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WHAT'S NEXT FOR HEALTH CARE CONNECTIVITY?

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P R O C E E D I N G S

MS. KAMARCK: Good afternoon, everyone. My name is Elaine Kamarck; I'm a senior fellow here at governance studies at Brookings. I am substituting today for our vice president of Governance Studies, who is the expert in this area, Darrell West. Darrell went to Beijing and is trying to get back (laughter) from Beijing. He was supposed to come back on Sunday. Not a great day for air travel in the District of Columbia. So let me fill in here as best I can with a very interesting and very distinguished panel. What I want to do is I'll introduce each of our panelists right now and then open the discussion with some questions to them and get to audience questions.

So to my immediate right we have someone representing the Congress, we have Brett Meeks. He serves as -- you have to take responsibility for the whole thing (laughter). Nobody wants to do that these days, right. Brett serves as health counsel on the Senate Committee on Health, Education, Labor, and Pensions, for Chairman Lamar Alexander of Tennessee. His policy areas include Medicare, Medicaid, and health information technology. He has a wide range of experience in healthcare law and policy, including work in a small physician practice, a large research hospital, litigation, and a health policy consultancy. So, welcome, Brett.

MR. MEEKS: Thank you.

MS. KAMARCK: To his right we have the chief information officer for Optum, Mike Connly. He leads a team responsible for identifying trends, delivering disruptive technology, and increasing speed to market to make the healthcare system work better for everyone. Prior to his current roll Mike served as chief executive officer for QSSI. And prior to that he was chief technology officer for United Health Group IT. We want to mention here United Health Group provides generous support to governance studies, which makes possible the work that we do. And we're glad to have Mike with us today to share his personal experiences in this area.

To his right is Alice Borrelli, global director of healthcare policy for Intel Corporation, who works with the United States and with international policy makers on healthcare reform and health IT issues. During the healthcare reform debate she focused on reforms that would include innovative technologies for care delivery, including e-care, remote patient monitoring, and telehealth.

And then last but certainly not least, over there we have Elise Sweeney Anthony. She is acting director of policy at the ONC, the National Coordinator for Health Information Technology at HHS. Elise leads ONC's engagement on a wide range of high priority federal policy efforts, including regulatory development, information blocking, MACRA implementation, and governance. Her portfolio also included emerging issues and health IT policy matters impacting EHR incentive program participants and other care settings. Prior to this Elise served as deputy director of policy where she led the division of strategic policy. Welcome, Elise.

So we've got just about everybody here covering every piece of this puzzle. And I have a particular interest in this panel because I want to know why I can't email my doctor, which I suspect many of you will in fact tell me why I can't.

I'm going to start sort of in this order, and just throw out a question and ask our panelists to start thinking about these issues for us. Brett, do you think the EHR incentive program is working well? And how is the general level of participation across the sector? Is it moving the needle on adoptions?

MR. MEEKS: So anyone who has kept up with me or my boss can answer that no, we don't think it's working very well. We think stage 1 of meaningful use was very good at getting physicians and hospitals to adopt EHR systems and health IT in general, but stage 2 and stage 3 we see as very troublesome. And we have some of the best and most sophisticated hospital systems in the country coming to us and screaming that they are terrified of stage 3 before it was finalized. I think that's a serious problem. And I think whether or not, you know, I'm sure it was all very well intended, but the consequences and penalties that it levies on physicians and hospitals are very serious. So I think there has definitely been a role for government in getting folks to adopt health information technology, but we have to sort of gauge now as we move forward what that role is going to be and whether or not we're going to continue to penalize people for not checking boxes that are arbitrary in their practice. And do these things really help us improve care or is it just some regulation that isn't very well thought out. So, no, I don't think they're doing real well. I think they need to be changed.

MS. KAMARCK: Can you, for those of who are neophytes, here, can you expand a little bit more on what happens in stage 3 and why people are so worried about it?

