Joint HIT Policy and Standards Committee
Jason Task Force
Listening Session
Final Transcript
August 5, 2014

Attendance (See Below)

Presentation

Operator
All lines are bridged.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you. Good morning everyone, this is Michelle Consolazio with the Office of the National Coordinator. This is a meeting of the Joint Health IT Policy and Standards Committee's JASON Task Force. This is a public call and there will be time for public comment at the end of the call. As a reminder, please state your name before speaking as this meeting is being transcribed and recorded. Also as reminder, if you are not speaking, if you could please keep yourself muted so we can avoid the background noise, it would be appreciated. And I will now take roll. David McCallie?

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
Present.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Hi, David. Micky Tripathi?

Micky Tripathi, PhD – President and Chief Executive Officer – Massachusetts eHealth Collaborative
Here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Hi, Micky. Arien Malec?

Arien Malec – Vice President Strategy & Product Marketing – RelayHealth Corporation
Good morning.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Hi, Arien. Andy Wiesenthal? Deven McGraw? Gayle Harrell? Jon White?

P. Jonathan White, MD – Director, Health IT – Agency for Healthcare Research & Quality (AHRQ)
Hello.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Hi, Jon. Josh Mandel?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital
Here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Hi, Josh. Keith Figlioli? Larry Garber?

Lawrence Garber, MD – Internist/Medical Director for Informatics – Reliant Medical Group
Here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Hi, Larry. Larry Wolf?

Larry Wolf – Health IT Strategist – Kindred Healthcare
Good morning.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Hi to the other Larry. Nancy Orvis? Tracy Meyer? Troy Seagondollar?

Troy Seagondollar, RN-BC, MSN, UNAC/UHCP – Regional Technology Nursing Liaison – Informatics Nurse – Kaiser Permanente
Good morning, Michelle.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Hi, Troy. Wes Rishel?

Wes Rishel – Independent Consultant
Good morning.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Good morning, Wes. And from ONC, do we have Kory Mertz?

Kory Mertz – Challenge Grant Director – Office of the National Coordinator for Health Information Technology
Here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
And we also have Debbie Bucci from ONC. Are there any other ONC staff members on the line? Okay, with that, I'm going to turn it over to Micky Tripathi to make a few opening remarks and then I'll run through a few logistics before we get started.

Micky Tripathi, PhD – President and Chief Executive Officer – Massachusetts eHealth Collaborative
Okay. Great. Thank you Michelle and welcome everyone to the second part of a two-part listening session that we have covering the JASON Task Force. Last week we discussed various aspects of the JASON Report with representatives from the Health Information Exchange, the research and standards communities. And today we're going to pick up with some input from 3 other panels, one looking at consumer-facing ecosystems and systems, one looking at vendor developments…vendor developers of…who are dependent upon APIs and the other looking at app providers themselves.

And all of these panels sort of cover different dimensions of the JASON Report and different things that the JASON Report targeted as being sort of fundamental aspects of the architecture and the approach that they were proposing and advocating in the report. So, thought it important to drill down into these different communities and get perspectives from experts from around the country in these particular areas. So, without further ado let me turn it over to…let me just ask David if he has any other welcoming remarks and then we can turn it back to Michelle to lead us through the panels. David?

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
Thanks Micky. No, I would just like to reiterate our appreciation and thanks for carving out some time to do this. I know that preparing for these hearings can be time-consuming and disruptive, so we appreciate all the hard work that went into preparing your testimony and then giving us your time this morning. Thank you very much.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thanks Micky and David. So before we get started with the first panel on consumer-facing ecosystems, just a few reminders to our panelists. We kindly ask that you stay close to your 5 minutes for your oral remarks, I will give you a 30 second warning as you get close to the end of your remarks and then ask for you to stop and move on to the next person. We will just go through each of the panelists and then once each of the panelists has presented, we will then open it up to the workgroup for questions.

As a reminder to the workgroup, if you could please use the hand-raising feature within Adobe Connect, we will use that to put each of you in the queue to ask questions and I will just call on you in the order that you have raised your hands. For the panelists, when we go to the point of asking questions, if you could please state your name again for the transcript and just there are so many voices on the phone, it is hard to distinguish who is who.

And I think we are ready to get started. So, Ali Emami, if you are ready from HealthVault…actually, let me walk through all the panelists from Panel 4, and I apologize in advance if I say your name incorrectly. So for Panel 4 we have Ali Emami from HealthVault, John Mattison from Kaiser, Kevin Riddenberger and Patrick Leonard from iTriage, Gordon Raup from Datuit and Anil Sethi from GLIIMPSE. So Ali, if you are ready…also one more comment, we hopefully received a bio from you in advance, so please do not take up too much of your 5 minutes letting us know who you are and who you work for. So with that, I will turn it over to Ali to get started.

Ali Emami – Principal Program Manager – Microsoft HealthVault

Hello, this is Ali Emami. I am here representing the Microsoft HealthVault team. First of all, thank you to the Task Force for this opportunity to discuss JASON and the role of consumer-facing ecosystems in this model. The HealthVault ecosystem is made up of millions of consumers, thousands of institutions that contribute health data, institutions that make use of HealthVault data and a rich set of devices that help consumers measure, track and share key measurements.

We support some incredible scenarios in HealthVault centered around the idea of a patient-centered hub for health information. HealthVault offers a free Direct messaging inbox to any consumer that wants one. Direct messaging, VDT and Blue Button are contributing to a growing HealthVault user base by enabling patients to receive a copy of their clinical record from EHRs. We're also seeing a growing number of growing data contributions from the HIEs.

Data that originates from these systems is stored in the same place as the consumer's other health information. For example, HealthVault allows consumers to pull in data from labs, pharmacies, payers, exercise equipment, health devices and from a wide range of other sources. Having a single repository of information allows delivering rich consumer experiences around that data. For starters, HealthVault's mobile Apps allow users to carry a record of their own and their family's health information wherever they go. Another example is the consumers having an emergency profile set up automatically, based on their conditions, medications, allergies and other relevant data. This profile is kept up to date as new data is contributed to the health record. A self-updating personal health record for an individual and their family wherever they go is an incredibly powerful tool.

Some of the most amazing scenarios HealthVault enables, however, are on the secondary uses of that data through our API. For example, with the shift towards value-based care, organizations are looking for tools to help manage their patient population. A combination of self-updating HealthVault record and health monitoring devices like glucose monitors, blood pressure monitors, and pedometers that generate data that a user can choose to share with their provider enables identification of patients that are at risk and allows for early intervention by the provider. Patients can also choose to share their HealthVault records with institutions focused on medical research.

These successes aren't without challenge, however. On the technical side, we receive nonconforming clinical documents generated by different versions and flavors of EHRs on a regular basis. Usually these are easy bugs to fix, but even if a vendor has a fix for an issue, it can take time for that fix to be made available to the organizations that need it. Some of the biggest challenges we face aren't technical in nature at all, but rather issues of policy, for lack of a better term. Fear on the part of data sources to promote data sharing capabilities with patients, varying perspectives on what is considered good IT policy and general confusion of legal implications of data sharing at scale are all barriers to adoption, to some degree.

Many of the principles discussed in the JASON architecture have been a part of HealthVault since day one. For example, data provenance, access to discrete data elements, and a transparent authorization model are all "parts of HealthVault." However, JASON architecture on its own doesn't address the key challenges we see. Good architecture is not enough to shift perceptions on policy issues and open APIs are only useful if someone is willing to build, operate and maintain them. The operational aspects of running a service that's expected to scale from small to large data workloads is underrepresented in the report, specifically in terms of operational costs and providing high-quality of service.

The JASON architecture can be beneficial as a reference for a group that is already motivated to participate in the ecosystem and operate a data serving API. In a world where JASON is deployed at scale, consumer-focused ecosystems like HealthVault would likely be interested in pulling in data from these APIs, pushing to these APIs…pushing data to these APIs to enable things like visit preregistration, population management and remote monitoring would likely be other areas of interest.

Providers are mostly comfortable sharing data with patients but receiving data from patients and using that data for clinical use is less common from what we are seeing. I anticipate this to be a key challenge of enabling secondary uses of data in the JASON architecture.

While one of the general questions asked to the panel was what policy and technology developments would be necessary to assure the privacy and security of information in a JASON-like architecture. An important question in my mind on this is really about the transparency on who is responsible for the security of the data. The reports intention to place the ownership of the data with the patient, the architecture proposes that an authority is needed to control distribution of the cryptographic keys required to access the data.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds.

Ali Emami – Principal Program Manager – Microsoft HealthVault
The organization that holds…okay, thank you. The organization that holds the key is effectively the gatekeeper to the data. The architecture proposes two separate the data management from key management responsibilities. I take this to mean one organization can be the data holder while another can be the key holder. This can in the best case lead to confusion on the part of the consumer as to who is responsible for the security of data and in the worst case, it's not transparent to the consumer who is responsible, since the consumer's association is likely with the organization holding the data. And I will stop there.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you very much, Ali. I don't think that we have John yet, but let me just check. John Mattison, are you on the line? Okay, so we will move him to at the end. Do we have…I think we are also having trouble finding Kevin and Patrick Leonard from iTriage?

Patrick Leonard – Chief Technology Officer – iTriage, LLC
Hi, this is Patrick.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Okay, if you are ready, Patrick, please go ahead.

Patrick Leonard – Chief Technology Officer – iTriage, LLC
Yeah, you bet. Okay, so good morning. Yeah, thanks for putting this together and inviting us to join. My name is Patrick Leonard; I'm the Chief Technology Officer for iTriage. Itriage is one of the leading consumer health Apps, and it was actually one of the first mobile health Apps created, more than five years ago. And we now have over 12 million downloads, millions of users per month, again primarily consumers who are using the app to find out what might be wrong with them and where to for help and a number of other things. And iTriage was acquired by Aetna in 2011, so we're now part of a kind of a larger ecosystem.

And I wanted to start by saying that I wholeheartedly agree with the assertion in the report that patients or health care consumers are the ultimate owners of their data. That's certainly the perspective that we take and I think it's an important sort of foundational idea to this conversation. But it's challenging for 300 million individuals to make effective use of the health data that…and so enabling app vendors and other people who can build interesting technology solutions to…that have access to APIs is really critical. We talk in the healthcare industry a lot about privacy and certainly providing protection for people so that their data is not accessed improperly is very important, but the flip side of the privacy, that doesn't get as much attention, is that owners of their data need to get access to it as well. And I think that's an area where the healthcare industry has done, frankly, a terrible job. It is very difficult for people to access this data that they are the owners of.

And so this API concept is incredibly important, foundationally…foundation to that….sorry, can somebody on the line mute? …foundational to an API in a distributed architecture is identity management. That's really kind of a base capability in any distributed system and particularly one as large and complex as a health IT system, so really figuring out how to implement an identity management infrastructure that is distributed, consistent and probably most importantly intuitive to consumers is really something that we need to put together. And I would like to suggest one possible approach.

I think probably the simplest and most straightforward, if there is such a thing in this undertaking, is to essentially take a pattern that's being used pretty commonly in most consumer health, social Apps and others, which is the OAuth and OpenID standards. Those are pretty well understood and known by most consumers, maybe not by name, but by experience. People are used to logging into Apps, being asked if they are willing to grant access to their profile or something else. They are accustomed to that workflow. It is not always applied in…to a level of security privacy that we would expect in the healthcare industry, but that's a matter of application and implementation, not anything to do with the standards because they can be applied in a way that is highly secure.

And again most importantly, it can be a workflow that can be…that grant structure can be understood by consumers. It can be mapped to the concept of privacy bundles that was laid out in the JASON Report, which then in turn, I believe, to be then mapped to a fine-grained permission model, which of course we need at the base of this whole thing. So, this is obviously a complex topic, that's a very sort of brief overview of an idea of how that could work, but I think addressing identity management and getting a standard-based approach that can be used consistently is really important.

And I wanted to mention one other thought about if this does go into Meaningful Use 3, which I think is certainly a way of getting people to…the vendor community adopt it. But In the case of an API, Meaningful Use, I believe, shouldn't be tied to the creation and the sort of certification of the API itself. In the case of an API, the use of it is only meaningful once an app vendor has consumed the API and done something with it. So I think any attestation of APIs in the context of Meaningful Use should not be limited to certifying that the API exists and is functional, but really should focus more on demonstrating that there's a community or at least a small number of app vendors who have used the API in a meaningful way. That's going to require the EHR vendors to…

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds

Patrick Leonard – Chief Technology Officer – iTriage, LLC
…create developer communities and do other things. But I can tell you in the case of iTriage, we've created, like HealthVault, a direct patient provider secure e-mail system and we've had to do all kinds of crazy workarounds to solve for the problems of a lack of identity management system. So, hope that's helpful and thanks again for the time.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you Patrick. Gordon, if you are ready?

Gordon Raup – Chief Technical Officer – Datuit, LLC
Yes, I am, thank you. If you will put the slides up. Good morning, my name is Gordon Raup, I'm the Chief Technology Officer for Datuit and we're a startup. And thank you very much for allowing us to testify this morning and inviting us to be here, it is a great honor.

We are four years old and we are dedicated to creating solutions that empower the entire care team to act as a care team in real-time. And we think we actually have a JASON-like architecture right now and so I would like to show a little bit about how that can be implemented and how that can be blown out to the rest of the healthcare system. Next slide.

What we would like to do is focus on what are the key features, the main thrust of the JASON Report and not get bogged down into details of particular key management strategies and things like that. But instead focus on what the JASON team is really asking for. And we think that's three things there, encouraging the use of modern technologies for exchanging data that is more flexible, more targeted, less costly and can be done in real-time, which CDA is not really good for that. Allow patients to directly control who their data is shared with, not go through end runs around about having to apply to somebody else and wait, but directly be able to control who the data is shared with. And allow researchers an easier and less costly way to get access to patient data, and that is one of the key things. Next slide.

So, we implement that in the SafeIX platform. And you will see on the left here, in the graphic in the upper right, a repository where all the data lives from all the different sources. On the left you see what is essentially an HIE exchange HISP, exchanging data, CDA documents with providers via Direct. And what is on the bottom right is an API that is allowing the various different Apps to access the data in real time, contribute data, consume data, and it is all controlled by the patient. John here in this graphic is able to determine who has access to his data, similarly to what Peter was talking about with OAuth, to determine who has the rights to see that data. Next slide, please.

The point is that once all the data exists in one place and can be controlled by the patient, things are a lot easier to manage. And these aren't…we don't have to have a situation where a JASON-like architecture is in opposition to a CDA, but can work together with CDA. And once you have that existing, you can actually have research Apps in the HIE doing research in 24/7 basis, based on the permission of the patient. And this is where we see is the right way to go, don't focus on the EHRs as the path to JASON-like functionality, but instead focus on the HIEs as the path to do that. Next slide.

