiring that data, right?

Because this data is potentially nationally extremely expensive and we see that with the review of systems or Shaun your comment, I was just thinking on vital signs and the fact that a lot of respiratory rates seem to be 12 or 20, which seems to be an effort to not actually spend the 30 seconds looking at chest movement.

How do we, as a country, as Meaningful Use try to figure out what the actual cost of data that we're capturing in these potential new rules or policies might be? Any thoughts from anybody?

M
This is entirely anecdotal, but the elements of that cost I think we can flush out. The actual dollars for those components I think takes some time. The example that I speak to our informatics fellows about is first you have to have the analysis and decide, well respiratory, let's use that as an example. Are we going to…is it a resting respiratory rate? How are we going to define that so Chris can be parsimonious with his data? So, there's real human effort in defining what you mean.

There is then a period of time where you decide how you're going to implement it in your system. There's a period of time where you redesign your system, you test it, you deploy, you test again and finally you roll it out to everyone and those individuals, by the way at the end of day, have to start gathering it as well and spending that 30 seconds of time.

So, there's a lot of upfront investment and then there's the ongoing cost of that. I say it costs somewhere between 10,000 and $1 million to add a new field into an enterprise class system given what you have to go through to add that new element in.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Rosemary did you want to add to that?

Rosemary Kennedy, PhD, RN, MBA, FAAN – Vice President for Health Information Technology – National Quality Forum – Associate Professor Thomas Jefferson University School of Nursing
Yeah, I think it's bigger than just the cost; it's the reimbursement, the return on the investment. So it may cost my salary to take that extra blood pressure but the return on the investment is high because some intervention occurred between the first assessment and the secondary assessment and then the return on the investment has to do with the reimbursement and what the reimbursement is.

Also, something which I think from a Meaningful Use perspective could be taken into consideration is the person entering the data, let them operate at their full level of professional practice to enter the information in and maybe there actually could be a cost savings.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Roland?

Roland Gamache, PhD, MBA – Assistant Research Professor – Indiana University School of Medicine
Yeah, I just…I heard a lot earlier in the conversation about the business processes and trying to solve what business problem we're trying to solve and I think this might go into one of those areas.

I've been really kind of intrigued by a couple of the articles that have come out lately on readmissions and what people are looking and I think the data we're collecting for secondary use has that potential and what I like about that, I talk about the feedback to physicians, I think that's a feedback mechanism to a clinician or provider groups that they see right away and they can see the benefit then of using this information and what it can do as far as…and the patient sees it as well, I mean, when they see readmission rates go down, even though they may not be the person involved they can see in the community as well and I think that's an important one for the physicians and the provider communities as well.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thanks, Chris?

Christopher G. Chute, MD, MPH, DrPH, FACMI – Professor – Mayo Clinic College of Medicine
It has to be balanced with the cost of not collecting data and I'll cite an example, in many of the multi-institutional studies in which I'm involved we have to adjust various things for body mass index. Turns out most organizations do not methodically record height. So, trying to go get something as fundamental as a BMI co-adjustor which renders, quite frankly, virtually all of the other data, not so much uninterpretable but possibly deeply confounded and biased, so the cost of even these small data elements in terms of they're not being collected can be very large.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
And Marc?

J. Marc Overhage, MD, PhD – Chief Medical Informatics Officer – Siemens Healthcare
Just to follow that through, I think that what's really important, two points, one is it's very important to assess that incremental cost and value globally, you know, as much as people have looked at studies and said, okay if the primary care physician taking care of a patient requires, pick your number, 17 hours a day or whatever to do one patient, we have to look in a holistic way at the data collection process that we use with our patients because it may be great value but at the end of the day, the cost across both in terms of clinician time and opportunity cost for the clinician and patients and so on have to be weighed I think in looking at that value.

The other, try to directly answer Don's questions, because he'll kick me later if I don't, is, you know, as several people, Marjorie and others commented on increasingly we have opportunities to capture some of the data directly from devices and that's a great thing, because that makes the cost near zero.

So, I would assert, Don, that you could begin to get at this question by taking a very simple approach and say if it's already electronically structured at the source just assume it's zero, anything else is a problem of the operator. You did something stupid now it's not going to be true but it's close.

The other cost is primarily people time and so there you've got two issues and somebody suggested, Marjorie I think you commented on, there may be different resources you can use to capture that data with different degrees of quality and validity, but I think you almost have to just reduce it to the people time required to enter that.

And the major point I want to make there though is the perverse thing that we do, which is as we expand, take ICD-10 as an example, and say, okay, we're trying to get more granular specific data and now your choice list is 11,000 or 80,000, or whatever it is potential entries and the value set you increase the time to make that data entry, so we have this very difficult trade off I think in terms of specificity and completeness of the data you make the problem worse sometimes by trying to be more concrete and specific as Chris alluded, sometimes some kind of sloppy data might be okay because the cost of getting it precise is very high. So, I don't think it's a binary, it cost this much to get the data, so much to buy this quality of data for that particular observation.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Rosemary?

Rosemary Kennedy, PhD, RN, MBA, FAAN – Vice President for Health Information Technology – National Quality Forum – Associate Professor Thomas Jefferson University School of Nursing
In terms of the cost I think there are two areas that have implications for Meaningful Use, one is device data, IV, pumps, telemetry, if you look at the cost of people redundantly documenting that in the electronic health record it impacts, in fact it hinders probably quality and safety because they have to remember it in their brain and then put it in the electronic health record.

The other is there are sources of information beyond the electronic health record where human beings are actually looking at the information, synthesizing it and drawing conclusions and they are systems that tend to be case management systems and they are not electronic health record but a rich source of information about the patient in terms of…it's used for primary use, it can also be used for secondary use.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thanks. Leslie?

Leslie Kelly Hall – Senior Vice President – Healthwise
So, thank you all for your great testimony. We've talked about the burden of the data collection on the provider but I haven't heard a lot about the burden on the patient. As a patient I want my doctor to name that tune in one note and if he can that means that the six minutes remaining in that visit can be used in dialogue with me.

So, I think Rosemary touched earlier about the patient as a source of data and I wondered if you could comment on your thoughts of how patient generated data could compliment the needs of both secondary and primary use and reduce the burden for the provider and increase the opportunity for dialogue with the patient?

Rosemary Kennedy, PhD, RN, MBA, FAAN – Vice President for Health Information Technology – National Quality Forum – Associate Professor Thomas Jefferson University School of Nursing
I think from a practical perspective around two areas, past medical history if you look at admission or entry into the healthcare system whether it's a primary care office or an inpatient admission, a lot of information that needs to be transferred and I'm just speaking personally from a patient that went through something a few weeks ago where everybody asked me the same question over and over again. I was really wishing I could have some sort of entry screen fill in a form and send the information. Certainly, they can use their critical decision making to process that information. I had to keep repeating it to make sure that they had it in their cognitive memory.

The research study that I did at Thomas Jefferson University, I was taken aback by the number, don't quote me specifically in the research, close to 38% of patients had data collected about their progress since they were discharged and that information they have to verbally communicate and if that could be stored electronically and up loaded into a home care system, I witnessed a home care nurse reentering it in and then the patient assuming that the primary care physician was going to have it on the initial visit, which makes sense. She picked up the phone and left a voice mail to the physician.

So, I think entry into the system and transitions of care from one level to the other in terms of progress that has made in the 48 hours of the two days between one level of care and another level of care.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thanks. Joe?

Joe V. Selby, MD, MPH – Executive Director – Patient-Centered Outcomes Research Institute (PCORI)
So, I just wanted to reemphasize the same point that we made about burden on the physicians should be kept in mind with respect to burden on patients that if we don't focus on asking patients to report and provide data that really has clinical utility, clinical meaningfulness we waste their time and we probably interfere more with the physician/patient relationship than we do help it.