MR. MEEKS: Sure. So one example that we speak about is in stage 2. Five percent of

physicians were going to be required to allow their patients to view, download, and transmit -- is the name of the requirement. So that means your patient has to have access to a portal so they can see their healthcare record, they have to be able to download it, and then they send a message back to the doctor. So that seems very reasonable, right, five percent. The problem is it's making a physician liable for the actions of a patient and you can't really force the patient to go home and transmit a message to them if they don't want to. So you hear about doctors who are raffling off iPads to try to get their patients to just send a message when they get home. Some people I've heard, you know, in the room will actually send the message on behalf of the patient. So that five percent threshold in Stage 2 has dropped down in the modifications to one patient. So obviously I think the administration heard the complaints. The problem is in Stage 3 it goes up to 30 percent and 80 percent in some cases, and they change it a little bit, but it seems to be -- as my boss put it, the administration seems to have a tin ear when it comes to this sort of thing, to where if everyone is complaining why are we raising the bar on something that's not working right now.

MS. KAMARCK: I think I'm going to actually change and go straight to Elise here (laughter) --

MS. ANTHONY: I'm not surprised.

MS. KAMARCK: -- given that comment, and ask you if you would respond to that, Elise, and also talk more broadly about the investment the federal government has made in electronic health records and the challenges.

MS. ANTHONY: So I'll start by, one, saying that I obviously work for ONC, the EHR incentives program is actually managed by CMS. There is a lot that we work a lot with them on, from the beginning, from when high tech was passed and it was time to think about how we go from a very low adoption rate, very low adoption rate for industries, to moving into what ultimately became Stage 1. So ONC and CMS did work a lot on what the requirements would be in terms of the health information technology. And that's kind of where ONC comes in.

ONC tries to think about what are the health information technology pieces that are integral, that are important for providers to be able to service their patients in the best way possible. Stage 1, as was noted, focused very much on adoption. Stage 2 moved more towards advanced use of

that technology. And then I believe that Stage 3 was developed by CMS, was really to move towards outcomes.

Recently Dr. DeSalvo, who is the national coordinator for health information technology -- I'm an acting administrator so I wrote a blog that talked about the transition underway for meaningful use, and kind of a sneak peak as it were in terms of thinking about how the administration is looking at meaningful use as we go forward. One of the main things that they talked about is outcomes, is moving towards outcomes, and thinking about how meaningful use fits into the larger rubric of MACRA, which is the more recent legislation that was put together and passed. And now as we think about the regulation to implement that, what does that mean, and how does meaningful use fit into that.

One of the categories in the merit based incentive program, which is the new piece in MACRA, is on meaningful use. And I think part of what Acting Administrator Slavitt and Dr. DeSalvo are thinking about is how those come together.

In terms of kind of thinking about Stage 2, there were some modifications that I know CMS did do to Stage 2, and those were the Stage 2 mods that were released in the fall of 2015. And that also included provisions for Stage 3. And CMS did include a piece on Stage 3 that allowed for public comment on that final rule. So even though Stage 3 went in and it was finalized, it allowed for public comment. And part of that was in recognition that as MACRA comes down the pike, how do we consider the path that we are on in terms of the path that MACRA sets forth and how to think about outcomes in that vein.

To talk about some of the other challenges that we're seeing, I don't know I would necessarily say it’s challenges as much as it's next steps. We have come I think a long way as a stakeholder community from our federal stakeholders, to those who are on the ground, to physicians, to hospitals, to critical access hospitals. I'm going to try to reduce the number of acronyms, so if you see anything twice, that's why. (Laughter)

MS. KAMARCK: I told Elise that HHS was getting as bad as the military when it came to acronyms. And actually while we're at it, can you define MACRA?

MS. ANTHONY: Sure. So MACRA is -- I'll describe it more in terms of what it is.

MS. KAMARCK: Okay.