And once we see that you do that, you allow the HIEs to really become the home of the patients' data, controlled by the data, where it's governed, where it's reconciled, where it's curated. Allowing the HIE to be the place where research can be done inside the privacy and security perimeter, you will be able to, we think, spawn an ecosystem of JASON repositories quite easily, as opposed to what's been our current experience. Next slide.

So what we recommend for ONC, for the future, is not to require EHRs to include JASON style APIs in their system as a certification requirement. Instead add a new certification module for standing up a JASON-like repository that has some defined features, not fine-grained specification and detail, but some broad-brush features that need to be in that repository to be able to pass certification for that module. A publically published API, don't specify FHIR at this point. That's where I see the future is, but we're not ready to tighten things down yet. This should be an opportunity…

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds.

Gordon Raup – Chief Technical Officer – Datuit, LLC
…a request for the industry to go in this path. Methods for patients to directly control who has access to their data, methods for patients to contribute to and view the data and when necessary, correct the data, all in real-time directly, not going through other people. And then mechanisms for patients to authorize the use of their data for research, to really allow a learning healthcare system to come into being. Thank you.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you, Gordon. Anil, if you are ready?

Anil Sethi, MS – Founder and Chief Executive Officer – Gliimpse, Inc.
I am here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Please go ahead. And just a reminder to folks, if you could please mute your line if you are not speaking.

Anil Sethi, MS – Founder and Chief Executive Officer – Gliimpse, Inc.
I would like to thank the committee for affording me this opportunity to share my views around JASON. As a model, I find that JASON is actually fully thought out, but also somewhat impractical from a developer's standpoint. There is no way in this architecture, or in any large-scale architectures that they'll be deployed in a patient centric way at a level that scales successfully. I concede that this is a provocative point. However, as background I have also been around health IT for the past 30 years, I've built HL7 and ASTM standards, was involved in organizing Kona, a privately funded projects. It's proved the viabilities in coding HL7 in a then new-fangled markup called XML and Kona was eventually donated to HL7, giving way to the CDA. GLIIMPSE, my most recent consumer health venture has prototyped a form of JASON and built services using CDA and FHIR.

So we speak from some nontrivial experience testing reference implementation. But GLIIMPSE has also developed commercial grade FHIR servers, pleural, as well as tested API extension supplier to the CDA…to the Consolidated CDA and therefore we feel qualified to comment on our difficulty implementing heavy structure suggested by JASON. As example, HL7's implementation guide for CDA release 2, it weighs in at an eye-watering 595 pages of implementation specs. And this is known to be a non-starter here in the Valley, due to the imposed allegiance to V3 and the complex RIM.

Our experience with numerous CDA document instances also demonstrates the poor level of current support mainly around CDA Level 1, as we've found most documents improperly formatted. And CDA instances suffer from an impedance mismatch that makes it difficult if not practically impossible to map between them. Finally, the FHIR API currently doesn't have a simple call to return everything about a single patient. One has to iterate through fine-grained link lists and developers must reconstruct the patient object on their own. There are other examples limiting practical use of JASON, features made complex based on data models originally around HL7.

The web's success is that it leverages extremely lightweight models and protocols such as HTML and HTP, simple platform structures such as SMTP and IMAP. These simple constructions can be rapidly implemented in a way that JASON just will not.

It's well-intentioned platforms and the robust APIs misdirect us down a maze of tightly coupled integrations that are costly, fragile and brittle, not at all based on the loosely-based data exchanges that power the Internet, which performs oh so well. And to quote the JASON document, "the current lack of interoperability among data resources for EHRs is a major impediment."

EHR vendors have no greater desire to interoperate than does Target wish to share their customer ERP data with Walmart. It is not reasonable to think that an API or an elegant JASON architecture will overcome the economic disincentives to sharing patient data.

Could we not rethink to distill down the essence of JASON, to severely simplify the API, consider OAuth, put the patient at the center of privacy thus softening JASON's onerous Crypto layer, all to securely export a single, single standardized data document to the patient, allowing them to mediate sharing between caregivers and between Apps.

This then, is an approach we very much drive and participate in, one that deserves to be vetted for more than the 5 minutes this committee has most generously allowed me to share my own views, for which I am grateful. Thank you.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you, Anil. And I think we have John now. John, if you are available, can you please go ahead.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
I would be happy to. I did send the documents. My apologies, I had an illness over the weekend and it took me a while to get stuff in, so I can go ahead and start off here.

So the first thing I want to talk about is the taxonomy for sensing and for acquiring data from the consumer and I see 4 categories for pervasive sensing. The first is the athlete warrior and by that I mean having sensing from warriors where if they're down, you need to know if they're alive and down, seriously wounded and down or stable. And similarly with a superb athlete, having real-time training.

The second archetype is around acute illness with wireless, either inpatient or outpatient monitoring, the third with chronic illness post discharge from the hospital, early event detection and intervention. The fourth is restoring and enhancing wellness through mindfulness using various sensors, whether accelerometers, galvanic skin responses, glucose control, etcetera. And the role of the sensors there is to initiate, motivate and calibrate the desired behaviors. And so those are the 4 sort of generic archetypes of acquiring sensor data.

The next topic I wanted to cover is the five dimensions in the management of personal data. And the first dimension is the archetypes of data, which include time, series, text and graphic. Second dimension is filters, and I see 10 types of filters, the first is value, second is a trend, the third is aggregations of data including imaging. The fourth is trends in aggregates, and the fifth being text and natural language processing. Those filters are doubled when you have enough data to generate a personalized circadian reference nomogram for each individual.

The third dimension is those circadian personalized nomograms. The fourth dimension is escalations. And the reason this is important is because of the avalanche of data vastly exceeds the human capacity to process it, so machine to machine escalations and then machine to consumer or machine to provider escalations.

The fifth dimension is the stage cycles of learning and what I call the accordion model of learning so that you use the best information you have at any point in time to establish your feedback loops and decision support. But periodically open up the accordion for new sources of evidence and then reduce the number of variations in that model as you close the accordion and repetitively open and close the accordion to learn and then apply .

The next topic is around the topology of the sensor network, from the edge sensors themselves to the cloud, whether aggregated or federated. And in that topology, there are local sensors and local sensor networks for person or place, there are local routers and middleware. There is data staging for analytics, filters, and machine-to-machine escalators. And then closed loop analytics and feedback either based on the internal cloud with analytics, filters, algorithmic aggregators and machine-to-consumer escalations as well as an external cloud, which can be central or federated using analytics, filters, algorithmic aggregators and machine-to-consumer escalators. The next issue is the various data types including time series, text, such as patient generated health information, open notes and surveys that patients submit electronically, as well as images.

And then the parameters that need to be considered for managing this topology include the sensing itself, the normalization of data, the transformation of data, the aggregation of data, storage and computational resources, compression, archival and purging. So those are all of the elements that need to manage across all of the topology and data types.

And so the principles that should organize that include the accordion model of learning, the how and where we escalate and who we escalate to, whether it's directly to the consumer or back to the professional provider. And finally, the third principle is localize the feeding…I'm sorry, the feedback loops as close to the person themselves as possible, so whenever possible, give the consumer the data they need directly .

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
The next issue surrounds what we need from device manufacturers in terms of supporting this architecture and infrastructure. And the givens in terms of the values and the dimensions of the data, total cost of ownership, accuracy, reproducibility, reliability, availability, affordability, durability, identity and provenance management, multiuser capabilities and user identity management, what…and those are fairly well known. What isn't yet widely implemented is the security and transparency into the open source components and open source strategy, self-awareness of the devices of location, self-awareness of failure threats, self-reporting, self-healing, and full IOT integration compliance.

And then the future opportunities include broader use coverage with comprehensive and noninvasive metrics, contact sensitivity for error detection and correction within field, temporal sensitivity, which for example would distinguish a new brittle diabetic from a chronic, stable diabetic. Earlier disclosure of problems through transparency and fortunately the FDA has taken on the pre-510K issues around partnerships between the vendors and users of these technologies and safe harbor protections.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
John, can you please wrap up.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
Pardon me.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Can you please wrap up.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
Okay. So the role of standards and APIs, we need to recognize the right of the consumer to retain and maintain a copy of the data. We need to accept that we will have parallel personal health record and electronic health record data sets, and recognize the critical role of provenance of atomic level metadata and machine generated whenever possible, recognizing the impracticality of auto magical data segregation for purposes of privacy management, because of two things. One, inter-individual variations in what is sensitive and what is not, and the temporal instability in that some people will be sensitive to the privacy and sensitivity of data at one point in time and six months later, completely reverse that.

So in summary, APIs must include direct consumer access and consumer generated data, must include provenance that is machine generated and maintained at an atomic level of metadata. And we must allow for intercalation of standards for data adjusting that is addressed and certified. Thank you.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you and thank you to all the participants on Panel 4. We are going to now turn it over to the workgroup to ask questions. Just a reminder to our panelists, if you could please state your name before speaking. And it looks like Micky Tripathi has a question. Micky, I think you're on mute.

Micky Tripathi, PhD – President and Chief Executive Officer – Massachusetts eHealth Collaborative
Yes, I'm here.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Okay.

Micky Tripathi, PhD – President and Chief Executive Officer – Massachusetts eHealth Collaborative
Yes, sorry. So, thank you everyone. First off, I want to thank the panelists for really excellent presentations and I realize they are very short. So the Q&A allows us to further sort of elaborate and draw out some of the ideas that you introduced to us. So, please feel free to elaborate a little bit on the comments that you had.

So, my first high-level question is a number of you spoke to the issue of this being really not really a technical issue, but there being really policy, business, legal issues that are really at the heart of this. And I think that one of you, I forget who, said something like a technical architecture is not going to solve this problem, it is really sort of policy, business, legal issues that are at the heart of it.

At the other end of the spectrum, and I'm sorry to be sort of, I don't mean to pigeonhole anyone, but at the other end of the spectrum, I think, was Gordon who essentially said that we do need JASON-like architecture and the way to do that is through HIEs. And I think that, Gordon, I think you said something like, don't do this at the EHR level, we need an ecosystem of HIEs that are going to do this. Which sort of implicitly assumes that we can get over the policy, business, legal issues that a number of the other folks saw as being really sort of profound barriers to moving to something more Jason-like. I'm wondering first if Gordon, if you could, I want to give you the opportunity to talk a little bit more about that and would like to open it up then to everyone else for your perspectives on that question.

Gordon Raup – Chief Technical Officer – Datuit, LLC
Sure, and there are certainly business issues and legal issues involved. I think the legal issues can work themselves out fairly well, as long as there's a reason for people to participate; people want to participate. And we don't necessarily think that this is going to grow by regulatory requirement, you've got to do this so we're going to make you - that is not the way to get there.

If you find use cases for patients and providers to work together and that doesn't…isn't a detriment to the providers involvement in it, it actually helps them do a better job, we think that those legal issues will be pretty easy to resolve on a case by case basis. And we wouldn't try to do that on a national, organizational, legal requirements kind of way, but let the HIEs work directly with their providers and their patients to do that. We actually allow contracts between patients and providers to be assigned online as a part of the process.

The main thing perhaps is the business side of things and the incentives for providers to share. And right now in the current world, there is still reluctance to share, thinking that this is my data and my this is my business asset and I am not just going to give it out. And that is, there are some aspects of that, but I think what we will find, the more that we get real examples of patients and providers working together, is that there is actually a greater business incentive in sharing.

We have to align the incentives in Meaningful Use and you can do that as the penalties start coming into phase. The importance of sharing data, and maybe even just saying that the providers have…that Blue Button is a mandatory standard that people have to allow the patient's data, download the patient's data to the repository of their choice. And then use the certification requirement to specify what a repository needs to consist of.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
This is John Mattison, could I add on top of that quickly?

Micky Tripathi, PhD – President and Chief Executive Officer – Massachusetts eHealth Collaborative
Yes, of course.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
Yeah, so two things, I think the combination of the Blue Button and Open Notes are going to blow the doors open on this issue without further intervention and the market forces will drive both of those because of consumer demand. And the second thing is that when you have full identity management and competent automated identity management in place, there will be an absolute torrent of exchange with varying levels of granularity assigned to the data, but at least the data will flow.

And so I think, the elements in place necessary from a policy standpoint, in terms of the information flowing really rely heavily on an effective implementation of identity management, which is probably the single greatest barrier to exchange of information today. And then the Blue Button and Open Notes Initiatives I will drive very quickly towards a much more consumer friendly approach.

Patrick Leonard – Chief Technology Officer – iTriage, LLC
This is Patrick Leonard, just a quick comment. So the…I'm going to take the counterpoint, I think, to probably what Gordon was saying. I think we have to look at why healthcare industry has not done this already when it has happened in almost every other industry. And normally I would say, the government doesn't need to make those things happen, but in this case, the reality is patients don't have access to data, and I don't think you should specify whether it's EHRs or HIEs. But I think it is reasonable to say there is a requirement that consumers…healthcare consumers or patients have access to their health data and the market can figure out how to make that happen. But advocating on behalf of the consumer, I think, is a reasonable role for government to take.

Gordon Raup – Chief Technical Officer – Datuit, LLC
This is Gordon, could I just respond briefly to that? The thing about the HIE is that you need to have a place that governance is done, that reconciliation is done. Just getting the data from the different sources without any way for it to be reconciled, it just does not work, there are too many things that are wrong, CDAs that are not well formed, errors that come across. There needs to be a place where all of the patient's data exists in one place and that's not going to be an EHR. And the only other thing is an HIE or something like an HIE.

Patrick Leonard – Chief Technology Officer – iTriage, LLC
Yeah, no, you can integrate an app straight to an EH R, that's happened lots of time. I don't think…that's something that should be, I think, more of a market driven thing; HIEs can play a role, but I don't think it's something you want to spec out.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Okay, we have lots of questions in the queue, so I'm going to start with David McCallie.

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
Yeah, thanks Michelle. So I'm going to go to the other end of the spectrum from Micky's question and ask a fairly technical question or a question about technology. Several of you mentioned the CDA and FHIR in various ways. One of the challenges that the HIT Standards Committee, which this workgroup will report up through, as well as the Policy Committee, has to ONC is to make a recommendation about Meaningful Use 3 and beyond, in terms of what's the best way to enable the technical issues of exchange of data around the system.

So, not now focusing on the policy issues, but the technical, we have one choice is to sort of perfect the CDA. Several of you commented on incomplete implementation, inconsistent implementations, complexity, and etcetera. The other choice would be to switch to a simpler model such as FHIR, FHIR was mentioned by several of you. I'm not sure there are any great choices on the table other than FHIR right now, although FHIR itself is, of course, immature still.