It speaks also to Don's question about cost. I think there is you're pushing for the collection of clinically meaningful, clinically useful data, you have a good expectation of a return on investment if you're pushing for collection of other data and we went through for many years in the performance measurement area, we were collecting data that was really meaningless and then we shifted to evidence-based performance measures. I think it's there and collecting the clinically useful data that we have a chance to get a return on investment.

Leslie Kelly Hall – Senior Vice President – Healthwise
Thank you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Okay, thank you. Charles?

Charles Kennedy, MD, MBA – Chief Executive Officer – Accountable Care Solutions – Aetna
I'd like to get the panel's perspective on the notion of context and what I mean by that is, just to use an example a blood pressure, when the patient's in pain is significantly different than when at home which is significantly different than when with a white coat present. And when we use these electronic databases for secondary use, we're so happy to find a vital sign. A lot of times I don't know if we take into account context.

So, I'm interested in several questions, one how important is context to secondary use and have you seen any strategies out there to be able to deal with it and then kind of a related issue, benefit design. When I was in the clinical world using clinical data I wasn't aware of the claim data and how benefit design changes utilization patterns and in fact can confound your results. So, again this notion of context, how can we get around that problem and how big a problem is it?

J. Marc Overhage, MD, PhD – Chief Medical Informatics Officer – Siemens Healthcare
Thanks for question, Charles, one is and Chris will probably augment this, but the detailed clinical model that the SHARP 2 and Stan Huff has been working on for a long time are directly trying to tackle that question of well what else do you need to know in the context in order to interpret the data but they may just make the problem worse in the sense of saying, okay, golly gee now every time you've got to capture those things and hopefully we can be clever based on some defaults and things like that or reducing that burden, but I think that's probably the right way to think about those things as we know there are, as you suggest a variety of attributes that will be helpful to know about that measurement.

The other thing that you referenced though that I think is really important is…I think of it as the environment. You know, do you have a PET scanner at this hospital; do you have a Cath Lab that's 24 hours? You know, what is the formulary that is available to you and so on are critical aspects for any kind of secondary use of the data but are unfortunately extremely hard to capture.

At Regenstrief, before I left we were working on capturing that data in some fairly simple ways, but at least a start at what are those characteristics, that environment in which the work happens and I think that's a new frontier in some ways for the secondary use world. We don't have a lot of examples of doing that rigorously, but we do have examples of the significant impact it can have.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Marjorie?

Marjorie Rallins, DPM – Director of Measures, Standards and Informatics for the Performance Improvement Division – American Medical Association
Just a very short answer, to answer your question about how important it is from a measure developer's perspective context is very important, that's how we define our patient populations and right now we're sort of at the mercy of where the vendors are with helping us identify context so that we can get detailed information.

So, that's one of the things that I believe I mentioned in my testimony is being able to…for example, with unstructured data, if the same…multiple fields have the same word but, you know, heart failure in one field might mean heart failure, but the history of heart failure is a different thing in another field and we just think the clinical models need to be more mature in order for us to tease out that difference.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Chris?

Christopher G. Chute, MD, MPH, DrPH, FACMI – Professor – Mayo Clinic College of Medicine
It's hugely important is the short answer and sadly we don't usually have it, because it's provable that a blood pressure in a resting position sitting in a chair is going to be wildly different than at the end of your treadmill test. Unfortunately, the technical jargon that we would throw at such a thing are metadata or even better provenance, I impressed my mother with that word, and the real question is whether we can capture that kind of metadata in an algorithmic specified way so that it's not an entry burden but comes naturally out of the system. This gets at the granularity question in a very specific way.

If we're talking Meaningful Use and Marc did refer to the clinical information modeling initiative that Stan and others are leading where that kind of metadata is specified. It's important that it be specified in a comparable and consistent way for two reasons.

One so that the darned stuff can be generated algorithmically and automatically the treadmill can just say, hey, they are at whatever stage they are on the treadmill and by the way if he's on a treadmill or she's on a treadmill and that information just comes automatically, analogously, home blood pressure measurements, home devices, physician office devices, all of that information in metadata should be built into the measurement algorithmically up front.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Michael?

Michael D. Buck, PhD – Director Biomedical Informatics – New York City Department of Health and Mental Hygiene
Maybe from a little different context, the inferring context for a particular piece of data in using dynamic query systems, for example, if a bunch of practices report to you a bunch of hemoglobin A1c results particularly for a quality metric, when you have a system that is able to respond dynamically you can actually follow up the next day or the next week with further follow-up questions as to just how many lab tests overall are being done with this practice and then you can…you begin to be able to infer a pattern for that practice as to whether say their lab interface is working appropriately or it it's only working for particular lab results and it informs the context of a particular data element for a particular quality measure, yourself so that you know whether or not you can believe that measurement that you've received.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Shaun?

Shaun Grannis, MD, MS, FAAFP – Regenstrief Institute, Incorporated
So, like others, I wholeheartedly agree, context is incredibly important. I'll be the curmudgeonly response this time and say, it's a really tough problem and I think the great work that Chris and Stan are doing is amazing, but I want to just give a very basic example of context that everyone thinks is probably solved at this point but isn't.

We struggle to identify within a given large hospital system which hospital a patient is at, which floor on that hospital did they reside and the standards for declaring location, and to any degree of granularity is still the wild, wild, west.

And so context is incredibly important, great value, great opportunity, but we've only, I think we've taken a half step on our thousand mile journey on this. So, I think there's a lot of work to be done even after we have the standards.

HL7 has the field to define location. Hospital systems have very little incentive today to define their locations well, because nobody's asking for it or demanding it. So, until there is a massive demand for context, I think we're going to see what we're seeing which is a big mess and it takes a lot of work for us to retrospectively go back through and say was this the hospital on the northern side of the state or the southern side of the state? And so, I'm just…absolutely important, big problem, long way to go.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you. Kevin?

Kevin Larsen, MD – Medical Director for Meaningful Use – Office of the National Coordinator
Thank you for all this terrific testimony. We've been working with a number of groups around the kind of data quality and I heard a bunch of you mention some data quality questions and we're thinking through the ideas of a complex distributive system and a complex adaptive system, and that is how do people work together to make sure that they're all part of the solution to quality and I'm wondering if you have some thoughts about how do the secondary uses of data and the actors, the consumers of secondary uses of data, what are some strategies that they can be involved in assuring that the data quality gets better all the way through the system so that your part of the responsible citizenry that gets good quality data and we all work together to make it happen?

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Shaun?

Shaun Grannis, MD, MS, FAAFP – Regenstrief Institute, Incorporated
So, in our Center of Excellence and Public Health Informatics obviously, public health stakeholders are secondary data consumers and so one of the specific aims of our center was literally to begin working with public health stakeholders to ask them what are the information characteristics of the data you need to support identifying diabetics, to support electronic laboratory reporting, to support cancer reporting and establishing expectations for accuracy and completeness down to the field level.

It's a very interesting enterprise, because you ask state departments of health, local departments of health, the CDC, they give you different expectations for the data quality but at least we're starting to see this and we're recognizing that there's varying expectations amongst similar stakeholders.

But once you get some consistency or at least some ranges around that what we've done is we can then plug these data quality expectations into the thousands of data sources that is we have and say that's good for immunization, that's good for electronic laboratory reporting, that's good for syndromic surveillance, that will meet this end user's expectations and so that's a pathway I think.

As we get into secondary use this strategy of looking at the data you're already collecting and asking yourself is it good for a particular use I think is a huge opportunity again and that's something, you know, we've gone the pathway.

Kevin Larsen, MD – Medical Director for Meaningful Use – Office of the National Coordinator
When you find that it isn't fit for purpose or it has issues do you then follow back to the source and say hey, we looked at your data and you thought it was good for immunizations but we realized it isn't?

Shaun Grannis, MD, MS, FAAFP – Regenstrief Institute, Incorporated
In our context, in the Health Information Exchange we are data beggars. So, we will beg, borrow and steal anybody's data to come into the system and when we ask them to do anything more with it, you know, if we're lucky to get any response it's usually a chuckle to say, you know, you want us to do what? So, again if there's incentive, now Meaningful Use has really started changing this dynamic.