MS. ANTHONY: Which I think is helpful. So MACRA is legislation that was passed by Congress. And the purpose of it as far from our perspective was to think about how a number of reporting programs could be brought together under one umbrella and think about alignment across things like quality reporting, resource use, meaningful use, and then general clinical practice improvement. And that's under the rubric of the merit based incentive program, MIPS. There is another piece of MACRA that is really important -- and there are a number of other provisions, which we could spend all day talking about MACRA which is not really what we're here for -- but there's another piece of MACRA that's really important as well, and that's the transition to AMP. So there's a fair amount of provisions in MACRA that focus on APMs, which are advanced payment models. So thinking about moving towards value based payment and how to incentivize that. And then the part that we at ONC are thinking about is how to support health information technology that could benefit providers who are moving toward that APM world, that value based payment world. There are also limits to what I can talk about on that because obviously this is something that is now before the administration to develop regulations on.

But to go a little bit back to challenges or what I would call next steps in terms of where we are, for ONC we're thinking a lot about the transition in terms of there's been a fair amount of adoption when we think about certain settings. And I'm careful to say that because there is a recognition at ONC that not all settings are covered by the EHR incentive programs, or some of the settings that are touched by our program. So while eligible professionals or many practices or hospitals or critical access hospitals are covered by the EHR incentive program, that's not the only place that ONC is thinking about. We're thinking about how to better support other settings. So that's long-term post acute care, skilled nursing facilities, behavioral health settings, pediatric settings. There are a number of different areas where we've heard from our stakeholders that health information technology is needed. And not only is health information technology needed, but certified health information technology is needed. And the benefit of that from our perspective is that there is an assurance to what we provide. So our certification program enables a provider and developers to know what the expectations are, what the needs are of practices, and what we as the administration believe is necessary.

So what does that mean? So it means that we focus on interoperability, and that's one of

the -- what you would say challenges, I would say next step is moving toward interoperability. So interoperability is about having in some parts standards based health information technology. So we talk in our 2015 rule, which was released in the fall, about a common set of data. So we used to call it the common MU data set, now it's the common clinical data set because we're thinking about beyond MU obviously. But that common clinical data set is a key set of information that we think should move when the patient moves to the extent it's relevant and important to the patient, right. So that information being able to move, and for providers to be know that their product that is certified by ONC is able to do that effectively and in the way that is required is really important. And in addition to that we attach things like privacy and security. What are the privacy and security pieces that should attach to information when it moves from one provider to another?

And then we also think about things in terms of this, in terms of how the standards support that data set. So when that data set is wrapped up and sent -- and I'm using vernacular here -- I'm going to try to move away from the technology a little bit and talk about the concepts, right -- so the concept is when that provider wraps up that data in the electronic folder and pretty much moves it over to the next provider during transitions of care, can that next provider open it, use it effectively. And that's part of what we're thinking about in terms of how information moves.

I'll stop there, but there's more that I can talk about, but I think I've been talking too long as it is.

MS. KAMARCK: We'll come, we'll come back, don't worry about it. (Laughter) I think actually I'd like to go to Mike now because you brought up, Elise, the concept of continuity of care and I know that, Mike, you've been working on this question of continuous improvement. Can you talk to us a little bit about that?

MR. CONNLY: About continuous improvement and how it improves it? Well, I think I'd answer that in a couple of way just, you know, speaking frankly from our experience, which is what I know best. One of the things that is really important is to continue to measure the value of what we're doing and especially those things that are enabled by connectivity since they're pretty substantial investments. An example of that is we have a business called House Calls. House Calls basically does what it says, it has nurse practitioners who provide care in someone's home. And what has really made a big difference

for the effectiveness of that program is the technology enablement to have a very clear closed loop process for communication back to the providers and to the nurse practitioner who is working in the field. Now when I say it's important to measure, an independent study was done on that and found that technology enable intervention at a convenience place for the consumer, at their home, led to a nine percent reduction in hospital admissions and a twenty eight percent reduction in readmissions. And as you might imagine, I don't know -- if I asked you to raise your hand if you like to go and be admitted to the hospital I don't think I'd get many hands. If there were we should really talk to you afterwards. But if one out of four folks who undergo this intervention and this style of intervention, this technology enabled intervention, doesn't go back into the hospital, that's a pretty powerful argument that you have something that works and that the investment and the work has been validated.