So my broad question is, would you prefer energy put on perfecting the CDA or would you think it's time to move to a new model, such as FHIR or something like FHIR? And I'll just let anyone who has experience with that decision to comment. Thanks.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
This is John Mattison; I'll take a quick shot at it. So, I was one of the cofounders of the work that led to the CCD, CDA, C-CDA and have confidence that it can be further specified as a standard to become more useful in this context. However, all standards have a natural lifecycle and what is occurring with FHIR looks like a good next step in that evolution. But, as you noted, it is not yet mature and as we all know, there is an extraordinary demand for something that works today.

So my view is, you focus the efforts today on further specifying the CDA to enable the data flow for today and when FHIR is ready, that there will be a very explicit roadmap for migration from the CCD, CDA, C-CDA architecture into a FHIR architecture and representation. But I think if we were to stop work in the CDA space and substitute it with FHIR, I think you would have vendors throwing their hands up in despair saying, you just forced me to use CDA. We've got much of it working and are you going to put us into a stall mode until there's a there there with FHIR? So, I am an advocate for making that conversion, but when it's ready and with a roadmap for how to make the migration.

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
Other thoughts?

Anil Sethi, MS – Founder and Chief Executive Officer – Gliimpse, Inc.
Hi, this is Anil Sethi from GLIIMPSE. So, I've sat across the table from John and to parrot the comments, the experience that we've had, and it's very recent, and we've had experience mapping CDA instance documents back and forth, or attempting to match them. And one of the things that would be very useful to us, just as a practical software development simplification, is to stick with CDA, but simplify the heck out of it. And CDA is a document construction where FHIR is an API, it doesn't infer a reference implementation and so we've used some of these FHIR implementation, but the way to match this up from one person's opinion, is to simplify the FHIR specification, produce Python and other very easy to consume API implementations that aren't coded into the data model.

So for example, one of the things in my testimony was that the API is conformant to the data model instead of the other way around. So for example, there's not a simple, RESTful call that you can make to fetch "everything about a patient;" that would be a very useful API that many developers would use. So what you have to do is you have to create your own Python implementation, everyone is doing it differently and you iterate and pick up FHIR objects. Those objects are at a granular, fine-grained level, related to the CDA, but there's, to use my term, the impedance mismatch between the CDA document, which is still a little too complex for the average app developer, and then the API.

So in summary, if we could simplify them both and make RESTful implementations for FHIR, simplify the objects, the FHIR resources so that there are not multiple instances of a medication object, for example. Those multiple instances trace their etiology back through the CDA, which in release 2 is almost 10 years old in its thinking. I think there's a way to streamline this and not throw away the baby with the bath water and if that is something the Task Force in the future would like to talk about, we'd love to give some further suggestions and opinions from a developer standpoint. Thank you.

M
Hey, I…

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
This is Michelle, I am going to move on to the next question just because we have a number of people in the queue. Larry Garber?

Lawrence Garber, MD – Internist/Medical Director for Informatics – Reliant Medical Group
Thank you. So as discussed, identity management is really so key to the success or failure of our current ecosystem or JASON and some of that is patient matching, but the most difficult piece is really the authentication. I can receive a message or approval to release information on-line with…and match the demographics to say, yup this is the Barack Obama that I take care of. But how do I know that it's truly Barack Obama that is sending this to me. And so I am wondering if our speakers could talk a little bit about the actual workflows that they use or envision to handle the authentication and how it relates to what JASON is proposing.

Patrick Leonard – Chief Technology Officer – iTriage, LLC
Yeah, this is Patrick Leonard from iTriage; I can suggest one possible way of doing that. So if you think about how you're…the OAuth providers that exist today, the primary ones, you think of Google and Facebook and Twitter, and those are the accounts that people use to log into other Apps. Now I am not suggesting you would necessarily use Facebook to log into one of your health Apps necessarily, but what you can do, and actually what we're in the process of doing in iTriage and also in Aetna is to be an OAuth provider. So, anyone who is managing health records on behalf…or any sensitive information on behalf of a patient, so it could be an EHR, it could be an HIE, it could be a payer, whatever, could be a OAuth provider. And then you would leverage the same processes that you have in place for verifying the identity of a real human being today, that's the big thing that's missing with OAuth in the consumer Apps like Google and Facebook, right, they don't validate who you are as an individual person, you just create an account.

Of course in our world, you have to know who the actual person is. We have those processes in place so if you put that existing process essentially, you put an OAuth provider in front of it and then you can essentially marry those two together. So, that's the approach that we're taking.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Does anyone else have a comment?

Gordon Raup – Chief Technical Officer – Datuit, LLC
This is Gordy from Datuit; we're doing similar using OAuth, being am OAuth provider. And we're using a Direct address as the identifier for the patient and a chain of trust methodology. Now, is this completely scalable? There are definitely some issues with it, but actually having the patient physically give the Direct address to the provider to put in their system eliminates the…or accomplishes the identity part of it. And could there be other entities that do that, definitely. We can foresee having banks potentially provide that role of the identity verification. But right now, we are currently using the provider as the identifier of the patient.

Ali Emami – Principal Program Manager – Microsoft HealthVault
This is Ali Emami; so yeah, just to kind of generalize that concept. I mean, you can think of it as an identity provider serving up a set of attributes that they have essentially vetted about the consumer. And an identity provider makes those attributes available to whoever wants to consume them, and so really it becomes a decision of which identity provider do you trust. So, the example of Google or Facebook, someone…any of the Apps downstream are trusting that Google and Facebook are, when they say, this Barack Obama is signing in with these particular attributes that Google and Facebook did the right thing and sent over the right identifiers for that particular Barack Obama.

And so it's a similar In a simpler thing, you can sort of have a more sophisticated set of attributes that describe things, like a birth date or a location, a ZIP code, a name, potentially MRNs, those type of attributes become embedded in an identity provider. And then as you sort of, people take a dependency on that, they're making the claim that I trust that this identity provider is going to serve up attributes that I trust, essentially.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
And this is John Mattison. I just want to add that the NIST levels of assurance could be part of the atomic level metadata assigned to each atomic data element or document as a whole. And to the extent that the minimal thresholds for level of assurance for identity management could be attached, that would help with a) both interpretation and use of that data, as well as b) to unwind data sets when they have been entered at an insufficient LOA and subsequently discovered to be not, in fact, the same individual.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you. I am going to move on to the next question. There are 3 questions in the queue, so we're going to be…try and be as efficient as possible so we can move on to the next panel. Wes Rishel?

Wes Rishel – Independent Consultant
Thanks. Ali, you have some experience with vendor compliance or source system compliance to HealthVault and I was not clear whether you were speaking about your proprietary API or about the CDA documents that are sometimes passed through your proprietary EDI. And then I just wonder, what do you think would have to happen practically to get over that compliance issue, which is widespread in many situations? Thanks.

Ali Emami – Principal Program Manager – Microsoft HealthVault
Do you mean compliance from a technical perspective or more on the policy side?

Wes Rishel – Independent Consultant
You commented that you were getting a lot of heterogeneity in the data that represented…yeah.

Ali Emami – Principal Program Manager – Microsoft HealthVault
All right. Yeah, so to the question earlier about whether to invest in CDA further versus more emerging standards, I think there is a lot of room to improve or simplify the existing CDA constructs. You can certainly have an eye towards the short-term while thinking about the longer-term right approach, but given the existing investments and given the existing expertise that has already been established around managing, creating, storing and transferring CDAs.

I definitely think there is, in the short-term, some…a lot of room to be able to improve that and constrain things a little bit more and really simplify. At the end of the day, the test ought to be is…can different vendors work on a standard or generate a CDA on one end and consume it on the other without…what is the failure rate between different vendors that are consuming and transferring those CDAs. And so I think today you are likely hearing a lot of people talking about nonconformance of those documents, but as a short-term test to sort of improve things, is can you increase that number or can we make it…can we make the failure rate lower. And so I think that constraining and simplifying would be a good way to go.

Wes Rishel – Independent Consultant
What would be a good goal for the failure rate?

Ali Emami – Principal Program Manager – Microsoft HealthVault
I'm sort of thinking abstractly right now, but if you could measure today, at some source system how many CDAs are created by various…

Wes Rishel – Independent Consultant
No, I'm looking for a number based on your experience now. Would 95% be a good goal?

Ali Emami – Principal Program Manager – Microsoft HealthVault
That would be an excellent goal.

Wes Rishel – Independent Consultant
Or 99.999% or...

Ali Emami – Principal Program Manager – Microsoft HealthVault
No, 95…if we could get to 95% that would save an incredible amount of energy and cost.

Wes Rishel – Independent Consultant
Thank you. Next.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you. Josh Mandel?

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital
Thanks. So John Mattison had mentioned the Open Notes and I just wanted to raise this question to anybody building consumer-facing technology right now, which is, there has been a lot of focus on highly discrete structured data like meds and allergies and vital signs. But in my experience at least, that tells a pretty sterile part of a patient's history and a lot of what's really important to know is locked up in narrative text. And I'm interested to know whether anybody building consumer-facing technology is currently able to get those narrative texts out of EHRs and is making them available downstream? Or are those still pretty much locked up in the vendor ecosystem?

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
This is John Mattison; we have a fairly large team that works for me on natural language processing and their ability to unlock those data is extraordinary. And I can give you a case example, when we wanted to identify all of those who had had a splenectomy and needed to be updated on their Pneumovax, I put both a discrete data team and a natural language processing team on that task and their work was complementary. But suffice it to say if I had to choose between the two, the NLP work was far superior in sensitivity and specificity for identifying those individuals and ensuring that they were all appropriately vaccinated with Pneumovax after a splenectomy.

So, we have many, many other examples of the work that this team has done, so that is not a commercial product, it's an internal product. And it is based on a lot of open source work as well as a lot of custom work and their capabilities are extraordinary.

Ali Emami – Principal Program Manager – Microsoft HealthVault
This is Ali from Microsoft. So on the HealthVault side, we definitely support both the storage and transfer of free form notes. Data comes in from the EHR with notes, can get stored in HealthVault and then can get sent across downstream to other providers. And certainly technologies or approaches that can parse and interpret that data can be applied to it downstream, HealthVault doesn't apply those today. But the idea that…I mean, one of the most common use cases is a downstream provider simply wants to look at what a different…what the original provider had to say, in terms of freeform notes and certainly that exchange is very much real and possible with HealthVault.

So, I mean, this topic comes up quite a bit that dealing with structured data and freeform notes is really hard. But in practice, from what we've seen, it's actually pretty straightforward, you have a section of data that is structured and well defined and you can have a section of data that's associated with that which is unstructured and freeform. So in implementation that's actually a pretty straightforward thing to do.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
And this is John Mattison; I'll just add that the tuning of the natural language processing to text processing is often query specific. So it depends upon what you're looking for, how you validate that you've created the acceptable level of sensitivity and specificity for that specific use case. So, it's still highly manual having a generic set of tools to do that without tuning, is still, I think, premature. Hopefully we'll get to that state, but as of right now the amount of tuning required for a specific set of queries to achieve the sensitivity and specificity you are looking for is considerable.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you. We have one…

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital
And one quick final…

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Sorry. Go ahead.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital
I'd just put an ask for Ali, are you seeing…so I understand HealthVault can store whatever data come in those documents, but are you seeing documents come from the EHR systems that have narrative text in them, like a…

Ali Emami – Principal Program Manager – Microsoft HealthVault
Definitely a smaller number of CDAs, a smaller percentage than just the structured, for sure. Some do export the freeform notes, some do not and so, I don't know the exact ratio, but I can tell you that it's a smaller number of documents we see that come with freeform notes.

Gordon Raup – Chief Technical Officer – Datuit, LLC
This is Gordy, if I could give any request to ONC for Meaningful Use, it would be this, to see what we can do to improve the use…the downloading of open notes, of freeform notes, in the CDA documents.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Okay, last question, Arien.

Arien Malec – Vice President Strategy & Product Marketing – RelayHealth Corporation
Thank you, I'll try to make it quick. So, I have no doubt that the capabilities you're talking about can be currently done in the current world with some elbow grease and motivated participants and a simple matter of programming. I'd like you to characterize from 1 to 5, the state of readiness of the current ecosystem relative to your mission, or your company's objective, where one would be that state I described of yeah, we can get it to work with some elbow grease and some time, energy and effort and motivated participants on both sides. And 5 is, if you're an app developer, my app just works with pretty much any EHR or infrastructure out there. If you're John Mattison, then yeah, I can pick any best-of-breed mobile app that I want and I have confidence it works with the Kaiser ecosystem. So if you can characterize again, 1 being bad, 5 being good, one being elbow grease, time, energy and motivation and 5 begin everything just works, what your take on the current state is.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
So this is John; I'll start off and I might burst a little bubble, but I think it's a 1 and I think to the extent that the principles and approach of open mHealth are more widely embraced and pursued, that we can move up the hierarchy faster, but I think we're still at a 1.

Anil Sethi, MS – Founder and Chief Executive Officer – Gliimpse, Inc.
Hi, this is Anil from GLIIMPSE. I have to say that as a platform implementation vendor and we've got real-world experience, it's very close to a 1, if not below that.

Patrick Leonard – Chief Technology Officer – iTriage, LLC
Yeah, this is…

Ali Emami – Principal Program Manager – Microsoft HealthVault
Hi, this is Ali…

Patrick Leonard – Chief Technology Officer – iTriage, LLC
Go ahead, Ali.

Ali Emami – Principal Program Manager – Microsoft HealthVault
Go ahead…oh thanks. So I would probably characterize it as a 2. If you asked me last year, I might have said 1, but I think initiatives like Blue Button and VDT in MU2 are starting to…we are starting to see some traction around that, so, just want to provide that insight.

Patrick Leonard – Chief Technology Officer – iTriage, LLC
Yeah, so this is Patrick…

Gordon Raup – Chief Technical Officer – Datuit, LLC
This is Gordy, I'd say a 2 as well. I mean, we've gotten off the floor and that's a huge accomplishment and took many years to get us there and I think we should recognize the amount that we have already accomplished. So, I think we're past 1, but we've still got a long way to go.

Patrick Leonard – Chief Technology Officer – iTriage, LLC
Yeah, this is Patrick Leonard, to just say a quick note on top. I…whether it's a 1 or a 2, I don't know, it's probably not any higher than that. But I think the…there are a couple of parts that maybe 1 is sort of technically how open are the systems, and I would agree with, I think, what most people was said that the technology is still pretty far behind, but it has made some progress. But then even where there are…where there is the ability to get some data out of EHRs, it's almost all intended for use by providers and not by the patients. And I think that consumer orientation is still almost completely missing.