So, now for electronic laboratory reporting, that Marc began back in the early 2000s banging his head bloody against the wall to get people to do this, now suddenly everybody's coming to the Regenstrief Institute saying we're still doing this right? Are we doing electronic laboratory reporting? So, it depends on incentives and drivers for this stuff, I mean, so much.

And that's why the…you folks in what you identify or what you identify even at a high level as something of importance is going to drive, you shift markets with your decisions. I mean, you shift human behavior with your decisions.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
I was going to say something but I'd better not. Joe? No, okay, Michael?

Michael D. Buck, PhD – Director Biomedical Informatics – New York City Department of Health and Mental Hygiene
So, I mean, it's important that we have that same feedback loop to be able to improve quality. So, the data that's transmitted to us most of our practices are, you know, under 5 providers, it's not, you know, a single provider with a front desk office. What we do on their behalf is take their quality information, their EHR utilization information and then format it into monthly dashboard, single one page documents that are e-mailed out to them that they can review and look at and compare their performance to the rest of everyone else in the New York City community, so, against the other 600 practices, you know, and that by itself has been a motivator saying "well, gee, I'm not as good as somebody else down the street. Well, that just can't possibly be right." So, they don't believe us for a period of time.

We have field staff that sit there and explain to them not only how to properly document in the EHR but also then just how to reorganize their practice based upon principles such as, you know, patient centered medical home and whatnot so that they are actually partners with us in improving their rates and, you know, we've seen improvements and we're continuing to evaluate that as a feedback mechanism so that we get better data over time and they improve for quality.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Roland?

Roland Gamache, PhD, MBA – Assistant Research Professor – Indiana University School of Medicine
When I was at the State Department of Health we developed and integrated a child's health profile on public health information this was one of the questions, so one of the big mechanisms and...talk about this is you need some feedback mechanism, but you also heard Shaun talk about, you know, people chuckling or so forth or the other comment you get a lot, or we received a lot is, well our data is right and yours is wrong. What do you mean? So we couldn't mitigate that fight all the time.

So, we came up with a solution and when you're looking at trying to improve the quality you have to kind of say a lot of times, all right both might be right and then you have to…somehow you have to be able to store that information about the changes at the same time and when you get enough information that you can make a change and put that into a process if you see something develop on that, but those fights of whose data was right were some of the worst discussions to get in because no one had any real information to say which side was right or wrong.

So, that's the other part of that quality part that you need to be able to work with and compromise with and trying to figure out how you're going to mitigate then who's going to be right or wrong and the quality issue.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
I think I'm going to forego…can I get Amy's question just so don't gone beyond our break?

Amy Zimmerman – State HIT Coordinator – Rhode Island Department of Health & Human Services
So, my question goes a little bit to what we were sort of discussing and that is that while we were identifying… while you all were identifying secondary uses of data, and I think it was one of you that mentioned, you know, secondary use is anything where it's not focused on the individual. So, do you consider…two questions or three actually.

Do you consider a provider, a physician who is using their EHR data to look across their patient panel as secondary use? I mean, I would posit that that is secondary use and then is there any evidence other than anecdotal on the feedback side that those that are using it that way, that if we actually get providers to use it to look at their population of their patient panel they actually end up with better quality data in the EHR, so that's one question.

The second question is has there been any actual formal research looking at the data in EHRs being used for quality measurement as compared to claims or other data that was previously used in which actually comes out…what are the differences and how they're viewed in terms of measurement?

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Marc?

J. Marc Overhage, MD, PhD – Chief Medical Informatics Officer – Siemens Healthcare
So, I'll take a crack at that and there's a paper that's under review that will detail this, but in Indiana we had this program called Quality Health First that took the data flowing through the Health Information Exchange and provided, very similar to what Michael described, feedback to clinicians but then offered them to ability to improve the data, if you will, for exactly the reasons he described, you know, well, no we really did do a glycosylated hemoglobin and it just never got recorded in the EHR it ended up in the wrong field, it ended up on sticky note whatever.

And what we found was over two years it was not a randomized but a sort of controlled trial where we had matched comparisons about 2000 primary care physicians. There was a 2.5% per year improvement in quality scores across about 20 quality measures that was sustained over at least two years and actually we're looking at the three year data now. So, that's one bit of evidence that actually can.

Now, importantly that wasn't actually coming from their EHRs but was coming from the Health Information Exchange. So, this gets to your second question, which is what would you see if you looked in their EHRs and the answer is you found very different results in the EHRs, in the Health Information Exchange and in the claims data.

And they were different in idiosyncratic ways. There was no consistent, it's better, it's higher here…you know, of course you don't know what's right, but there were different answers for virtually every quality measure. Now that was constrained by the fact that we could only look at one large physician practice, about a 100 physicians, where we had access to their EMR and to the HIE data and to the claims data to do that comparison. So, there were marked differences, don't know which are right, which is of course challenging.

Amy Zimmerman – State HIT Coordinator – Rhode Island Department of Health & Human Services
Yeah, so I was…I mean, it is because I was going to say based on that do you have a recommendation on where to go for quality measurement?

J. Marc Overhage, MD, PhD – Chief Medical Informatics Officer – Siemens Healthcare
Well, I do have a recommendation which is that the electronic health record is incomplete when you look at the data that are available it is missing a lot. When you look at claims data you are also missing a lot of detail and granularity and so at least, you know, we've found that the Health Information Exchange data seemed more robust in the sense of having sort of the best of both worlds because it had both the administrative transactions and the clinical data available so you really sort of had the best of both worlds.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Very good, well I think wraps it up. Thank you so much to the panelists, very informative. So, our final panel is going to be on the role of clinical documentation for legal purposes, legal I think billing. While they're getting set up as you know we have scheduled time tomorrow morning to debrief and draw some conclusions. Who here is not going to make it tomorrow morning? So, just Charles? Pardon me?

W
…

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Okay, so and then I know Christine will be back. So, we'll continue…so I think we will not do our debriefing here since we're going to…we can all sleep on it and I might invite you to think about implications for Meaningful Use as part of your dreaming state.

Charlene Underwood – Director, Government & Industry Affairs – Siemens Medical
Yeah, Paul?

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Yes?

Charlene Underwood – Director, Government & Industry Affairs – Siemens Medical
This is a Charlene. I'll also be there tomorrow; I'm just listening this afternoon.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thanks, Charlene.

Charlene Underwood – Director, Government & Industry Affairs – Siemens Medical
Yes.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
So, no pressure on this panel but you've heard three diverse and enthusiastic panels on the value to care and secondary uses and I hope you're not going to destroy that. No, I mean, and actually part of the challenge here is a lot of documentation has been driven by what you all are going to talk about and we we're hoping it to be a bit of the other way around. So, at any rate, let me turn it over to George to moderate this panel.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
All right, thank you Paul and I think you've said it, the theme has been going all the way through and now we can focus on it directly. First, we have Chad Brouillard, I said it right?

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
Yes.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Thank you, well from Foster and Eldridge and then will be followed by Michelle Dougherty from AHIMA and Donald Mon from RTI and HL7 and then Ivy Baer from AAMC. Chad?

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
Thank you, George, thank you Paul, and thank you to the ONC for inviting me here. So, again, I'm Chad Brouillard from Foster and Eldridge in Cambridge, Mass and I am a Medical Malpractice Defense Attorney and a Healthcare Lawyer which means I service healthcare providers, institutions, and related entities as my clients and I have focused my practice and written pretty extensively on EHR liability concerns.

Now while EHRs if employed effectively can in fact reduce patient harm, you know, they have complicated my practice which is defending healthcare providers for a number of reasons and what we've seen it certainly has added litigation costs and has in some cases the documentation itself may create issues in terms of defending the care which I will get into in a moment.