And then to that I'll add just the importance of continuing to do innovation. We spend a great deal of efforts, sometimes somewhat speculatively building capabilities in order to help anyone of a number of constituents in the system. And one of them that we do is called Link, it's aimed at providers, and it's really designed to create a secure channel to work with providers, to give them access to other resources, to be API enabled, to even have an ability to download health related applications. And that kind of innovation and measuring and finding out what's working I think is going to be continued as we drive improvement over time.

MS. KAMARCK: Great. Alice, I want to go to a slightly different topic, but related, what kind of progress is being made in migrating away from fee for service models towards more integrated care models? Can you talk a little bit about that?

MS. BORRELLI: Sure. Thank you. I work for Intel, and you may think it odd that Intel would be on a healthcare panel, but we've been in the healthcare business in many ways for the past 20+ years, and we provide of course the server in the hospital, we provide the chips in the PCs and tablets that physicians are using today. And during the course of typical health IT we've done a lot of research with our ethnographers. And, in fact, as the story goes, we've lived in about 1000 homes with Alzheimer's patients to find out how technology can be better used in the home as you mentioned, and really sort of moving forward with different products that are in development or are in the market today.

The second part that we've really been involved with is genomics research, and that has

been a growth area for the company. As the sequencing becomes faster, that's what we're optimizing. We actually have a phrase at Intel, all in a day. We want to get to the point by 2020, or maybe it will be 2025, but the goal is out there, to have a patient's genomes sequences, analyzed through high powered data analytics, and the treatment options be available in a day. And now it's taking months and sometimes years.

So that's the goal and that sort of gives you an overview of where Intel is in the healthcare space.

So in terms of ACOs, I'd like to talk about this in two ways. One, where are the rules and regulations that are moving forward and then holding them back. And, two, talk about the Intel ACO that we now have in 4 different states and 31,000 employees are on. And this month we have processed 40,000 records on an interoperable basis for our employees.

So let's first go to where we stand in terms of the ACOs in MACRA, the Medicare, and --

MS. KAMARCK: Chip.

SPEAKER: Chip.

MS. BORRELLI: Thank you. I was going to try to give you the worst, but forget it. You explained it perfectly. So the new way that physicians are paid. So we have the two divisions where they'll be paid by -- through alternative payment models, and then we have sort of a fee for service, but better coordinated, system. So on the APM side this is more like ACOs and you have bundled care and other new ways of payment that really looks at risk and it puts the provider at either a one sided or two sided risk, a payment system. So it's really -- and if you think about maybe a per patient per month kind of system that you have for Medicare Advantage, it's similar, but not exactly the same. So the idea is to provide a high level of care at a lower cost point. And we have been really watching this carefully because of the barriers to bringing telehealth and remote patient monitoring into these models. We have heard many times from HHS that well you have this incentive so you don't need to be paid for that anymore. Hospitals will just do this because it's in their best interest. And some hospitals are, and some hospitals are doing this to reduce readmissions. But you also need sort of a ramp up, a bridge for those hospitals -- and enough of an incentive which is beyond the one sided risk, which is you just get a minor bonus for reducing costs. And two sided risk really starts to kick in where you're looking for more

economical ways of delivering care at home, on the go, where the patient needs that care. But we think that because there's so little knowledge of this in the Medicare community that you need a ramp up for that. And there's some legislation being considered in the Senate called the Bridge that would give providers fee for service payments over the next two years so that they could experiment, get used to this, invest in some equipment, as well as really it's the knowhow, and what patients really qualify for remote patient monitoring that would work, when do you need to use telehealth and when does it not work. And so we'll look forward to that legislation being introduced next week.