Arien Malec – Vice President Strategy & Product Marketing – RelayHealth Corporation
Excellent. Thank you.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Okay, thank you very much to everyone on Panel 4. We greatly appreciate you taking the time to join us today. We're going to move on to the next panel, which is vendor developers dependent upon APIs. We have Charles from EHRA, George Cole from Allscripts, Carl Dvorak from EPIC and Ryan Hamilton from Cerner. Just a reminder to folks, if you could please be respectful to your other panelists and stay as close to the 5 minutes as possible, we would appreciate it. And Charles, if you are ready, you can get started.

Charles R. Parisot – Manager, Architecture and Standards – GE Healthcare; Chairman, Standards and Interoperability Workgroup – Electronic Health Record Association
Thank you. Can you hear me well?

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
We can hear you.

Charles R. Parisot – Manager, Architecture and Standards – GE Healthcare; Chairman, Standards and Interoperability Workgroup – Electronic Health Record Association
Okay. Thank you. If you could display the slides that I sent you, that would be great. Thank you very much. So, I would like really to thank the JASON Task Force for providing this opportunity to share the EHRA feedback on the JASON Report. My name is Charles Parisot, I'm speaking to you as the Chair of the EHR Association that is comprised of more than 40 companies that supply the vast majority of operational EHRs to physician practices and hospitals across the United States. And we have been asked a number of questions and for the sake of time, I will combine answers to some of those questions.

The first one was related to the current implementing information technology architectures and enterprise and the challenge that moving to a JASON-like architecture would be. We analyzed the report and we found that the report is realistic in acknowledging the definition and implementation of the proposed architecture may take many years. So we are looking for something, which is not a quick fix. And as a conclusion, we are surprised by the suggested…

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
I'm sorry, there is somebody in the background who needs to mute their line. If you could please mute your line when you aren't speaking it would be appreciated. So sorry.

Charles R. Parisot – Manager, Architecture and Standards – GE Healthcare; Chairman, Standards and Interoperability Workgroup – Electronic Health Record Association
So the suggested timing for the inclusion in a regulation, such as Meaningful Use Stage 3 doesn't seem well grounded and is for us, rather unrealistic. We have identified a number of challenges, and in the slides below, you'll see a more detailed report that analyzes those challenges that remain, on which the report is too vague and does not propose in a detailed direction. What we see is clearly good elements in this report and we think that an evolutionary path for the industry to move from what we are currently implementing to a JASON-like architecture is something that can be considered upon a certain set of conditions.

We believe that it is important, especially for interoperability, to build on what you have and preserve the current provider and vendor investment. It may not do everything we want, but what we have invested and have achieved and are about to achieve with Meaningful Use Stage 2 deployment is critical and we need to build upon this and leverage the existing Stage 2 specifications and continue to do so as well as other standards and profiles that are in production. And we spoke in the previous panel about CDA and C-CDA and that's important.

We also recognize, and there are some very promising extensions that are on the horizon, which is adding a FHIR atomic pull across aggregated document content. It is critical for us that practical use cases are established and focused and ensure the validity and we use those to gain practical experience so that those existing and enriching approaches become more beneficial and we do not fall for the…of a large-scale, new implementation of a new approach.

I spoke about this, what ongoing standards…initiated in the marketplace that could be synergistic with a JASON-like infrastructure. We are seeing a number of ways to attract some current issues addressing the JASON Report with what we have today. We also see the capability simply to add some techniques, some extension and rather than doing as sometimes suggested in the report, to do an entire redesign. It is important that we grow interoperability and we do not fall for an approach that make radical changes rather than leveraging the investment that has already been made.

And we have a number of ongoing initiatives that are important and the main one that has been mentioned so far, is to focus on APIs, but APIs that are based on open standards and that are truly standardized. And FHIR is definitively a good foundation to do this and to build this. It is not ready yet for prime time, but…

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds.

Charles R. Parisot – Manager, Architecture and Standards – GE Healthcare; Chairman, Standards and Interoperability Workgroup – Electronic Health Record Association
…something we should continue to work toward. So what we would like to do is to recommend an approach where we add to what we have, FHIR-based approaches where we select specific use cases that are of high value and focus on a few APIs in those high value use cases and expand our interoperability portfolio this way.

Looking at API is very…can rapidly become complex as the number of APIs proliferates as the architectures relating those APIs become extremely complex. So we need to grow on what we have and build from there and expand from there.

So we think that the approach based on specifications is clearly not the best approach to grow those APIs. We think by having focus, by creating more collaborative working environments across various industry segments would allow us a faster and quicker way to move on such APIs. We want to thank you very much, the JASON committee for their work and support further elaboration in this area. Thank you.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you, Charles. George if you are ready?
George Cole – Principal Scientist, Community Solutions – Allscripts
Yes, hello. This is George Cole from Allscripts, thank you Charles for representing all of the EHR vendors with the EHR Vendor Association and thank you to this committee for asking us to participate. Since Charles gave the view of the EHR Association and Allscripts is a member there, I can focus more specifically on some of the detailed questions about APIs and some of the general questions about evolutionary process.

Allscripts since 2007 has had a program to develop and deploy APIs across the clinical, as well as the financial space. We have APIs that are currently deployed to some 9000 of our current client servers and these have been developed in conjunction with over 100 different business partners. Since we are

actually a business, it's no surprise there are business agreements that are put into place for the participants that need to use the APIs. Clients simply have what really amounts to a restatement of their client license and third-party vendors and third-parties that want to use the APIs, of course have agreements that cover confidentiality, property and intellectual property rights and again, since we're a business, it covers revenue-sharing.

The APIs today are pull only, push is planned and the APIs, of course, are bidirectional. It is absolutely essential that there be the ability to update content in order to make this into a useful program. We were asked about the types of APIs that have been produced, there were examples. So for example, can you produce APIs that give you consolidated CDA or basic MU contents or PAX or medications. And since Allscripts has products that cross the whole continuum of care from the provider in the ambulatory space and the acute care hospital, post-acute care and even the home, we have, of course, APIs that span the whole area. The work did start actually, with the devices, as we recognized the problem of the many, many device vendors to one EHR vendor, but it has completely expanded.

The use of the APIs are governed, like we said, by the business agreements. And the content, of course, continues to be controlled by the current user access permissions. Very simple, very straightforward, as what you might expect.

There is discrete data as well is free text, I think this was a question of some…and discussion in the earlier comments. There is always the ability to have free text in conjunction with discrete data and a great example might be medication refills, that's certainly is a quantity of discrete data, the number of refills. But of course then there's the ability to have text about a whole prescription that would include that text representation of refills, as well is all the other salient and important information about a medication.

There were general questions about EHR traversing or transitioning to a JASON-like architecture and what I would really like about that question is, it continues to include the word like. I think that all too often, sometimes when we look at the JASON Report and the architecture, I've heard comments about the architecture, when it's very important to take a step back and remember that this was a proposal on a proposed architecture and is there for the purposes of discussion.

Challenges in transition I think sometimes come about more from lack of constructs and lack of discussions and possibly even isolation. It's the problem of not knowing what you don't know that sometimes causes more problems in transitions than anything else. When we've worked in other spaces where different domains need to work together, it's been very important that those domains be a part of the socialization process. I think we, in evaluating the JASON Report, have quite often overlooked one of the primary challenges and charges to the JASON, which was to look at and examine information and challenges about clinical data sets and to focus on clinical research and public health concerns.

So, in terms of socialization, I think it's important for us to consider that EHR needs to meet biomedical research and biomedical research needs to meet EHR. I would finish with saying that we think that it's important to continue these discussions along these lines. We'd like to see leveraging of the existing work that has been done to date. I would remind people that I almost never mention interoperability without first including the word incremental. It's important to continue…

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds.

George Cole – Principal Scientist, Community Solutions – Allscripts
…an incremental process. And lastly, at the Institute of Medicine on May 30th there was a roundtable on the value of science-driven healthcare and a discussion, a very important discussion, around EHR and research and there were important recommendations that came out of that. All of our comments today have been submitted to Committee and will be available publically as all of the materials become available, so you can please feel free to download these comments and review them at your leisure. Thank you.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you, George. Carl Dvorak? Is Carl on the line?

Carl Dvorak – President – EPIC Systems Corporation
Yes I am, can you hear me?

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Yup.

Carl Dvorak – President – EPIC Systems Corporation
Can you hear me?

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
We can hear you, please proceed.

Carl Dvorak – President – EPIC Systems Corporation
Okay, great. Yeah, thanks again for the invitation, as with the others. What's nice about having four people answer the same five questions is we can augment each other so I won't dwell on too many things that have been repeated.

One thing that struck me with the JASON Report, and I respect that it was likely well intended, but it seemed to be based on some poor assumptions or some false premises. And in its construct it seems to perpetuate additional false premises or poor understands of what's really happening.

The first thing I'd like to point out is that APIs have been the norm in programming for the last 30 years and your very first question is the important one, what's the difference between an API and a public API? And I thought I would add a little bit to that because it was a specific question that was asked.

A public API is basically an API that one puts forward for others to use and makes a certain set of promises or sets of expectations around that for how it can be used, how it can be perpetuated into the future, and who will support it if there is a problem, things like that. So the JASON Report almost indicated that APIs didn't exist and therefore these questions about…API, it reminded me of the Google intern movie where they asked about being on the line. So almost all vendors that I'm aware of have APIs and almost all vendors that I'm aware of who continue to maintain their technology have public APIs.

Just within the EPIC world alone, I think we're pushing somewhere between 20-30 billion transactions per year through the API type of configurations...ePrescribing, there's…the Meaningful Use document exchanges, integrations with palm scanners and iris scanners and fingerprint readers for patients, all manner…with document scanners and things like that. So I think APIs are actually the norm in healthcare systems today, not the exception. And data sharing has been called into question, but I'm more surprised by that because I know for example we share billions of lab results with Cerner. We've got terabytes of data that go to Allscripts for…cost analytics. We've got many billions of notes go back and forth with both NLP vendors as well as transcription vendors.

So the data is there, it's generally…so the real question I think is, with regard to APIs, should we put more energy behind standardizing the definition of APIs? And I think there's fertile ground there. We're generally supportive of efforts like FHIR that are tackling…and I think we'll also see systematic replacement of the older HL7 styles of interfaces with some of the new RESTful or SOAP-based interactions rather than the old traditional passing messages down a wire.

A couple of other comments, our APIs are generally all bidirectional and they generally all support both read and write for push and pull. Obviously when you write data into a legal medical record where patient care matters, you take a lot of responsibility so although it's less common for people to do that, it is commonly done. And one other comment I wanted to make, I think the….I think George answered that pretty well, so I'll skip over that.

Patient identity, generally APIs presume a patient has been established, if not, there's a specialized set of APIs to establish which patient. And you can think of those as master person index APIs.

(Indiscernible), but they can also work with freeform fields it doesn't matter. So there are APIs that produce a patient note for folks like John to use in NLP. There are APIs that produce all the details of a TPN for…

Now the question about Meaningful Use Stage 3, I agree with most of the…already. I don't think this s really appropriate ground for ONC to try to force it. I harken back to…like…the thoughts…will remember that. But I think these are things that need to work their way through. And as you watch the standards work through time, you see people have false starts, come back to a norm and actually make progress. So HL7 version 3 maybe was a bit too much, too soon, but I think we're now seeing the progress towards some of those. So I would…(Indiscernible)

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology

Carl, we may have lost you. You have kind of gone in and out.

Carl Dvorak – President – EPIC Systems Corporation
In my last…oh, sorry. In my last 30-seconds, I think one other thing to respect is that sharing of data is actually difficult for the health systems, they're at high risk as they expose outside pathways to the data. And they are the ones that bear the fines from CMS and ONC and Office of Civil Rights and such, should these APIs be misused. And they are actually quite sophisticated for them to maintain, so I think we shouldn't lose track of that either and I'll be finished with that. Thank you.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you, Carl. And lastly, from Cerner we have Ryan Hamilton.

Ryan Hamilton – Senior Vice President, IP Development – Cerner
Hi, this is Ryan Hamilton. I'm the Senior Vice President of Engineering at Cerner. First of all, thank you for your time. I'll kind of build on the comments done earlier today. I think as Carl said, at Cerner our clients and partners have always been active partners in our development of our solutions. That said, we do believe there's value in creating an open environment allowing others to collaborate in the development of healthcare. I think the key question, the key question that the panel is struggling with is, what's the right balance of public and private sector partnerships to achieve it?

We actually believe now is kind of the right time for this transformation in healthcare IT, the digitization that we've all done around healthcare systems has us poised for…to kind of create the second order effect. Technology advancement, cloud infrastructures, open sources sort of lowered the technology barriers to entry, allowing sort of many more people to contribute and produce. I think Apps are deployment in business models based on standard APIs as suggested in the JASON Report have sort of transformed other industries and we believe that same effect could be generated in healthcare.

We believe sort of the large scale EHR systems will be seen as open platforms that can support and be required to support customization and edge extensions used in standard based APIs and technologies. We believe those extensions though will come primarily in two forms, either applications to extend those workflows or other API service-based integration used to expand on the core capacities to sort of catch the long tail of needs in the healthcare setting.

Internally we kind of look at this as sort of six-key strategies, which I think in the JASON Report reflect those, but the magic is going to be in how we do it. One is advocating standards, so opening the standards as well as collaborative partnerships to achieving wide sets…widely accepted sets of those standards. As talked about, open services loosely coupled, standard-based. I think the key to that is we need to make them optimize for the consumer and the consumption of that data to make them easy to use.

We need to invest in an innovation ecosystem, so it's not just the APIs, we need to supply the infrastructure collaboration as well, things like development resources, collaboration toolkit. And a key piece that I think often gets overlooked is we've made promises and have…around the operational aspects of this, so we need to make sure the pieces are there so that the aggregate systems can be well monitored and managed.

Business models I think are going to have to be transformed, and there's an opportunity for business model innovation in healthcare, particularly around how do we make it profitable for those contributors to engage and to stay engaged. And as Carl and others have…I think governance is key. I would suggest caution and taking the time to get it right. There are interesting balances to work through here and there's history that we can build on around balancing openness versus controlled deployment. And as this committee has seen, the balance between market and spending and regulatory control.

As far as how would we define a public API? I think Carl stated it pretty well, a public API is a well-defined API published for non-internal consumption. Ideally those would be based on a defined standard, but in some cases, we think we'll still be need for private specification. It's important to note, I think, that the existence of a public API doesn't formally guarantee everyone the right to use it. We still suspect there needs to be licensing agreement, certifications and program to maintain the integrity of data, security and the operational characteristics of our system. We believe other artifacts should sort of accompany the public API, most notably documentation, developer resources, test bed, sample applications as well as support and licensing agreement that promote adoption and deployment.