I'm going to be focusing my comments today on the use of electronic documentation for evidentiary purposes. There are certainly other issues that have to do with the legal use such as the boilerplate and cut and pasting and metadata, which I understand some of my colleagues are going to be speaking about here on the panel, but really I'm going to be focusing on the EHR as evidence and some of the difficulties we've seen coming from here.

And I think it flows from the fact that EHRs have not really been focused on, up until present, as an evidentiary object, you know, the focus has been on patient safety and patient care which is great. The temptation is to look as a legal function as a secondary use, after all I am the attorney who is looking at these records after-the-fact not using it for patient care but however the authenticity, the validity, the integrity of the record goes to the primary use of the record by the clinicians when they're delivering care. After all liability is really the flipside in my mind of patient safety, because a predicate for me getting a case is that someone allegedly was harmed.

Now there are many types of legal proceedings which are relying on EHR clinical documentation as evidence not just medical liability but benefit determination, civil rights cases, criminal cases. I think it's more appropriate to say that these cases are relying on paper-based exported printouts of electronic documentation and that's important because we're seeing an uptick of cases referencing and in some instances wrestling with the adequacy of EHRs as evidence.

Now from a medical liability perspective EHR documentation serves evidence of compliance or deviation from the standard of care. So, it's of a prime importance to me and my clients and using a very broad brush generally the standard of care is what a reasonable provider should have done in similar circumstances.

So, the issue I would like to address today is the distortion of clinical documentation when you convert from native EHR which is electronic and you export into a paper printout. The usability of clinical documentation for evidentiary purposes is largely an afterthought after this paper conversion.

Now generally in response to requests for EHR-based clinical documentation healthcare institutions and providers typically respond with the paper printout or an imaged copy essentially of a paper printout and typically that's all that's available for them to give to the outside world, you know, for legal purposes.

Now occasionally defense counsel may be allowed to get access to the EHR when meeting with their clients but the adverse party is usually never given access to electronic documentation without specifically seeking it.

In case law we are seeing challenges to EHR documentation on the basis of legal authenticity. Authenticity is a foundational legal consideration of identity, the thing is what it says it is, it is not a forgery or it's not evidence created after-the-fact once a lawsuit got filed. Typically paper medical records were generally assumed by all to be authentic based on the fact that they were reliable, contemporaneous and based on trustworthy documentation practices.

However, given that EHRs are dynamic, they're interactive, you know, a clinician can access a dashboard, can access several frames, input information into several different areas at one time or view information for a variety of data rich sources at one-time when you convert over to paper you lose all of that texture, you know, in fact we lose the display which is the organizational principle of the EHR which allows people to understand what was done by the clinician and that was an extremely fast 5 minutes, but that is basically a disconnect that we're seeing from the legal world is this disconnect between the paper printout and what we see in electronic. Thank you.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Thank you, Chad. Michelle?

Michelle L. Dougherty, MA, RHIA, CHP – Director of Research & Development – AHIMA Foundation
Thank you. Thanks for inviting AHIMA to the legal uses for clinical documentation panel. My name is Michelle Dougherty and I'm the Director of Research with the AHIMA Foundation. For those of you who are not familiar with AHIMA we are an association that represents over 67,000 health information management professionals who work in all sectors of healthcare in over 120 different types of roles as a profession we understand the importance of valid, accurate and trustworthy information for all uses whether it's clinical or business uses such as the billing or legal side and at all levels.

We see the importance of valid highly accurate data at the document level as well as the record level. Healthcare organizations have to maintain and disclose a complete and comprehensive official medical record for many different purposes. We've heard over the course of the day we have to disclose for litigation purposes, it could be civil, it could be criminal, it could involve the provider, it may not involve the provider there are investigations.

Beyond billing there are other insurance aspects, the patient may need their comprehensive medical record disclosed for disability evaluation or other type of insurance purpose. There's oversight uses for the full medical record, accreditation surveys, certification, professional licensors who have to investigate complaints or compliance and access the complete medical record and understand what happened.

So, disclosing a complete medical record in the context of an EHR is particularly challenging today. There is not consensus on what the medical record is and what is contained in a complete medical record in an EHR. What would one request and what would one expect to receive? New questions have emerged. Is clinical decision support alerts and prompts part of the official medical record that should be disclosed upon request? Is metadata part of the official medical record that should be disclosed as well upon request?

As we explore new approaches to documentation it was really exciting to hear this morning the discussion on some of the behavioral recordings because that's one of the problems or challenges with using the medical record for a lot of these official purposes that it's missing different interactions that the physicians and clinicians are having within the system and if that…you know, if we move to that type of documentation method or data collection method to ease the burden will that be part of the official record of care that gets disclosed and if so how?

Today healthcare organizations have to define in their policy what comprises their medical record so that when requests come in they have to decide how to disclose it. Overtime with Health Information Exchange with new tools some of those issues get to be resolved but others do not, particularly some of the issues or some of the requests that facilities receive or organizations receive for their complete medical record.

So in today's environment healthcare organizations have to cobble together the clinical documentation through reports, through screenshots, through logs from multiple different applications that…to individuals who don't have the ability to view it in an EHR environment similar to what Chad discussed.

So, the cobbled together output from the EHR doesn't tell the patient's story well, doesn't describe the clinician's actions in a useable or decipherable way and chronology is often lost. A lot of data is missing as you've heard continuously throughout the day.

As a result some requesters have had to rely on eDiscovery and eForensics as techniques to determine what happened and when and it's both a costly and a time-consuming process for everyone involved and often still leaves the requester believing that there's more information to the story and that information is missing or has been lost or destroyed.

Record management and evidentiary requirements have not been well understood for EHRs by users, by policymakers. We have supported the development at AHIMA of foundational EHR standards which Don Mon is going to talk about shortly and it becomes crucial to address the ability to create, manage and preserve records.

The push to advance EHRs sometimes has resulted in a loss of focus on data quality and accuracy of documentation and I think we heard that throughout the day that best practices are not well understood. To address these we see the HIT Policy Committee can help to focus on information management and government processes.

Information rich industries are starting to focus on governance. We're seeing leading healthcare provider organizations implement governance processes. We need to understand what those best practices might be to help all organizations move to managing their information assets better.

Moving the record management and evidentiary support functions that Donald will talk about to in Meaningful Use Stage 3 is going to be important and then looking at the current regulations that really limit the ability or focuses on old paradigms for the medical record that are still in place today and not supporting a technology enabled environment. There's real opportunities to modernize the requirements that are key points...

MacKenzie Robertson – Office of the National Coordinator
Michelle, your 5 minutes are up, thank you.

Michelle L. Dougherty, MA, RHIA, CHP – Director of Research & Development – AHIMA Foundation
Thank you everyone.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Don?

Donald T. Mon, PhD – Senior Director – Center for Advancement of Health Information Technology (CAHIT)
The slides.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Oh, you have slides.

Donald T. Mon, PhD – Senior Director – Center for Advancement of Health Information Technology (CAHIT)
Good afternoon my name is Don Mon I am Senior Director at the Center for the Advancement of Health IT, CAHIT, at Research Triangle Institute where I direct the standards and interoperability practice. I'm also Chair of HL7, Co-Chair of the EHR Workgroup in which the records management and evidentiary support standards development occurred. So I'm here representing HL7 to talk about RM-ES standards.

Michelle and Chad have spoken very well about the need for an HIT policy regarding records management and evidentiary support, as has the previous panel on secondary use, so I need not go through that same argument again. Let me just cut quickly then to my key point and that is that if you agree with the people who have been on the previous panels that a policy needs to be developed for records management and evidentiary support, I can assure you that such a policy is achievable and it can focus on such things as data quality, data integrity, user authentication, information, attestation and authorship, amendment correction, alteration processes, records management lifecycle, metadata and health records output.

The HL7 record infrastructure section of the EHR system functional model release 2, which is currently under development, represents HL7s best and most current effort, consensus effort on EHR system functions and criteria for records management and evidentiary support. So, should you decide on a policy the EHR as a functional model can support and be referenced in that policy and let me give you some examples as to how it can support.