As far as how have we deployed or are we developing these types of APIs? I mean Cerner Millennium effectively is an interior, service-oriented architecture ranging from coarse to fine-grained transactions. We currently provide a Millennium web service toolkit that exposes those transactions for licensees to create custom application and exchange of information. Historically, this goes back more than 10 years, historically those were based on proprietary APIs, although we have upgraded to the use of standards as those become more mature and have emerged including both SOAP and REST.

Our go forward strategy is to really focus on public APIs based on really division of substitutable asks from the 2009 New England Journal of Medicine article. Our strategy is to migrate our web services to the emerging HL7 FHIR resources as those become available. We did, as you would have seen at HIMSS in 2014, we did numerous pilots demonstrating that ability with multiple back end vendors as well as multiple application developers.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds.

Ryan Hamilton – Senior Vice President, IP Development – Cerner
While we believe those are comprehensive, there will be some need for proprietary and both are licensed. At the app level we believe it's important that these data driven Apps can be injected directly in the workflow and we're betting on a SMART on FHIR approach to that integration, as well as we're working with Intermountain Healthcare to embed their clinical element models, as further ways to create the semantic interoperability necessary. And as well as working with the Healthcare Services Platform Coalition to sort of ensure vendor neutral aspects of that.

We support both push and…or primarily pull today, push we hope to see come out of FHIR. Both of our bidirectionals are read only and mobile development is sort of pushing the exposure of the right side of that. And I'll stop there.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you, Ryan and thank you to all of our panelists. We're now going to open it up to questions. Just an FYI for the workgroup members on the phone, we did lose connectivity. I think people are slowly trickling back in for the webinar, so, Wes Rishel has the first question.

Wes Rishel – Independent Consultant
Thanks. This is addressed to all of the representatives. A report such as the JASON Report necessarily is notional and creates high goals. Some of the…and a little bit of an ink blot test in that you can find what you're looking for in there sometimes. But my particular interpretation here, is that it's calling for APIs that go to great depth, in terms of semantic representation of structured data. And call for provinces of the data at the individual data elements or clinical data element level. I'm wondering, for each of you, if that vision were fully played out, what would be the extent of the rework that would have to go into your systems in order to be, full supporters of this vision? Thanks.

Carl Dvorak – President – EPIC Systems Corporation
Wes, maybe I'll jump in and start on that one. I don't think there would need to be rework of the technical architectures under most modern EHRs. I know that we can provide a read write to the data element level and read through vocabulary and translation services, and I suspect most can as well. I think the real work would be the cacophony of how people use those. And I think it can be tough to manage without appropriate standards and governance.

Ryan Hamilton – Senior Vice President, IP Development – Cerner
This is Ryan Hamilton. I would concur, I don't think it's large-scale architecture changes, the primary aspects would be, as they just said, how do we map? Most of these healthcare systems were highly configurable allowing clients to innovate and optimize to their needs. And we've made investments around the mapping. So how do you get from proprietary or internal aspects to the vocabularies, which I think will serve us well here. And I would build on the…our history with services is kind of getting the granularity right. How do you make them low enough level that they're highly reusable but high enough level that its performance and not chatty?

Wes Rishel – Independent Consultant
Sounds like that covers it, unless somebody is on mute.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Okay. Let's move on to Josh Mandel.

Joshua C. Mandel, MD, SB – Research Scientist – Boston Children's Hospital
Thanks. So this is a question for everyone, but it's keying off something that Ryan said, which is the existence of a public API doesn't guarantee that everyone has the right to use it. And I'm wondering here specifically about what rights a patient might have? So a patient has a right to access data and I'm wondering if that extends to patient Apps? So what do you think, if a patient wants to bring an app to the table, does the patient right to access extend to the app that a patient chooses. And in particular, what if a patient wants to choose an open source app and run it themselves? Does that count?

Carl Dvorak – President – EPIC Systems Corporation
I'll jump in on that, given the quiet. I think it's got a couple of facets that need to be understood. One is making sure that the app is, in fact, trustworthy because if the app were to do something beyond what the patient understood, the health system might stand liable for that. But generally I've always been a believer that a patient could put their health record on billboard if they chose to. So I think the next thing that one has to consider is if any patient could present with any app or combinations of Apps, it does require certain level of infrastructure to support the performance and scalability by the health system. Basically they have to fund the infrastructure that would allow any number of patients to use any number of Apps. So there's a cost burden that falls back to the providers and some of the small providers in particular might struggle with setting that up and maintaining that through time. And I'll stop there.

Ryan Hamilton – Senior Vice President, IP Development – Cerner
This is Ryan Hamilton, I think that's well said. Our vision there is really through the patient portal. Patients should have access to a copy of their data, I think it's a little early, but I think he well stated the challenges of…that up. We don't believe there would be un-federated access, there would be some level of certification and approved applications to connect…to directly connect to that infrastructure to maintain its operational characteristics and security.

George Cole – Principal Scientist, Community Solutions – Allscripts
Yes and its George Cole, I would just echo the sentiments. And also Josh, you, I'm sure are quite aware that there's more beyond this than technological issues. And so what we also just have to keep in mind is that relationship between providers and patients and many times we just need to remember that patient supplied data is a staging point and a conversation setter and not necessarily the last word in managing clinical content about a patient.

Ryan Hamilton – Senior Vice President, IP Development – Cerner
This is Ryan Hamilton. The other one where I think public and private can come together here is really around privacy, security and consent, which as we see today, there's large variation. But at the state level and local level as well as sort of, in some cases, even discrepancies at the national level versus the state level as to what the rights of patients getting a copies of that data are. And balancing those out, I think, is a good sort of public/private sector partnership we should have.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Okay, thank you. Larry Garber?

Lawrence Garber, MD – Internist/Medical Director for Informatics – Reliant Medical Group
Yes, thank you. Several of you noted that the JASON Report misrepresented the current state of technology and indeed I see on listserves continual misrepresentation of the functionality of several of the vendors that have been speakers here. And indeed Congress also seems to not understand the current state of the technology and use of it. And so while on one hand we could ask why that's the case, but I'm wondering, how could we move forward in terms of increasing public awareness of what truly the current state is of public APIs and technology and Health Information Exchange?

Carl Dvorak – President – EPIC Systems Corporation
…the quiet again, its Carl. I think continued work on standards, where interoperability works and works well, that's where there are good standards and well defined use cases. Again, hundreds of billions of lab results move back and forth between the EPICs and the Cerner's of the world so it's been put forward as a vendors are uncooperative or patients aren't allowed to…I think what was really needed here is some basic governance, basic set of standards and to work through early use cases down these paths. And I think the good news is that people out there are already doing that and I think again, that was one of the false premises underlying the JASON Report that I think had they known what was really there to know, they would have probably thought about it differently. And again, as stated by most of the other panelists, I think these are the architectures that actually are in place today, it's a question of governance, standards and appropriate use.

Ryan Hamilton – Senior Vice President, IP Development – Cerner
Yeah, this is Ryan Hamilton. I would build on that to say, I think we need to make sure we're appropriately putting our weight and support around things like CommonWell and other efforts out there today to make the data more portable. I think historically speaking, part of the challenge people would have expressed is, well each of us panelists will have open APIs, there's probably no…if you go to an open service, something more so for RESTful style. They are probably unique to each vendor and people are expressing a desire for there to be a common API across the vendors.

And that's where I think work like we've done in CommonWell, which encapsulates some of the identity aspects, record location, working on consent models plus standards. We can kind of build that up. I think FHIR holds great promise, particularly as it moves into the profiles and...resources to get to semantic interoperability hold great promise for getting to an environment much more conducive to broader app development on EHR.

Charles R. Parisot – Manager, Architecture and Standards – GE Healthcare; Chairman, Standards and Interoperability Workgroup – Electronic Health Record Association
Comment from Charles Parisot, I believe that it is critical to educate around that on the fact that interoperability is a path, that we achieve something, it doesn't work quite the right time. We need to fix it, improve it, generalize it, extend it and move on and move on and move on. And the idea of a big bang that will make everything work magically is really something that we need to dispel. I keep on reminding people that the connection of ATMs around the world is a 20-year-old long project. It took that long for the banks to make that work with a very simple application and we have to remember that step-wise approach. So I think stability and good governance so that we know how to quickly identify the issue, fix them, improve the testing, get better specifications, be backward compatible, I think this is the path that is going to make us successful in the end.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Troy Seagondollar?

Troy Seagondollar, RN-BC, MSN, UNAC/UHCP – Regional Technology Nursing Liaison – Informatics Nurse – Kaiser Permanente
Thank you, Michelle I was on mute. In the previous testimony from the consumer side, they rated the interoperability and the usability and the development aspect at a 1 or a 2. Can you just briefly explain how you could see that being improved from your side?

Carl Dvorak – President – EPIC Systems Corporation
This is Carl again. I think the development of plug and play standards with good specificity, clear vocabulary requirements, the notion that if you ask any number of people can they accomplish anything they might want to, I think you'll almost always get the answer always be a 1 or a 2. Again it's a question that in its very construct leads to the answer. So I think what app developers could do is to focus on the development of standards that would matter to the types of Apps their trying to develop. If they don't, they're simply going to have to deal with a wide range of different kinds of APIs from different vendors at different levels of granularity. So I think they face the same challenges all the EHR vendors faced in history, which is, let's get together, put standards down and work it through and yes, there is some elbow grease involved and that's not always a bad thing. I think even the Silicon Valley kids can figure it out if others can in Kansas City and Wisconsin.

Troy Seagondollar, RN-BC, MSN, UNAC/UHCP – Regional Technology Nursing Liaison – Informatics Nurse – Kaiser Permanente
Hmm.

George Cole – Principal Scientist, Community Solutions – Allscripts
Its George from Allscripts. I also think that we've seen great progress and we can expedite this progress as we consider specific workflow. So for example, as we went through this most recent round and we identify transitions of care or patient access to content, I think it's very important because those lend themselves to some more specifics rather than just the broad general exchange of clinical content, which is kind of nebulous and not very well defined. So, as we can…and again, I think we need to go back and talk to biomedical research, what are the levels of interest here? I'm not sure that we understand those workflows and how we share data in a larger context for research purposes. So, there's the places where I think that we can…as we talk about those workflows that we continue to help raise the level of export and fidelity of content that gets exchanged.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Larry Wolf?

Larry Wolf – Health IT Strategist – Kindred Healthcare
Hi, I want to take up a question that Larry Garber actually brought to the other group around identity proofing and identity management. It seems like there is an identity proofing process that happens when an individual shows up to receive healthcare. And I'm wondering if you as vendors of big EHRs have a sense of how that process might be leveraged to provide identity keys or links of various kinds that might be used for individuals to then access their information broadly, without having to have custom portals with every provider that they see?

Carl Dvorak – President – EPIC Systems Corporation
Larry, this is Carl. One thing you can do to start simply is given that the mandate for a portal already exists, is have that portal be used by a patient to generate a unique identifier for connecting into that health system. And that at least would give the patient a self-managed opportunity to collect up an identifier and use it in an app or use it in another application portal should they desire to do so. And again I would focus on view download transmit as possibly the safer avenue. I think once you let third parties on the inside of the wire, as it were, into your computing infrastructure, the responsibilities of the health system or the manager of that healthcare computer goes way up.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
It sounds like we have no other responses from the group.
Larry Wolf – Health IT Strategist – Kindred Healthcare
Okay.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
I lost my ability to see but I think David McCallie had a question as well?

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
Yes, thanks, Michelle. So I'm going to go back to a similar question that I asked the previous panel, very sort of hard-nosed about timetables and work that would need to be done for an MU3 proposed current timetable. What we've heard in a number of other hearings, most notably from Implementation Workgroup, is a fair amount of provider dissatisfaction on how the use of the CDA for transition of care or other data sharing works.

And some of that frustration comes from the problems with incompatible or poorly implemented CDAs that don't follow the standard or vagaries in the standard that don't specify the CDA well enough. But there are also issues that come from the cumbersomeness of having to read through a potentially long document to find specific data elements that you're looking for and would like to import into the record. And I think the JASON Report calls this out as a problem, I don't think they were probably very accurate in the way they described it, but the gist of it was, this it is not working very well and they suggest this discrete element API as an alternative.

So the question is, and then they of course proposed that this be figured out in time for Meaningful Use 3, they left that as a fairly vague statement as to what that meant. But the question to the vendors would be, do you think it would be possible to include some form of discrete level data access in the MU3 timeline, as it currently exists? In other words, if you took the JASON Report literally, do you think it's feasible to do that in the time that we have remaining before the proposed 2017 edition would kick in? I'll open it to anybody.

Ryan Hamilton – Senior Vice President, IP Development – Cerner
This is Ryan Hamilton. I think it would be too early, I mean we're sitting here they're talking about standards. We're talking…you're looking at a two-year horizon at this point, to get the standards defined, to get broad consensus, to get approval, development work, as well as implementation and client sort of certification aspects of that, I think the MU3 timelines as are currently defined are too tight for that to be practical.

I would reiterate your comment around the CDA, probably all the aspects you talked about are appropriate. I think the challenge some are seeing is, as it becomes more prevalent and much more data is getting shared, it's increasing the burden on providers, not reducing it because they're getting longer numbers of documents and more data to actually sort through and finding interesting challenges. So I do think discrete provides as a mechanism or provides the potential for them to give them smarts to go after the data that's most relevant to them and bring it in in a much simpler format as well as provide a standard way for EHR vendors to ingest that as appropriate, whether that team…curated or automatic. I just think it's too aggressive. I don't think there's time to do it, do it well and get the client bases ready for that kind of a change that quickly.

Carl Dvorak – President – EPIC Systems Corporation
I'll add to that a little bit, this is Carl again. I think the core thing to remember is that Meaningful Use Stage 2 is really just getting started, the big picture, and I think people are even more thoughtful on Stage 2 compliance than they were on Stage 1, in part because of the audits that are taking place. And I know some vendors rushed to get their docs to be the first ones to attest and then only weeks later put out a retraction saying, oh, there was an error and you might have to un-attest.

So I do think that we're at the very dawn of Stage 2 and I think if we have this discussion this time next year, it'll be against the backdrop of some pretty fantabulous use cases of exchange. And we're already seeing exponential growth in the number of cross-vendor exchanges with moving transition of care documents across different vendors and through HIEs. And one thing I wanted to also comment on from this morning, the notion of HIEs, I think EHRs and HIEs are likely both good platforms for this kind of work. The Cerner's and the EPIC's of the world will actually have all the EHR data because remember what's in an HIE is supposed to be shared back with an EHR, that's how it presents to doctors as well. So, I think both EHRs and HIEs will be driving forces in helping develop these standards and I think achieving the next level of interoperability.

George Cole – Principal Scientist, Community Solutions – Allscripts
David, its George, I think I would echo what Ryan and Carl have said. But I would also add that as we improve on the data content and the fidelity, whether we're talking about document level or discrete level exchange, in my mind the actual real issue that we need to tackle is the reconciliation…the item reconciliation issue. And whether that's items that come in discreetly or as an API discrete call or whether they come in as discrete content within the larger context of a document, it ultimately is, I think that's really a focus.

And lastly I'd like to just remind us all that there's so much value in being able to put in front of a provider content as human readable text. And I understand today sometimes we have documents that tend to be a bit verbose, but just to have that content available in human readable content is so very important. And I think if we hone down to just the discrete level, we might find that we're missing some of the context that we have today that relates the data to each other.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
One last final quick question to Arien.

Arien Malec – Vice President Strategy & Product Marketing – RelayHealth Corporation
Yeah, I was first in the queue and then our technical difficulties bumped me back out. This is actually the first panel that got me incredibly hopeful. And I think all of you in one way or the other have said something to the effect of Stage 3 is too aggressive to get this done, but we're ready, willing and able to get this done and what we need is a good process of governance and curation and interoperability testing.

So, I guess the question back to the panel is, if not Stage 3, is this an ONC facilitated activity? Is this an intra-vendor facilitated activity? And if so, what's the appropriate forum for doing the governance and curation and interoperability testing in order to get this work done as you've suggested, in a as fast as possible time frame?

Carl Dvorak – President – EPIC Systems Corporation
I think there are some traditional methods that are out there and there are some new emerging things happening. I think the work…this is Carl again, sorry, the work in the consumer device space…is leading some interesting work there to create a simplified set of standards for consumer devices integration that has a little bit less of the verbosity and overhead.

I think also that although in large part overlooked by ONC in the last 3 or 4 years, the folks at HL7 do continue to do amazing cross-vendor, highly collaborative work and we really owe them a debt of gratitude, I think, for standards like FHIR. So I would suggest that ONC direct some positive energy and possibly direct some funding to groups like HL7 to continue their work. It's amazing to see what they do and they've done a great job, even in light of not being the chosen one of doing some good work with FHIR and that's enabled a smart…medical record application team as well.

Charles R. Parisot – Manager, Architecture and Standards – GE Healthcare; Chairman, Standards and Interoperability Workgroup – Electronic Health Record Association
Comment from Charles Parisot. What we have seen successful is that when you have the key stakeholders agreeing to work together, the forum is not what counts. As soon as one of the stakeholders, could be ONC or anybody else, takes over, it demoralizes the other stakeholders. So I think what we have to learn is a far more collaborative approach, and I agree with Carl, we've seen efforts in HL7, we've seen years of effort in IT and a number of processes that we have now were perfected. But what is critical is that it is an effort, which is…,and yes, ONC may be at the table, but I don't think that necessarily want and need to lead. What is critical is that the key stakeholders must be in agreement to work together in that forum and driving and maintaining that agreement is what we need going forward.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Okay, thank you very much to all our panelists from Panel 5. We really appreciate you taking the time to share your insights with us today. We're going to move on to Panel 6, which is the Apps providers. We have a number of folks on these panels we are running a little behind schedule. So again, I appreciate it if you all could stay to your 5 minutes. First on the panel we have Dave from Lyfechannel, Tim from Point of Care Decision Support, Nate from Avhanahealth, Chris Burrow and Steve Mickelsen from Humetrix, Denis Coleman from AppMedicine and Jonathan Baran from healthfinch. So Dave, if you are ready, please begin.

Dave Vockell – Chief Executive Officer and Founder – Lyfechannel
Good morning, this is Dave Vockell from Lyfechannel. Good morning Policy Committee and fellow participants. The topic of the day revolves around data exchange, platform interoperability and the role that a JASON flavored infrastructure and pantheon of participants might have in promoting better health outcomes. I'm going to spend a minute on Lyfechannel and our health programs to put our perspective and our role into context and then I'll address some of the panel's six questions for app providers.

Lyfechannel builds mobile patient programs that translate physician instruction into patient action. We help patients new to diabetes, pre-diabetes, COPD, heart health and smoking cessation begin to build basic good habits to support their chronic conditions. And also operate a preventive health program targeting the chief health officer of a household. We create programs that connect the patient and their personal support team and their care providers through integration across mobile experiences and the provider's EHR. We use a broad set of public and private data sources and APIs ranging from diagnostic tools to EHR integration. We also provide outward-facing APIs of all of our core functionality.

The constant question in our industry is, how should Apps be regulated? And more specifically, in an environment of an exploding number of health mobile applications, how should that marketplace be designed and managed? Our first assertion is that hype is overblown. The high end of the kind of uproar numbers is somewhere in the neighborhood of 100,000 health and fitness Apps coupled with the worry about how will the public know what to do. It's hard to break down that large number into real health Apps versus another do 100 push-ups in a 100 days fitness experiences. But here's a little context, iTunes has about 250 diabetes Apps for the iPhone. In comparison, Amazon offers about 27,000 books related to that same topic and Google has over 225 million search results tied to diabetes. If the overall goal is patient protection and patient literacy of attempting to manage the quality of smartphone Apps is a small sliver of available patient experiences.

Assertion number 2, our team thinks that focusing on Apps is trending rapidly towards irrelevant. Increasing bandwidth, ubiquitous Wi-Fi and HTML 5 are quickly evolving mobile experiences where an app is not differentiable from a webpage. So use Facebook in a app and then use it on the mobile web and you'll see that both are rich great user experiences. A more meaningful question that imagines a future where we're going would be, do we need a marketplace for consumer digital health programs? This is a focus on the program and the content and the impact, not on the delivery method.

Assertion number 3 is, any marketplace or patient experience that supports the exploration, discovery and selection of health programs, is great. Any centralized overall grading system or broad certification process will hobble the participation in that program. We think that four things would support a kind of quality potential digital patient experience marketplace; first, quantitative certifications, for example, third-party certification that you use appropriate data encryption or Allscripts certified.

Two, deeper digital experience descriptions. Today when you register an App, you have a freeform text to describe your digital experience, if instead you had to fill out the sections that describes how patients might make decisions about using the experience that would drive greater health literacy. So, whether it be…you're forced to describe everything from your data encryption standard to the clinical basis of your health recommendation, those section will support patient literacy decisions and also surface less sophisticated decision solutions.

Three, anonymous patient reviews and true identity care provider reviews. Personal health privacy keeps consumers from sharing their review of digital health experiences. If you look at on iTunes even high download Apps have very few consumer reviews because consumers don't want to indicate that they are using those health Apps. And then requiring verified ID for care providers is necessary because of the weight those reviews carry versus consumers. And finally a taxonomy for health Apps that isn't just disease-specific, but more health journey related. For example, new to condition or for tracking or for alternative treatments that adds patient centric context to App selection.

The second topic we were asked to address is related to the use of vendor specific APIs.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds.

Dave Vockell – Chief Executive Officer and Founder – Lyfechannel
Awesome. Great. We use a lot of APIs ranging from healthfinder.gov to Allscripts to Blue Button. The majority of things on our API wish list are tied to, so I don't have to do more work to make them easier to use. Our best experience has been with Allscripts, from great developer tools to receptiveness to evolution. And I think rather than…our recommendation is rather than forcing EHRs to a common standard, if instead there was a movement to surface their data, there are a million entrepreneurs that will figure out the Rosetta Stone to translate between systems. That's it, thank you very much.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you. Tim if you're ready?

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
Yeah. So this is Tim Michalski. I'm the President and Chief Geek of Point of Care Decision Support. We're a clinical decision support company. We create very niche Apps for chronic disease management. I'm going to represent the developers, the geeks, the nerds on this committee and say a couple of things. I'm going to be short and to the point here because I only have a few things I want to say.

I have extensive experience in e-Commerce and banking and I want to echo what was just said about the fact that developers, we don't…we're not, I don't believe, and I've not heard this anywhere else that we're not asking for a common API. I think the high-level architects or the people that are at the top, not really at the bottom doing the development seem to think that a common architecture, a common way of speaking, a common protocol…well, I shouldn't say protocol, but a common language is necessary. And I know from other industries like the e-Commerce industry in particular, there are many APIs, there are hundreds of APIs to integrate with when you're building an e-Commerce site.

For example there's PayPal, for payment processing, authorize.net if you want to take various forms of credit cards, they're a payment gateway. Amazon payments, if you want to pay with bitcoin, all of these organizations, they do the same thing, payment processing; slightly different, they have an API that you can integrate with and it's fairly trivial. Most of these well-adopted APIs are well-documented, and that's really the key to a good API is a documented interface, regardless of how it works or the protocol in which it speaks to other…that you speak with it.

Another example in e-Commerce is FedEx, USPS, United States Postal Service and DHL. In my prior e-Commerce life, we've integrated with all of these APIs. I'm certain none of these companies got together and discussed how we should talk, do we need a similar language, when we ship this way, and you should ship this way. It was very different in how to integrate with them, but they wanted to engage other organizations, other vendors to use their service, to utilize their data and utilize their infrastructure and e-Commerce vendors had an incentive to use those.

The other example is Microsoft Apple, iOS, Android, again, same concept. They're differ…they're offering the same thing, operating systems, but they all have different APIs. And I really don't think we need to have a standard language. And I think the JASON Report it seemed to me, I didn't read every single word, conveyed that point. So I really want to hammer home that developers, I don't believe, the guys that are hitting the keyboard at night drinking their Mountain Dew, are not necessarily asking for one write once, run anywhere in the healthcare App marketplace. At least my company isn't and I think others would echo that.
The other thing that I want to touch on, and we had this discussion about APIs. What's an API? Well from a technical level there are multiple kinds of APIs, there's an operating system level API to integrate and talk to Linux or Windows or whatever operating system you're working on. I also think there's…well, there are definitely APIs for the applications, so Cerner, EPIC, Allscripts, they have programmable APIs that you can write an App within their software. There are other Internet remote procedure call APIs and I think that seems like we're talking about remote procedure call APIs, at least from an App developer perspective.

I don't really know what we want to call this thing, I just want to be able to call some web services be it with SOAP, JASON…protocol, HL7, I don't know if I really care, but I want to be able to call that over the Internet or Intranet and I want it well documented. And I want it to provide the data that I need to do clinical decision support, push back a note, get the results back into the EHR so that it's still driven and provider, the user is still using the EHR as their primary system. But for niche, content related decision support that the EHR vendor may not be well suited to provide, that I can plug in and add my little niche bit of data, so that the workflow can continue from the end user's perspective. And I wrote down something think is a little more succinct than just, I don't know, just give me an interface.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds.

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
I put "a prebuilt interface that is accessible remotely from within the local network or Internet, that uses a well-documented protocol XML, JSON, HL7, CSV, it doesn't matter, to obtain the entire patient record and pushback notes and results.

The final thing I want to say is, I think the CCHIT organization, the Certification Commission for Healthcare Information Technology, should be looked at to enforce an API Internet remote procedure call API like this. I think they do a great job in certifying EHRs and they might be a good organization to enforce the protocol. I'm done.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you, Tim. Nate, if you're ready?

Nathaniel "Nate" Weiner – Co-Founder & Chief Operating Officer – Avhanahealth
Hi, my name's Nate Weiner and I'm the Cofounder and Chief Operating Officer of Avhana, we're a clinical decision support company that was built around what we saw as a new innovation healthcare, and that was electronic health record APIs. Can you hear me?

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
Yes.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
We can hear you.

Nathaniel "Nate" Weiner – Co-Founder & Chief Operating Officer – Avhanahealth
Great. So our company recently went through a healthcare…here in Baltimore, supported by visionary companies such as John Hopkins, Kaiser Permanente and Northrop Grumman. My opinions today are based on my teams experience interacting with six separate EHRs and experiences we had working with their APIs. These EHRs have ranged from the nation's biggest to an EHR that prides itself on its API. Let's step back a little and look at perhaps what is the most…App marketplaces in this decade and that's smartphones.

When the first iPhone came out and people were perplexed why Apps were even needed, now all of a sudden companies that have embraced this model have seen exponential growth, while those who chose to ignore this trend, such as Blackberry, are dying. In fact today, I talk to a lot of people who buy their phone, not necessarily on the merits of their hardware, but instead on what Apps it can support. Conversely, this is also very important from a developer standpoint on what the systems we want to support.

For an ecosystem like healthcare, unlike the current phone ecosystem, there are hundreds of separate EHRs that we have to support. There are multiple parties that would need these Apps such as payers, providers, patients and population health and perhaps more importantly, the privacy needed on the data. For example, a provider would be very interested in an App that interacts real-time based upon the patient in front of them, yet population health wouldn't necessarily care about the latency in the system, but would want more granular data across the whole population.

For an App marketplace like this one to succeed, we need to see ways to help standardize the data in API calls. It's conceivable, like I mentioned, for a developer to worry about creating 600 separate interfaces. It can cre…by doing this, it can decrease development time, promote creativity. It also can encourage developers working with EHR platforms that aren't necessarily some of the EHRs at…,but EHRs that doctors currently love.

Currently there have been a lot of breakthroughs in the C-CDA and FHIR; however, one thing that hasn't been addressed is the data structure, the domain-specific language. There has been a lot of effort put into the HL7 virtual medical record but there are still a lot of issues that we're seeing right now. For example, something as simple as gender of five separate EMARs, we've seen it come across five separate ways, one, M male. We've also seen this with timing and blood pressure. There needs to be a way to figure out some way to standardize how the data comes across and make it very easy to represent this.

A translation layer could be highly beneficial for creative development either from the mandated side or something on the private side, similar to what we see being done with IMO. Another benefit of a translation layer would encourage highly skilled developers that aren't necessarily in healthcare and make it easier for them to begin.

Another think that we've seen working very well for us is sandboxes. If a public sandbox could be created so developers can work through their interesting ideas, by opening up their environments it gives an opportunity for developers to test ideas against either real or fake patient data.

Currently a lot of developers have worked with open source EHR, such as Open…Source VistA, but there need to be additional breakthroughs in order to leverage a global testing platform. Currently working with vendor specific APIs, as I mentioned, we've been very privileged to work with six separate EHR companies. We've all needed a business agreement in order to work with them. These APIs all have been very successful in pulling data out of the EHR and some even grant write privileges back in.