A few years ago there was already some discussion about records management and evidentiary support you may have heard about the fact that HL7 was developing a functional profile which is a subset of functions in the EHR, that work was originally developed in 2007, it was based on best practices, rules, research and standards. So it wasn't a bunch of IT guys in a room making up these things, it was based on expert analysis conducted by people like the previous panel and who are on this panel today.

There are for example the federal rules of evidence in civil procedure, AHIMA's best practices. There is research on data quality and how it can support both fraud and abuse prevention and detection as well as clinical care.

So, in the interest of time let me move forward to the standard itself. And for those of you who are on…you might want to see the screen back there if you are interested. So, as you can see from this standard it's based on some principles first which are the experts have developed. It is then translated into a structure where on the right-hand column you'll see a series of conformance criteria. The take away here is that should you decide on a policy and reference the EHR system functional model this format is already amenable to certification because I can see that some of you have already been on CCHIT's panels and so you recognize this format.

So, your ability to integrate this into the certification process is facilitated by the structure of this format. My last points are that there is broad interest in records management and evidentiary support. There are a number of international, six of them actually, six international standard development organizations who are ready vetting records management and evidentiary support functionality. So, you had the benefit of an international vetting of these requirements in addition to the experts that have developed these here.

And lastly in terms of the fraud and abuse, and quality of care there is often this thought that it's an "either/or" and I would like to present you with the notion that it is a "both/and" because when you look at the testimony that Chad and Michelle have provided and where they focus on data quality, data integrity and records management, and evidentiary support they support both fraud and abuse and records and excuse me clinical care.

MacKenzie Robertson – Office of the National Coordinator
Don, your 5 minutes are up, thank you.

Donald T. Mon, PhD – Senior Director – Center for Advancement of Health Information Technology (CAHIT)
Thank you.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Thank you Don. Ivy?

Ivy Baer, JD – Director & Senior Regulatory Counsel – Association of American Medical Colleges
Thank you and thanks for the nice segue on fraud and abuse since I'm talking about compliance issues and electronic health records. My name is Ivy Baer and I'm a Senior Director of the Regulatory and Policy Group of the Association of American Medical Colleges. The AAMC represents all 141 accredited U.S. and 17 accredited Canadian Medical Schools, nearly 400 major teaching hospitals and health systems, and nearly 90 academic and scientific societies. Through these institutions and organizations we represent 128,000 faculty members, 75,000 medical students and 110,000 resident physicians.

And today I have been asked to talk about compliance issues related to electronic health records and in light of full disclosure I really have to tell you that what I know I learned from the smartest people in the business who are compliance officers who work at AAMC member institutions. You will not be surprised to hear they echo their institutions commitment to providing quality patient care, improving population health and submitting accurate bills to all payers. Our members have robust compliance programs and are squarely facing the many challenges of moving from paper to electronic records.

In fact in the late 1990s with a growing focus on compliance the purpose of the medical record shifted from its original purpose, which was a document that was necessary to ensure the best patient care to a document that had to support any service billed, in an academic medical center it's complexities are even more enormous as a number of individuals who touch the medical record whether it be paper or electronic is large both because care is more likely to be delivered by a team and because of the presence of learners medical residents, medical students and other health profession students.

In recognition of the environment in which our members are implementing electronic health records the AAMC compliance officers forum has undertaken a multiyear project that is aimed at developing advisories that set up best practices and compliance.

The three advisories produced to date address medical student documentation, the use of information that is not generated during the encounter for which the claim is submitted and physicians combining documentation or using information by others when billing for a professional service.

Preparation of these advisories involve many hours of discussion that led to the conclusion that there was no single way to achieve what one of the advisories describes as appropriate clinical documentation to support quality care, facilitate the optimal and efficient use of available documentation and simultaneously provide controls to ensure compliant data usage in support of billing.

As a result the advisories look at a myriad of strategies to combine the need for appropriate EHR design, adoption and implementation of institution policies, provider education and monitoring. One of the advisories states that much of the mitigation of the risks rest on policy and training directive and judicious use of tools that are available in EHR.

For example, it may be easy to cut and paste a portion of a note written during another visit but does the note represent when is done during this visit or does it merely mean that the note will contain information that is not needed and that leaves to what is known as note bloat.

And with that as background I am going to take my last 2 minutes to respond to the four questions that were put to me. The first being what is the current role of clinical documentation for payment purposes? Clinical documentation is the source that is used to substantiate a bill, as I said before in the 1990s clinical documentation really became front and center and every compliance officers monitor was document, document, document.

This was generally followed by a warning that if something is not documented in the medical record then for billing purposes it didn't happen. And this underscores the point that the medical records was viewed as the source for billing leading to a role that seemed to overshadowed the role of the medical record as a source for good patient care. The progress note summarizes the events of the day in supporting resources ordered and used to address the patient's signs, symptoms and conditions that require care.

I want to, in light of time, skip to the last two questions, being what policies would we recommend to mitigate the risk of fraud or to avoid misrepresentation and clinical documentation? Any documentation of patient care needs to clearly establish that it pertains to a particular patient and condition for which the patient's being treated. From a clinical perspective timeliness and complete documentation at the point of care assist in reducing the possibility that the note will lack specificity or include conditions no longer requiring care.

An active documentation program that addresses audit issues, claims denials and shares updates via feedback loops goes a long way to support clinical documentation reducing facility risk. Time and communication to patient care providers is the key to accurate and complete documentation. Our recommendations for policies include and this could be institutional policies limiting the use of the copy and paste functionality within the EHRs.

Educating providers to only document the services they provide that are pertinent to patient's presenting problem. Close monitoring provider documentation to correct errors and educate providers in a timely manner and having the ability to identifying the author of any note or portion of a note.

Finally, I want to say that no matter how good the technology that has been made…contributions from institutional policies, education about how to use the technology, monitoring and providers all of whom want to do the right thing for their patient while being paid appropriately for the services.

And I would like to direct everybody if I can take my little overtime. Our advisories in fact are on our public website because we think they provide extremely important information and in my testimony I have links to all of them and so we hope you will review them. Thank you.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Thank you very much to the four of you. Let just me start off for a second because I just had a thought while you were presenting. So, you know, we have an attending whose famous quote is "I don't read notes anymore I write them." So the guys a team player, understands the need for documentation, the need to do it right, to sign it, to have it accurate and he does all that he just doesn't find them very useful for the process of patient care because of the various factors we've been talking about and not just for the legal reuse of it, but other things that go wrong.

He went on to say "well, I use the labs and the vital signs, other structured data and the residence sign out notes." The residence sign out notes are these things that residents use that are not part of the record that they kind pass on officially to say what's going on with the patient as they pass their service on and we've been trying to put those two together and say how can we do this so it's really one document because you don't want two sets of books, the ones you show the government your finances that are separate.

Now, I'm wondering the opposite just listening just now, maybe we should just acknowledge that it and fork it. Should we be having a legal document whose sole purpose is to document what was done in the practice or the hospital and that is that purpose. And then there's a separate thing which clinicians use to take care of the patient which are not complete because it may be being complete actually buries the truth of what's going on in this patient.

And that we should actually fork it and rather than trying to force the sign out notes into the medical record we should have sign out notes for all clinicians where they share stuff, say the collaborative care document would be not the documentation, the documentation meaning, whose purpose is that. And for the hospital documentation or practice documentation we would try to automate what we can from what we know what was done so we don't have to redo that and then we might even have other people document what was done in the hospital not to have the doctor have to do that part. So, what's your reaction to kind of splitting the two?

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
You know, I've actually seen that happen on a small-scale in that many times physicians don't want to put in their own shorthand reminders of what was most pertinent about what happened with that patient because it was idiosyncratic or they feel they can just shorthand to themselves. So, they kind of make like a second hand written notation about the patient and keep it off to the side and out of the institutional record for that reason and it's hitting the same purpose, you know, they're kind of just doing it from a grassroots, you know, bottom down this is better than putting it in the system for legal reasons.

But I could see the argument as to why we might want to formalize that and allow the clinicians to get on with communicating and reminding themselves, you know, without the sort of formal legal process, but the flipside is once the legal world hears about it they're going to want those notes too.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
That's right although maybe we won't blame them, so that means they can't say anything stupid in them but they could be incomplete because the complete record is this other thing. Don?

Donald T. Mon, PhD – Senior Director – Center for Advancement of Health Information Technology (CAHIT)
Thank you. That's an interesting concept and it makes me think about some of the requirements that we have for records management and evidentiary support. I would ask my colleagues Chad and Michelle to weigh in on this because George if the concept is like two records is it…because there's two ways to handle that, you would have two records in which case there is the entry for this one and entering into this one or the specification of what is in the legal record, what is in the EHR, the legal record and then you have basically one system to deal with. I think this is where I defer to Chad and Michelle that still begs the question of defining what is the legal record no matter which of those two alternatives that you go with.

Now, then from a standards stand-point some of the same functionality would still have to be true because you still want to record, you know, who was the originator or the entry person and who was the signing clinician and, you know, all that other metadata. So, I don't know that there is a benefit in having two records. I think probably the better way to go would be to have one record and then, as Michelle was suggesting, define what is the legal record.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Michelle?

Michelle L. Dougherty, MA, RHIA, CHP – Director of Research & Development – AHIMA Foundation
It's interesting as you were talking I got brought back to shadow records and so the concept, as others have said, has been around for quite a while. Shadow records are problematic as well, because often times information that is clinically relevant or may support why you did something, when you did something or something important for the patient themselves sits in those…that information and the official medical record, which really is the patient's story now lacks that granularity. So, I am, you know, less likely…like having, you know, two separate different sources.

But, going back to it when Don said, you know, there are times where some things are more administrative or they support staffing and handoffs and things like that that aren't part of the medical record, they may be contained in the EHR system and being able to define what is the medical record and do it in a way that reflects the patient's story that gives the clinical granularity that you need that recognizes all the various purposes and not be quite so focused or worried that you might get into legal trouble, you know, I think you want to focus on the patient first.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Good, Ivy?

Ivy Baer, JD – Director & Senior Regulatory Counsel – Association of American Medical Colleges
Yeah, I want to say for teaching hospitals, you know, they already are struggling with the fact that a lot of them because of medical students and the limitations on these medical student notes, a lot of them actually already have, sort of have two records, so the medical student is documenting in one record and then there's kind of the real record and I think the two records would add, or the three in their case, additional complexity. So, I like Don's idea of it's a definitional thing as to what's in the legal record.

But, again the other issue which because I sort of have a compliance hat on is thinking about the billing rules and then what is it that's going to substantiate…you know, what are you going to look to substantiate the bill which is a somewhat separate issue from what's the legal record but also a very important issue and I think sort of wraps into that.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Don?

Donald T. Mon, PhD – Senior Director – Center for Advancement of Health Information Technology (CAHIT)
To that point Ivy the concept of the RM-ES is legal business and disclosure purposes and the things that you've mentioned fits within that definition because it's a business purpose. Getting back to, you know, defining the legal record and looking at it from the standards stand-point as you saw from the slide that I had up there the initial group of experts focused on trust, how to ascertain trust in the record as the very first set of core initiatives or core principles.

And so if we're going to entertain or go about the process of defining the legal record at least the first set of issues surrounding legal trust have been more or less hammered out by, you know, some of the experts and put into the standards. So, what I'm suggesting is that's a good place to begin.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Chad, did you want to…?

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
Just the one thing I wanted to add is that, you know, we might also think in terms of the display of the data and, you know, the EHR might be a repository of a lot of different data from all of these other…all these various stakeholders with all these various intents about what they're putting in the record and why but it'd be great if we could clarify what display is needed for what purpose on the backend.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Okay. Paul?

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thank you. You can't turn on C-SPAN and watch a congressional hearing without the following questions. What do you know, when did you know it and why didn't you do something about it? So, that all has to do with accuracy of this documentation and in each one of your professional areas you depend on that as well.

So, I think we have sort of equivalent questions, which is what do you know about the accuracy of the documentation in the medical record? What could we know, you know, with further work and what recommendations do you have for Meaningful Use as one of the policy levers to improve upon the situation? So, what evidence do we have about the accuracy, I mean, that's at the heart of the matter from these assertions about billing fraud?

Michelle L. Dougherty, MA, RHIA, CHP – Director of Research & Development – AHIMA Foundation
Well, in listening to the very first panel and the AMIA speakers I thought they summarized it well because the medical record is comprised of clinical documentation and what they told us is that we don't have a lot of evidence around good documentation practices, what…you know, accurate, you know, what can we really trust?

I think what we're able to do is start to identify the practices that are creating problematic documentation. You can't go a week without reading a story about new research on the negative effects of copy and paste on accuracy, discussions around computer-driven documentation and whether that reflects what actually happened to the patient or not.

In our circles too we've been talking about practices like dictation, automated dictation services where there isn't an editor that's reviewing and what's happening in healthcare provider organizations now as they're doing reviews to see what documentation practices are working or not they're seeing big problems with it, every single, anecdotally every auto dictated report has some error in it that then gets disclosed and potentially cascades through a Health Information Exchange.

So, you know, those are problems that need to circle back and evaluate those practices and see what could be improved and that's where we believe a good governance process and organizational approach to valuing their information and the validity, and accuracy of it, and then implementing approaches to start to address it like copy/paste and related policies that would support the functionality and limit its uses or identify when they should be used.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
So, can I just follow that up a little bit, because HIM professionals are the professionals that are really at their core you try everything you can to ensure the integrity of that record. So, what do you know about the actual accuracy and what policies do you recommend? You talked about government policies but in practice what is HIM professionals and AHIMA recommending for its members and organizations?

Michelle L. Dougherty, MA, RHIA, CHP – Director of Research & Development – AHIMA Foundation
What we know and what we hear from the trenches is a huge concern and a red flag over accuracy and the validity issues that aren't in place, some of the trust issues around the record itself that when HIM professionals have to attest to the validity for official purposes they can't because there are practices and functions in systems that allow data to be overridden without records.

So, I can say that there is a concern just as there's been a concern all day long and that some of the most proactive organizations are really focusing their HIM Departments on being their integrity champion and helping to identify work with their medical staff on improving practices within the organization. So, that is, I guess the most proactive thing that I'm seeing right now, but it's a combination of in some cases some system functionality and understanding of good documentation practices and there is not a best practice out there, you know, as well as some of the integrity processes and operational policies and approaches that are trying to address it. But, I think the focus on data quality is still an emerging topic in general speaking across healthcare organizations.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Ivy?

Ivy Baer, JD – Director & Senior Regulatory Counsel – Association of American Medical Colleges
I mean, I certainly think Michelle really set things out very well, but, you know, I think, I mean, one of the questions I was given and I think kind of gets into this is also as we're looking towards reimbursement systems changing and reimbursing more around quality of care, I mean, I think in some ways that that's going to get into the electronic health record and, you know, it won't be….you'll look at the outcomes, you'll at whatever it is that we think are the quality metrics and you'll find them in the electronic health record or derive them from the electronic health record and I think that will be a whole change.

I mean, I think until we get there which is some distance in the future, I mean, there's also this huge provider education component and it has to do with things I spoke about in my testimony the policies, the monitoring, and, you know, the constant feedback to ensure that you have notes that really are supporting the type of patient care that everybody is trying to give.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Don?

Donald T. Mon, PhD – Senior Director – Center for Advancement of Health Information Technology (CAHIT)
Thank you, I can attempt an answer at Paul's third question, the first two are more policy oriented that are appropriate for Chad and Michelle. As to the third question, what can be done about it? I think there are basically two levels. Michelle alluded to one when she used…when she said functionality. So, every panel has mentioned different aspects of the issue copy and paste, metadata and so on.