In my opinion, to be truly successful, an API needs to be able to work both ways. A doctor doesn't want to work through incredibly powerful algorithm only to have to spend a couple of minutes to record the results back into the EHR. As mentioned before, we see the HER as the primary system that a doctor wants to use.

Imagine a world where a patient could do their own med reconciliation at home or…record an average heart rate and the doctor could look at it at the next visit. Another benefit of working with these vendor specific APIs is the capability of a single sign on. As mentioned with authentication from the other speakers, it's a great benefit to be able to not have to worry about that and make it very seamless for a provider to use our App.

There is a question about the business agreements, as mentioned, we had to have a business agreement to work with every API that we worked with, and some included a…share agreement. Although there is an extra effort required for this, I believe it's one of the most successful ways for an ecosystem like this to exist. By becoming a partner with these EHRs, the team has been able to have access to resources that might have not been possible in an unsupported environment. These EHRs also have their own marketplaces that have helped actively sell a product and make it possible to have entire marketing and salesforce that wasn't easily possible before.

These business agreements also allowed us to work in these sandboxes and help test and integrate our products. This has ranged from Cloud environments to having to set up a specialized development machine locally. By having access to these development…sandboxes, our development team was able to create products that worked more seamlessly in a physician's workflow. This has helped us get over a hurdle, talking to a lot of physicians where they're worried about, sure you can do it, but can you do it with my EHR. By being able to work in these sandboxes, being able to show the physicians not only allowed us to prove efficiency, but took the pressure off already burdened IT staff at an institution.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds.

Nathaniel "Nate" Weiner – Co-Founder & Chief Operating Officer – Avhanahealth
Sure. Another issue that we've dealt with is the certification process, this process has taken multiple months. I do think it would be beneficial for JASON to help standardize some security and privacy settings to help reduce this time period. And I do believe a JASON-like architecture will be extremely helpful in alleviating some of these concerns. Every day I deal with physicians and developers who have developed proven Apps in their physician practice that can help improve outcomes and curb costs, yet the same concern that they have across all environments is how they can incorporate it in their EHRs. I think by creating an interoperable platform, like a JASON-like architecture not only helps our development efforts, but bring exponential benefits to the industry. Thank you.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you, Nate. Do we have Chris Burrow and Steve Mickelsen?

Christopher R. Burrow, MD – Executive Vice President for Medical Affairs – Humetrix
Yes, I'm here, this is Chris Burrow.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Okay, please go ahead.

Christopher R. Burrow, MD – Executive Vice President for Medical Affairs – Humetrix
Yeah, hi, I'm Chris Burrow, I'm the EVP of Medical Affairs at Humetrix and also on the call is Steve Mickelsen, who is the Chief…Architect of Humetrix. Humetrix has a 20-year history of developing consumer-facing mobile solutions, which have been deployed around the world, so we're not a startup. In the US Humetrix has recently capitalized on a transformative patient engagement policy and initiatives, notably Meaningful Use and Blue Button. We built the Blue Button smartphone Apps to bring critical health information at the point of care.

So I want to start with a reflection on what is actually in the JASON Report and there are certain sections that I think are incredibly important. One of which is in section 4.2, where it is asked and stated, when faced with decisions about how to implement systems for exchanging health information, one should ask, what is best for the patient? The answer usually provides clarity to help cut through the debate about these matters.

I want to point we're living in a time where the Institute of Medicine has estimated that 100,000 patients a year die due to preventable medical errors. That number could be as high as 400,000 in some people's estimate and about 20% of those preventable catastrophic outcomes are tied to the lack of medical information at the point of care. I don't believe that many of these deaths are likely to be caused by the lack of safe data or analytics, which may in the future define new ways of more effectively caring for patients. Instead these deaths are caused, in my opinion, by a lack of small data often the simplest of things like a list of medications, problems and allergies. So I really believe that this is an important focus here and I want to stress that we've made a lot of progress that I don't want to see us turn back on

One lesson in the JASON Report in section 3.43, looks at what happened in Taiwan where consumer mediated exchange using smart cards, which are a bit outmoded, has led to important improvements in health information availability. The ONC led Blue Button Plus effort has resulted in an implementation guide, which specifies use of C-CDA content and the Direct protocol for transport. As a result of this, millions of Americans today could receive medical records, which can be lifesaving, although we don't think that Direct is the solution for building scalable interoperability between providers. We believe it serves a very important purpose in providing the means for the patient to securely receive their summary medical record.

In light of this we have made available with i-Blue Button smart phone Apps, which millions of Americans can use today to obtain, parse, display and create aggregate clinical records from diverse structured documents including C-CDAs from multiple EMR vendors, such as Cerner, EPIC and Allscripts, which have been transmitted by Direct. We also can handle VA and DoD CCDs, which are part of their Blue Button Program, even including the Medicare Blue Button text file, which ensures that physicians can review this information with their patients who arrive with the data on their smart phones, so that the small data that I references before is not overlooked.

I want to also emphasized that the JASON Report overlooks that a nascent App ecosystem is being built around the Blue Button Initiative. And it would be a cardinal error to withdraw support for the existing MU2 standards, which have provided the foundation for this private sector innovation, which is so badly needed in building a sustainable national health information exchange sector.

Pausing here to take a breath, I do also want to point out that the original charge to the JASON group from AHRQ was to "address the nationally significant challenge of developing comprehensive clinical data sets to support clinical research and to address public health concerns. Well, I've spent my life in biomedical research and the found of Humetrix is a former California public health officer. Obviously we agree with this important national priority, but we wish to underline that this priority is a separate goal from getting actionable clinical information into the hands of patients, their families and their physicians as soon as possible so that this information can be shared at the point of care.

You've heard from others today, and I won't repeat, that C-CDAs are getting better, they're widely available, as is the Direct transport protocol and we do not believe the these should be in any way delayed or compromised by planning for an implementation of a national HIT architecture as proposed in the JASON Report.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds.

Christopher R. Burrow, MD – Executive Vice President for Medical Affairs – Humetrix
To close, I would say that we should, as the JASON Report itself says, we should be giving priority to services that make it possible for healthcare providers to rapidly access patient clinical information in the near term. The use of data for research purposes should become a priority only after significant exchange of health records for clinical purposes is established, that's in section 5.2. With regard to Meaningful Use 3, we believe that the HIT Policy Committee should carefully consider the need to make the Blue Button Plus Initiative real by offering, or insisting, that EMR systems provision their Direct servers with a Blue Button trust bundle, so that we can enable this ecosystem to go forward quickly and well. Thank you.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you. I don't think we've been able to identify that Denis Coleman is on the phone. Denis, if you're available, could you please speak up? Okay, we're going to move on to Jonathan Baran from healthfinch.

Jonathan Baran, MS – Co-Founder and Chief Executive Officer – healthfinch
Yes, this is Jonathan Baran.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Hi, Jonathan.

Jonathan Baran, MS – Co-Founder and Chief Executive Officer – healthfinch
And fro…hello. And so as was mentioned by everyone else, it's great to talk today and I appreciate the opportunity to spread a little bit about what we're doing at healthfinch. So, healthfinch is a company, I'm the Co-Founder and CEO. We're a company based in Madison, Wisconsin and that in many ways an App provider for particularly the electronic medical record systems. So our focus today as a company is particularly on the physicians and the staff end and our take is that to do all of this effectively, you have to work within the workflow of the electronic medical record system. So we, in many ways, view the EMRs as a platform on top of which there is going to be a tremendous proliferation of applications and technologies that begin to drive efficiency and quality to the individual providers. And so to really drive this point home, as a company we have taken kind of the opposite approach to a lot of groups. So I like to create a distinction between implementation…or interfacing and integrating. So interfacing means that we take data out, we get data in from the EMR in whatever form we can get it and we stick into a stand-alone software tool that is outside of the physician's workflow that requires them to log into a separate application to do work.

And that is very much not our approach and we feel that there are a lot of challenges with working in that. And so we as a company have worked towards heavily integrating our solution, which basically means that we work within the electronic medical record system. So in a lot of ways, we don't have a user interface, our user interface is the electronic medical record. So just to set kind of the standard for where our…a baseline from where our thoughts are coming from. So our intention is not to own the workflows, we very much see the EMRs as continuing to own these, but we feel like there's a tremendous opportunity for niche applications to come in and begin to drive significant results around particular niche workflows that are…that proliferate the health care system.

And so from…we've been asked today to talk a little bit about our successes, our challenges and particularly to touch a little on the App Store concept within these EMRs. And so I would say from the…so from the successes that we have seen to date. We have seen that there are tremendous opportunities working within the EMR and viewing it as a platform. We as a company have deployed our solution across multiple EMR systems and have seen significant ti…or efficiency savings, cost savings as a result of fully integrating within these EMR solutions. And even better from the perspective of the EMR vendors out there, application companies such as healthfinch provide a tremendous enabler and are many cases viewed as a reason to stay on…or to use an EMR system to the most of its potential. Because there's a company that's able to come in and provide support around an area that maybe the EMR vendors haven't always had an opportunity to get into, particularly around content and decision support. And so we…those are the good things.

The challenges from our perspective though, from building a company from the start, which I have done, there are still significant engineering resources that must be dedicated to engineering. So today, 50% of our engineering…of engineering resources that are dedicated to our product are dedicated to integrating with the electronic medical record system. And unfortunately, that does not mean that we can put those engineering resources to work actually building a new product, but we have to focus our energy on building the EMR integration, which obviously is a necessity. But it's a challenge that we would rather not have to take on and that in many cases results in…or is the result of custom integration to a certain extent that we have to work with individual customers on to get our system up and running.

Additionally on the challenges side, the time to deployment has been significant. So as we look to continually grow the startup and entrepreneurial ecosystem, the time to deployment to get something from, we have an idea to let's get this thing up and running in a real clinical environment. We still…it has taken us over a year and a half from the start to actually get something up and running. So we're talking about a significant time from start to actually getting some customer results, which as folks on the phone that have built companies know, that's the first initiative as you're beginning to start a company is to get results at a particular customer.
So, and I think…

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thirty seconds.

Jonathan Baran, MS – Co-Founder and Chief Executive Officer – healthfinch
…a challenge to the vendors will be to become more re…rather than becoming reactive, to allow us to become more proactive and continue to work with us. And be driven by the customer's needs and where they understand value. From the App Store perspective, I think the App Store concept is challenging, selling into large enterprises is not something that's going to happen over an App Store. But I think the model becomes more useful as we're selling to the small practices that can make decisions more quickly. Thank you.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you, Jonathan and thank you to all of our presenters on Panel 6. We're now going to open it up to the workgroup for questions. David McCallie?

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
Yeah, thanks. Terrific stories that you guys have to tell. So my question to you is, if you had one priority to ask of the EHR vendor community, who we heard from earlier, what would that be? What would your number one item on your wish list be?

Christopher R. Burrow, MD – Executive Vice President for Medical Affairs – Humetrix
This is Chris Burrow, I would want the EMR vendor community to load the Blue Button Plus tru…bundle and to enable Direct transport for provider to patient transmission of C-CDAs. That's my number one ask.

Dave Vockell – Chief Executive Officer and Founder – Lyfechannel
This is Dave Vockell from Lyfechannel; it would be double your support team for developers.

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
This is Tim Michalski with Point of Care; I'd say a well-documented standard API that's accessible either through the Intranet or Internet to access patient information and push back notes and results. And without requiring programming on the customer or the EHR implementation site or the health system…no programming from the health system needed.

Jonathan Baran, MS – Co-Founder and Chief Executive Officer – healthfinch
And from Jonathan Baran from healthfinch; I would say for the…so for some of the EMR vendors it's working…again, devote more engineering resources, as was said before and for others, to work more towards standard integrations where possible. Work with App companies such as us.

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
I echo that last part, work with App companies such as us.

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
Thank you.

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
That was Tim Michalski, by the way. Sorry about that.

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
Yeah, thanks. Michelle?

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Landen Bain, do you have a question?

Landen Bain – Healthcare Liaison - Clinical Data Interchange Standards Consortium
I think it was Chris Burrow, if not I apologize, but made some very useful comments about research, which is my area of interest. I think there's sort of a misperception that the main interest, or even the only interest of research is in big data for a hypothesis generation. And I just wanted to agree with Dr. Burrow that often times what researchers need is small data, exactly the right piece of data at exactly the right moment in time for the execution of clinical studies. So, more of a comment than a question. Dr. Burrow, did I have you right in that?

Christopher R. Burrow, MD – Executive Vice President for Medical Affairs – Humetrix
Yes, that's exactly right. My background is in biomedical research and molecular biology and as well, our founder has done important health services research. And so the focus on clinical data, actionable aspects of a patient's clinical findings, their phenotype if you will, their drugs, the duration that they've been given the drugs and so forth is critical data from which clinical research can be leveraged.

And I personally am of the opinion that we have put in place, with C-CDAs despite all their problems and I've seen all of them, I think or maybe not. Despite that, we've made a lot of progress, I want to echo John Mattison and others who have said, it is absolutely not true that C-CDAs are worthless at the present time. I personally think plenty of decent C-CDAs and certainly if you include the human readable version of a C-CDA with a style sheet, you're getting real data there. So…and I think there's a tremendous utility that can be built on top of this.

Landen Bain – Healthcare Liaison – Clinical Data Interchange Standards Consortium
Landen Bain one more time, just I so completely agree with that. We are also finding great use in C-CDA and completely agree. The one other comment I would make is that, if you're talking about small data and exactly the right size and time, you are, as George Cole pointed out, talking about workflow. We have to understand that workflow that must transpire between research systems and EHRs to be able to deliver exactly the right dose of data at the right moment.

Christopher R. Burrow, MD – Executive Vice President for Medical Affairs – Humetrix
No, I would agree with that and obviously Humetrix applications that are existing today are attuned to make the content of C-CDAs, VA and DoD CCDs and Medicare Blue Button style available to patients for their clinical care by physicians. Stepping back and looking at the broader applications of using the same types of data for research, there's no question that this is one key way to do it with built-in patient consent, it's the patient that's getting the data, either supervised or not. And they are intrinsically able and in position to consent for the actual data that the App has consumed and that they can then transmit to a data store for analytics purposes and other types of research, including clinical research of a more garden variety.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
David McCallie, do you have a question?

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
Yes, if there's nobody who needs to go in front of me, I'll go again. My question is about the adequacy, in your experience, of accessing data through the patient portal as opposed to a more direct connection to the EHR? And I don't mean Direct standard, I mean direct as in like an API. And the question is issues of is data that has been made available through the patient portal adequate in your experience?