So, I think the first thing that can be done is if there's a policy that states that records management and evidentiary support is a Meaningful Use criteria then specify the functionality surrounding it and so you could have things like metadata being, you know, specifically called out as an area of focus and that's that first level, but even getting past that first level that's only talking about the functionality. We still have the issue of the quality of the data.

And here is where I think that we can go back to what Chris Chute and Rosemary Kennedy said in the previous panel. We still need the ability to look at the data in a very granularized way and to be able to specify the specific value sets of that data and some of that is working…is going through the clinical improvement modeling…clinical information modeling initiatives, so, the CIMI initiative. So, working on the value sets and the data quality I think would be the next level.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Chad?

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
I'll answer in a limited fashion, I would agree in terms of the patient care to the comments that Michelle and Ivy have made. But, you know, my interest is really in a litigated record after-the-fact which is a whole different animal, it's this printout that doesn't have the interactive display which is really hard to read.

But the thing that really surprises me is that clinicians are fully unaware of what that end product looks like so it's very disappointing when you sit down with a clinician and say "so here's the medical record" and they look at the record and they say "what is this? This is not what I did."

And in fact there was a medical malpractice case in which the defendant's physician made the argument that his progress note should be thrown out of evidence because it was so rife with prepopulated text that he didn't put in there that he thought it was of "no evidentiary value." So, I think the clinicians have to be engaged in looking at that final litigated record after-the-fact to see what their documentation practices are resulting in for third-party purposes.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
I want to move on because we're going to run out, but I'm sure we'll come back. Oh, by the way, Paul, we did do a study 1 out of 200 notes are on the wrong patient, if you double check the identity 1 in 300 are on the wrong patient, so that's one number I can give you. Leslie?

Leslie Kelly Hall – Senior Vice President – Healthwise
Yes, hi, thank you very much and a clarifying question. I heard Chad say basically that whenever is discoverable is the legal record and then I hear…and that you said if we had two records you're just going to go for the other one too. So, is this an intractable problem? Does the definition of what is a legal medical record help or hinder this because it seems to be these are conflicting concepts?

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
Well, they're different concepts. So, just because an organization has defined a legal health record that isn't the end of the story for litigation purposes. So, the attorney who has filed the lawsuit can file a subpoena or request for production of documents, some device to compel the institution to give more stuff, you know, so the health care institution for example may have decided we don't routinely give audit trails, that's a common position. But it's very common for plaintiff's attorneys to then file a request that say we specifically want the audit trails, we want you to give us e-mails, we want you to give us anything that we can imagine that we think we're entitled to. So, it's a different concept in the legal health record.

Leslie Kelly Hall – Senior Vice President – Healthwise
So, it's policy not protection?

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
I'm sorry?

Leslie Kelly Hall – Senior Vice President – Healthwise
It's policy versus protection?

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
Yes.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
So, Michelle and then Don?

Michelle L. Dougherty, MA, RHIA, CHP – Director of Research & Development – AHIMA Foundation
And just to jump onto what Chad said, that's exactly right that when you define your policy and part of this is understanding that organizations get requests for their complete medical records for patients for many different purposes not just litigation which then goes down into the eDiscovery track. So, you want to establish your policy of your official record that you uniformly disclose to any organization for whatever…to any requester for whatever purpose it is and then you have to decide what's in, what's not in the legal record and then allow the legal process to work.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Don?

Donald T. Mon, PhD – Senior Director – Center for Advancement of Health Information Technology (CAHIT)
Chad actually gave a terrific example of the connection and linkage between policy and system functionality when he mentioned things like the, you know, audit trails. There's terrific variation in the way that the electronic health record systems do audit trails and so Chad could go from one institution to the next and find that certain institutions couldn't even produce for you a reliable audit trail. So that's why those kinds of things are inherent in the RM-ES standards.

So, I go back to the point that when you have…should you define such a policy then there are these kinds of things where the policy and the standards and the system functionality will support your ability to write that policy.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Larry?

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
So, Chad brought this up a few times and it really took me a while for it to sink in. But, increasingly we're having people who only see dynamic displays. They're not working off of paper, they don't have paper work lists they carry around them during the day, they don't have printed round sheets, they're working on their tablet, it's got very cool displays, they're opening things, they're closing things, you know, what they actually saw over the course of a day who knows, right? Maybe it was on the screen the system sent them but they didn't scroll down that far so they didn't see it even though the system sent it to their device, right, or they expanded something that maybe wasn't clear from what the system sent them was even expandable.

So, I think as we move into this world of it really is the dynamic thing that we're working with that we've changed the game here in a really fundamental way and to hand someone a print out to say this is the record of what was done is unrecognizable it's not what anybody saw when they were providing care.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Chad?

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
I want to add this whole issue about mobile health technologies in the context, the clinical context is just so complicated. It's complicated for every industry because in an essence you have someone who is taking very often a private device hooking it into the system, but then it's outside the information governance scheme. So, it's very, very complex and very, very difficult to track because it's someone private piece of property that they're using to access enterprise resources. So, incredibly complicated is my bottom line.

Michelle L. Dougherty, MA, RHIA, CHP – Director of Research & Development – AHIMA Foundation
And to follow-up on that when the RM-ES asked the Workgroup over the years of developing and going through the balloting standards we grappled with this issue quite a bit and it's one that healthcare organizations who are working within their EHRs are struggling with as well.

When clinicians customize their view, who's view do you disclose when you have to respond to requests for records, you know, provide medical records for billing support or for whatever purpose it might be. And so that forces an organization to have to create or design outputs, reports whatever it might be the screenshots…I was telling…it's a really…it's a cobbled approach to what might tell this story of what happened during that encounter or episode.

But we recognize when the legal system does intersect particularly when the legal system intersects and they're questioning, you know, what did the physician see, know, do that they have an expectation and maybe its misaligned expectations for what a database system can do and then what it can produce, you know, or render.

But they have an expectation that even though it was five years ago that you can produce exactly what they saw when, what they knew when. And it's very difficult you really rely on metadata to do that and we don't have consistent minimum standards for metadata that will be collected whether it's for record lifecycle events from, you know, creation through preservation and destruction or other types of events that might recreate the view for clinicians when it's needed for that purpose.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Last question, Jodi?

Jodi Daniel, J.D., MPH – Director, Office of Policy and Planning – Office of the National Coordinator for Health Information Technology
Thank you. So, I'm going to go back to something that Chad said. You mentioned that we need clarity on what displays for what purpose and that sort of caught my attention and tied into what Larry was just asking and you had raised about how a paper representation of what was in the electronic medical record may not actually accurately represent what the physician knew, saw, did, etcetera.

And I'm just wondering if you have any suggestions on either how we can get that clarity, is that something where there needs to be sort of some kind of national leadership, is that something where it's really up to the organizations to figure that out and I was kind of going where Larry was also, how do we address the fact that, you know, a paper display will never sort of accurately represent what was understood at the time based on an electronic record keeping system. And then how can we…you know, how would we know what are some of the best practices for display of information for particular purposes?

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
I'm so glad you asked that question because I didn't get to it in my statement.

Jodi Daniel, J.D., MPH – Director, Office of Policy and Planning – Office of the National Coordinator for Health Information Technology
I wasn't planted.

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
Yeah, you know, there have been various approaches and they've been cobbled, as Michelle has pointed out, but there have been some good approaches, you know, one thing I would say is that it's very important that the clinicians are involved in seeing what that end legal product is going to look like because they don't really understand what the practices they employ might result in and, you know, it's too late when you get to a litigated matter and they realize "oh, because I've done it this way it now has misrepresented what I have done in a fundamental way that works against me."

I would say that there is probably a technological avenue as well that I would advocate and this came from, you know, real people trying to work through these issues. When thinking about a display it would be very useful if as part of a built-in to many EHR systems there was a way that you could export a read only access of the displays for a particular patient with all the accompanying data. I don't know if that is technically feasible. Well, I know it's technically feasible because in some cases they have worked and created this ad hoc in response to demands by plaintiff's attorneys.

But that's fundamentally what we need both as a defense counsel and in fairness what the plaintiff's counsel need as well, they need to understand the documentation process, see the EHR for what it is and not see a distorted paper output which is what we're given now. And so beyond that I would just point to the RM-ES standards which would help immensely as well.

Jodi Daniel, J.D., MPH – Director, Office of Policy and Planning – Office of the National Coordinator for Health Information Technology
Thank you.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Okay, other comments?

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
A quick comment on your suggestion about the read-only display. The problem with the read only display is it doesn't capture the dynamics of providing care. So, those alerts that said this is a problem are not going to be seen on the read only display because the information is already there.

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
It may just be a lot better…

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
…

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
I'm sorry it would be a lot better than paper.

Larry Wolf – Senior Consulting Architect – Kindred Healthcare
It would provide search capability and you can actually see what's in the chart in a much better way but it's really not conveying what the system is capable of doing at the time that it was being used in the past.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
All right, oh, wait, go ahead, Kevin?

Kevin Larsen, MD – Medical Director for Meaningful Use – Office of the National Coordinator
This is Kevin Larsen. The first is to Chad and others what's the opportunity and timeframe to move the evidentiary legal record to an electronic view of our electronic record? This is something that the organization I had come with had piloted in our city and the lawyers loved it when we gave them a CD of the record as opposed to giving them a pile of papers that was sometimes 1000 pages high. So I'm wondering what you see as the barriers to that or the opportunities in making the evidentiary output electronic?

Michelle L. Dougherty, MA, RHIA, CHP – Director of Research & Development – AHIMA Foundation
Well, I think it's a tremendous idea. I think we have to remember it's not just the legal system that needs the full record so our approach and being able to have some type of a display like that is crucial. Someone mentioned earlier that being able to focus on output and display from the EHR systems is a really important, important next step that I know ONC had a challenge recently and I was so excited to see that there was some focus on design of the output to improve the readability and usability. I think that's a great baby step. Let's keep going.

Donald T. Mon, PhD – Senior Director – Center for Advancement of Health Information Technology (CAHIT)
Two things, one regarding the output, there was, Michelle correct me if I'm wrong, but in the Chicago area I believe there was a suit, and Chad maybe you might have some information about this, where the lawsuit was brought to the institution and when the institution was requested to produce the output, the record, the system, the vendor of the system said "well, I can't like print you out one integrated record. I can give you every order, I can give you every result" and so what resulted was literally boxes of paper that represented that health record for that individual and so one of the places to start is to talk about, you know, what is the output that is produced, but that gets back to Chad and Michelle talking about defining what is the legal record.

Another way that I would answer your question, Kevin, is that there already is some good work surrounding records management and evidentiary support. I didn't get a chance to talk about it in my testimony before time ran out but there are some ISO standards, there's the best practices and there is the research and so some initial work regarding standards has been focused on ascertaining the trust of the record. So, I don't think that we can wait until we say let's wait until we get it all done and then we can launch it, let's have a roadmap of what, you know, can begin initially and I'm suggesting that might be a place to start.

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
I just want to piggyback off that. That case involved I think the North Shore University Health Center in Chicago and the case just spiraled completely out of control from what was reported because they started with these screenshots that Don had described but they still didn't trust what they were seeing because they felt there was this fundamental disconnect so they deposed everybody under the sun including, you know, IT vendors, in-house staff, administrative. They then required the health center to build on this custom read-only access which cost X amount of dollars.

So, you know, when I was first asked the question about what are the barriers I was kind of stunned because, you know, my understanding of the way the tech works is that if you give it a good amount of thought ahead of time you could forestall a lot of this, you know, ad hoc solutions after-the-fact. I don't know if it would be very difficult to do frankly, but I would defer to the tech people on that.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Kevin, did you have another half?

Kevin Larsen, MD – Medical Director for Meaningful Use – Office of the National Coordinator
The second question was we had two systems one could produce a completely time stamped sequential record that the lawyers loved and the other system couldn't and they kept saying why couldn't you give us one where every minute you said exactly what activity happened and that was…so a question is that what you see as a useful output or not or do you have other ideas for what the kind of format is that has this other purpose besides what we think of as a clinical purpose where it's organized for clinical reasons. How would we organize it or best use for evidentiary and other reasons?

Chad P. Brouillard, Esq. – Healthcare Attorney – Foster & Eldridge, LLP
I think the difficulty is what we really need is to see whoever the clinicians were involved what display of the data where they seeing. So, the one difficulty is if you have more than one provider, if they name the nurse and they name the physician and you have role-based displays of the data you'd need both of those.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Yeah, go ahead.

Michelle L. Dougherty, MA, RHIA, CHP – Director of Research & Development – AHIMA Foundation
The time stamped approach for those who need it, because chronology has been a complaint for a long, long time, but haven't seen any other approaches beyond what's been discussed already.

George Hripcsak, MD, MS, FACMI – Columbia University NYC
Well, want to thank the panel, it was a very great discussion and very helpful. Paul?

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Thanks George, thanks panel. Okay, it's been a long day, but I think we've got a lot of information that we learned today and I want to thank Michelle again for putting this together and we will reconvene tomorrow at 8:00 o'clock, I believe it is, 8:00 o'clock here, okay, 8:00 o'clock here and we have 2.5 hours allotted to debriefing on today's hearing and coming up with concrete recommendations for inclusion in Meaningful Use Stage 3 on how to address the issues that are raised today.

It's not easy but so that's why I think it's good for us to sleep on it and come having given some thought on what the levers are that we have available. And then following that for the Meaningful Use Workgroup we meet from 11:00 to 4:00 to look at some of the new approaches to Stage 3. Public comment?

Public Comment

Caitlin Collins – Altarum Institute
If you are on the phone and would like to make a public comment please press *1 at this time. If you are listening via your computer speakers you may dial 1-877-705-2976 and press *1 to be placed in the comment queue.

MacKenzie Robertson – Office of the National Coordinator
So, while we're waiting for any public comments that might be on the phone if there's anyone in the room that would like to give a public comment if you could please come up to the table and sit by one of the microphones, just for everyone's information the public comments will be limited to 3 minutes so I will be notifying you when your 3 minutes are up. So, if you could please identify yourself?

David Owen – Director of Market Development – Nuance Communications
Good afternoon, I'm David Own, I'm with Nuance Communications. I have 25 years experience with clinical documentation in all manners, size of hospitals, physician practices with companies like Kurzweil, Dictaphone, 3M and QuadraMed. There are two points I'd like to make. First, please consider policies and funding for delivering secondary use value from ICD-10 rather than driving demand for data not already a part of ICD-10.

Second is, consider including the coder and CDI specialist in a definition of the care team in detail on both of those. ICD-10 is an elephant in the room. I really didn't hear it embraced here. It's a tsunami that's coming. There's going to be a tenfold increase in the number of codes, the productivity and financial impact of providers is inevitable and not insignificant and I can provide references. This Workgroup has the potential to exasperate the problem or help mitigate the impact providing policies or funding for secondary uses of ICD-10 will steer efforts towards method that will leverage the added effort physicians will already have to undertake.

Today the coder and CDI specialists are often considered to be, you know, emissaries of secondary use, however, as clinical documentations transparency to the patient grows physicians will come to see them as a partner in patient care. Thank you.

MacKenzie Robertson – Office of the National Coordinator
Thank you, very much. Are there any other public comments in the room? Okay, are there any public comments on the phone?

Caitlin Collins – Altarum Institute
We do not have any comment at this time.

MacKenzie Robertson – Office of the National Coordinator
Okay, Paul I'll turn it back to you.

Paul Tang, MD, MS – Internist, VP & CMIO – Palo Alto Medical Foundation
Okay, well thanks everyone again and we'll see you in the morning. Meeting is adjourned.