And just the backdrop here into what I'm thinking about is that the patient portal has processes and all of the vendors have some process to associate the actual consumer with their record. And then the authorization for access to that record is mediated through the portal rather than turning the consumer into a native user of the EHR. So the portal enforces a certain amount of authorization…authentication and authorization control, but it of necessity, interposes another layer between the real data, if you would, and what's available through the portal. So my question is, if you've had the experience, has the portal been an issue or if you get a decent portal it works okay?

Christopher R. Burrow, MD – Executive Vice President for Medical Affairs – Humetrix
So, Chris Burrow here again, I think that was directed to me. We conducted a pilot with the San Diego Health Connect, the VA, UCSD under the auspices of Cal Ojai, to look at some of these questions. We believe that the physician using Direct can transmit the record that they think is best of use to the patient at the time the patient is seen to an end point, which is a Direct address, which the App provides, that the physician has authenticated, as Gordon Raup said, the patient who is right in front of them. And they then transmit what they would like to the patient be it an encounter summary, a discharge summary, a summary clinical record. That kind of direct communication, physician to patient or physician proxy to patient, we believe is the way forward. Not to knock, there are good portals out there, but we don't really believe that having a patient go to a portal and transmit a record to themselves using Direct is really the best use case.

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
This is David, my question was to anyone who wants to respond, your experience with going through a portal? Thank you for that answer, though. Anyone else? Okay Michelle, looks like maybe any other questions.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Yes. Micky Tripathi?

Micky Tripathi, PhD – President and Chief Executive Officer – Massachusetts eHealth Collaborative
Yeah, hi; I wanted to just first direct my question to a comment that Tim made, and so maybe Tim, if you could respond, but would love to hear other views as well. So as you were describing, you had described that you would like to see is vendors just have APIs that are accessible either via LAN or the Internet and good documentation around them. But after that, you really didn't care what it was and essentially, it sounded to me like you were saying, and the market will figure that out. If you expose something that is valuable both with respect to what you can get from it and that it's implementable that the market will take care of it, which is, I though, intriguing. And you gave some really good industry examples from other places. And then at the very end you threw in a sentence about having ONC sanctioned certification bodies certify APIs or something like that. It would seem to be somewhat contrary to what you were saying in the beginning of your statement? I just wanted to ask you to elaborate a little bit on that.

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
Yeah, no, I appreciate that. This is Tim Michalski of Point of Care. We've gone through and we're going through CCHIT modular EHR certification for one of our Apps and one thing I really appreciate about that process is it doc…it's really going through a list of checkboxes verifying what our App needs to comply to in order to be certified as a modular EHR.

And in that, it doesn't say how I should implement my software. It doesn't say how…what the details in the inner workings of what I am providing, just a kind of high-level, abstract statement of you need to, and maybe in the case of this API, you need to provide a web service call to get an entire patient profile or patient demographic. You need to provide an API call for getting patient medications, things like that. It doesn't specify what the protocol is for how to get it, it's just that you've at least passed the certification saying that you provide that. And then hopefully you documented it well, hopefully you wrote it well so it's accessible. I think that was kind of my...what I was get across is that the details of how the interface and the API is implemented, at the end of the day, from a developer's perspective, we can work with it. It's just provide it and then to ensure that an EHR vendor is providing it, have some…have an outlie that they have…or some checkboxes they have to check during the certification process.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
I know this is out of order, but…this is John Mattison, could I ask a question of that?

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
To me, Tim?

Micky Tripathi, PhD – President and Chief Executive Officer – Massachusetts eHealth Collaborative
Yeah sure, go ahead John.

John Mattison, MD – Chief Medical Information Officer – Kaiser Permanente
Yes. My question is, and I do believe it's an intriguing idea, the question is around time to market versus sustainability. And the question is as follows: If we have a smaller set, not necessarily one, but a smaller set of APIs that there's convergence on, might you not avoid a many-to-many integration overhead of a different API for different vendor Apps for the same data sets? And the extraordinary overhead of system engineering associated with that many-to-many shouldn't…while I agree, maybe we shouldn't create the single one way of doing everything. Is there not a downside risk of letting a proliferation of published APIs cause individual vendors to end up with an n x n-1/2 proliferation of system engineering?

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
So this is Tim Michalski. I think…my answer to that would be, well we can look into other marketplaces and see that, yeah, if I wanted to support 100 EHR vendors, I'm going to have to write 100 different interfaces, and that can take a lot of time to support, as one of the other panelists had mentioned. It's a lot of work, but if you look at, I'd argue that HL7 and what it provides, there are some standards for how to get basic patient information. But at the end of the day, it's…there is no…HL7 was kind of supposed to be that, as far as I…in my opinion, that one language that we all spoke but yet every single implementation of HL7 is a custom implementation for the most part of the client and vendor and has that really helped? And maybe the new specifications are helping with that, but I just….either way you have a problem. I don't…I'll kind of back away from that standpoint, maybe let somebody else answer that.

Dave Vockell – Chief Executive Officer and Founder – Lyfechannel
And earlier you cited some examples around payment methods and what has happened is in payments recently is, there are great standards from PayPal or Stripe or other payment vendors. And as applications adopt tho….as e-Commerce sites adopt those standard and other payment options want to try to participate, they begin to emulate the API standards of the big guys. So my suspicion is that there will be a…potentially a small group of EHRs that a lot of compelling and impactful third-party applications develop to. And then other EHRs want to incorporate the functionality, they will evolve to become easier to work with and there will be some kind of normalization around a small set of API languages or formats.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
I'm sorry, who was that who was just speaking?

Dave Vockell – Chief Executive Officer and Founder – Lyfechannel
This is Dave Vockell from Lyfechannel.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you.

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
This is Tim Michalski from Point of Care…

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Okay, we have time for one…okay, go ahead, Tim.

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
I just wanted to echo what Dave said and just I think he's right on the money.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Okay. Thank you. And we have time for one last question. Wes Rishel?

Wes Rishel – Independent Consultant
Thanks. I'm going to try to squeeze in two if Tim can answer one question really quick. Tim, I think you…I'm sorry, Dave. You made a comment that Apps are irrelevant, and I think what you meant to say is that it's irrelevant whether the App is hosted on a smart phone or hosted in the Cloud or something else, rather than to say the whole concept of an App as something produced by a third party, is no longer relevant. Is that correct?

Dave Vockell – Chief Executive Officer and Founder – Lyfechannel
Yes, this is Dave Vockell. Yes, I think that's the consumer definition of what an App is, is something they download and is made in code on their phone. To a developer it's anything that…

Wes Rishel – Independent Consultant
Yeah, so, we're sort of looking at a lot of examples already with the SMART on FHIR of Apps that are hosted in the Cloud. You still have to sign up for them, there's still some purchasing or alignment process, but it's not…doesn't happen to be downloaded to the phone.

Tim you said several times, APIs must be well documented. Sometimes there's a different…or we have a difference in healthcare between well documented and simple where when the documentation runs to 800 pages, the quality of the documentation is less of an issue that the superabundance of it. Did you mean to imply some level of simplicity in accessibility in saying well documented?

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
Yeah and I think I'm speaking from a technology perspective of documentation on a medical experience. So if you take a look at PayPal, I think they're a great example, the same with Amazon, they do a phenomenal job of documenting the endpoints that we would connect to in their API.

Wes Rishel – Independent Consultant
Thanks. And…but, you're also saying…how long would it take one of your staff to…say you didn't have to revise the function of your application, you just needed to add one of these interfaces, are you talking about a matter of days to understand and develop the code or weeks or what?

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
No, again this is Tim Michalski from Point of Care and there are a number of people on the call that are Allscripts developer partners and I think you guys…where we integrate with their Unity platform. We were able to interface, once we got the credentialed, we were able to interface with their sandbox same day and we actually had a functioning feature set by end of day, first day. Their API, in my opinion, is well documented and is a good example. So I'd say…

Wes Rishel – Independent Consultant
So we might be able to look at that to get an idea of what the simple API is. I just wanted to comment on the thread that was…has been running through here and came up lately in the last question before I started, which is that standard, I'm going to put the word standard in quotes here. "Standard" interface development by dominant…by early dominant vendor, which you know goes back forever but many of us are old enough to remember Hayes modem commands as an example, is faster than achieving a consensus on a complex standard pre-implementation. Yet there's less concern about the motivation of people to operate that way, because the economic benefit is driven by the size of the marketplace they get adopting the interface.

And arguably the vendors are more flexible. We have a lot of problem in HL7 with what I call frozen interface syndrome where once a version 2.2 message is in use, it's almost impossible to get to 2.3 much less 2.5. And suggest that as we look at ways of adding JASON-like architecture into the mix, we might look at less standardization and more promotion of the benefits as a starting strategy as opposed to pre-standardization.

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
I'm going to…this is Tim Michalski, Point of Care, and I'm going to add that there are a lot of developers out there that are trying to run faster than the EHRs can keep up with. And that the time it might take to develop a standard could be a year, 2 years down the road and we're ready now. We've got Apps that we're just cranking out and hoping for the day when we can simply snap into whatever the API is and whatever the protocol is. At this point, I think we're so ready and so primed to start adding value to these EHRs that it doesn't matter what the protocol is, it's just let's get something…

Wes Rishel – Independent Consultant
Tim, yeah, as I understand, you're saying you're so ready that you're willing to take your jigsaw puzzle and file it down differently for each other vendor in the jigsaw puzzle as opposed to wait until they all present as standard interface, is that…?

Tim Michalski – Founder and President – Point of Care Decision Support and Lighthouse Software Solutions, Inc.
Yeah and I'd argue that we've been doing it for the last 20 years anyways, so…

Wes Rishel – Independent Consultant
Yeah, and in an…if you think there are 10 EHR vendors, that's great, if you think there are 200, it's less great. Some of the advantages…the examples from commerce were four couriers, four courier vendors and we can all look at how Tuit, Intuit now basically dominates consumer downloads from banking sites and so forth, to see what happens there. But I just was trying to play out this as a creative way to avoid the hassle of drawing attention away from existing interfaces and Meaningful Use energy is sort of a fixed quantity that's available. So anyway, I think Michelle would rather that I shut up at this point.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you, Wes. And thank you to all of our participants today, we gratefully appreciate you taking the time to share your thoughts and having this wonderful discussion with us. So I'm going to turn it over to Micky and David for some closing remarks.

Micky Tripathi, PhD – President and Chief Executive Officer – Massachusetts eHealth Collaborative
Hi, this is Micky and first off, I just want to thank all the members of the Task Force and especially the presenters, because I know it's really hard to take time out of your day and to give some thought to this. And most important, it's really hard to keep in 5 minutes, because you all have a lot to say and we'd love to be able to have the opportunity to have more time, but need to get as much diversity of views as we can. But I really do appreciate the time you've taken. And since this is the last of the two listening sessions, I also want to thank Michelle and Kory and the ONC staff. These are really hard to pull off and it's not obvious once they're done how hard it is to pull them off. So once again, they've done a terrific job and both David and I really appreciate it.

We got a tremendous spectrum of views here, on every panel I think there was a variety of views on the particular issues, so I don't think it's easy to sort of say, oh, here was a consensus view that emerged. But I think it did give us a lot of both breadth and depth that will allow the Task Force now to start to digest this and be able to take in this great market feedback we've gotten over the last two listening sessions. So again, thank you very much. Let me turn it over to David, see if he has any final comments and then we can turn it back to you Michelle for the public comment.

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
This is David, I agree totally with what Micky just said and plus 1, well said, Micky. Michelle, public comment?

Public Comments

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you, David and Micky. Operator can you open the lines? While we get ready to open the lines, just a reminder, public comment is limited to 3 minutes and we're going to just be patient and see if anybody calls in.

Caitlin Collins – Junior Project Manager – Altarum Institute
If you are listening via your computer speakers you may dial 1-877-705-6006 and press *1 to be placed in the comment queue. If you are on the phone and would like to make a public comment please press *1 at this time.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
It looks like we do have a public comment. Adrian Gropper?

Adrian Gropper, MD – Chief Technology Officer - Patient Privacy Rights
Oh hi, thank you. I am glad that we're reviewing the JASON Report and I'm wondering if anybody in the previous meeting, because I didn't hear anybody today speak from the patient privacy perspective about the importance. And both PCAST and JASON pointed out, of having the separation of consent from data management, because that is what allows market forces to accelerate the process of interoperability. Pretty much everybody today spoke from the perspective of what I would call data brokers. Same institution whether it's an HIE or a PHR vendor, manages both the consent aspects and the data, management things and leads to a lot of the issues that we've heard very well described today.

So, I don't know what happened in the previous call, but I hope that the Task Force takes this issue to heart because certification may not be enough to achieve this goal. If we're going to allow the only participants in HIE and PHR to the institutions, then they're going to have to be regulated the way we regulate credit reporting agencies and other data brokers are likely to be regulated by the FTC. Thank you.

Michelle Consolazio, MPA – Federal Advisory Committee Program Lead – Office of the National Coordinator for Health Information Technology
Thank you. We don't have any more public comment at this time. So thank you again to all of our participants and everyone who participated in pulling together these meetings, we greatly appreciate it. And I also want to personally thank Kim Wilson for all of her help as well.

Micky Tripathi, PhD – President and Chief Executive Officer – Massachusetts eHealth Collaborative
Great, thanks everyone.

David McCallie, Jr., MD – Senior Vice President, Medical Informatics – Cerner Corporation
Agreed.

Wes Rishel – Independent Consultant
Congrats to Michelle on ending 5 minutes early.

Public Comment Submitted
David Tao (ICSA Labs). I will not be able to ask in person, so I will just submit in writing. While Tim Michalski said that they don't care about common APIs and can deal with proprietary ones, that seems to disenfranchise the vendors with lower market share. If there is a standard API, then it is minimal extra work to interoperate with any vendor who supports the standard. But if all are proprietary, even well documented, it seems that app vendors would understandably prioritize vendors with high market share and not have time for those vendors who aren't the "Amazons" and "Paypals" of EHRs. So I favor seeking a focused standard for APIs.

Meeting Attendance				
Name	**08/05/14**	**07/31/14**	**07/01/14**	**06/18/14**
Andrew Wiesenthal			X	
Arien Malec	X	X	X	X
David McCallie, Jr.	X	X	X	X
Debbie Bucci	X	X	X	X
Deven McGraw		X	X	X
Gayle B. Harrell		X	X	X
Jon White	X	X	X	X
Josh Mandel	X	X	X	
Keith J. Figlioli			X	
Kory Mertz	X	X	X	X
Landen Bain	X			
Larry Garber	X	X	X	X
Larry Wolf	X		X	X
Micky Tripathi	X	X	X	X
Nancy J. Orvis		X		
Tracy Meyer				
Troy Seagondollar	X	X	X	
Wes Rishel	X	X	X	X
Total Attendees	**12**	**13**	**15**	**12**