But there are some barriers. And I will go back to the fact that in ACO there was a remote patient monitoring and telehealth provision, but it's really never been fleshed out because there's no payment. And we know providers and doctors and the rest of us in our jobs, we don't do what we don't get paid for, right. So we really need a ramp up to this. So that's sort of what we're looking forward to over the next few months and the discussion in Congress about that.

Now, secondly, I wanted to just talk with you a little bit about our experience at Intel. We decided to change the way we were doing healthcare benefits. And instead of trying to keep good healthcare for employees at lower cost, we changed this whole picture and said we want our employees to be healthy, and that's our goal. So we started looking at how to do that and we decided to offer our own accountable care organization as one of the options for your benefit coverage. We started this in New Mexico with about 6,000 employees, then went to Oregon with 17,000, and then we've just introduced it in Arizona where I think we have about 5000 employees; that just launched January 1. We negotiated with the hospitals, we did an RFP process. Those that wanted to adhere to our own quality measures, an additional quality to everything else they had. And the other provision is you had to have interoperable electronic health records. So in New Mexico we didn't quite get it right. And so we didn't make that second goal of interoperable health records, but we learned something. So when we moved to Oregon where we had over 17,000 employees and we had 2 major hospitals and clinics where we wanted all of our records to be accessible at the point of care. So when an employee went to an onsite clinic with Intel, an in community clinic or hospital, they would have point of care access to that record. And it took a while. We wanted a (inaudible) system -- you know, a point to point system wouldn't really work for what we wanted. And we had that in the contract with the hospitals. Within seven months we

were able to do this for the first time in the Portland, Oregon area for all of our employees who signed up for this program.

Then we moved to Arizona. In Arizona, it's a very complex healthcare system. There were 150 electronic healthcare records companies that had to be integrated. So the lessons learned from other experience, we chose the Sequoia Project, who used to be called Healthy Way, to be the integrated health information exchange. They have a certain set of standards that all of the providers using this myriad of EHRs had to subscribe to. Some dropped off. You know, I'm not sure how many we ended up with actually, but this month we went live with all of our employees have point of care access.

So my point to this is where there's a will there's a way. We had the will, our vendors, the hospital and the electronic health records companies who supported these hospitals, had the will, because of that relationship, and working together, which we really did -- we put our engineers in the same teams with the hospitals and the vendors -- it happened. And so I'd just like to say that the possible is there.

I should quit now, right?

MS. KAMARCK: That's okay, finish it out.

MS. BORRELLI: But I have one more thing to say. And we really respect all of the work that ONC has done to get us ready to this point. It has made such a difference. The kinds of reforms that both the House and Senate, and the bill that Brett has worked on, are trying to move the rest of the country this way because it's really -- it's a miracle when it happens. And even the doctors love it. I mean our employees sometimes have said oh well, we're Intel, we expect that kind of, you know, access (laughter), but the doctors, they're going, oh yeah, this is pretty cool. So it can be done I think today, but we may need these additional pushes from legislation and we just really appreciate the kind of attention that Congress has put on this.

MS. KAMARCK: Brett, did you want to have a last word on that before we go to the audience?

MR. MEEKS: Sure. I got a plug myself, right? (Laughter) Everything Alice was just talking about, I mean Intel is doing such great work. They're really setting the standard for what we should be doing. Maybe the Senate will follow suit and I'll have access to my records soon too.

(Laughter)

There are a lot of problems and there is just a lot of opportunity out there in health IT and we saw last year with 21st century cures and the House, they had an interoperability section. The Senate HELP Committee where I work, we had six hearings last year on trying to get records, exchanging how we get this to work, because everyone wants it to happen, but for some reason it's not happening. So we introduced a bipartisan staff discussion draft last Wednesday. We're actually asking for comments by this Friday, so if you haven't seen it yet, get on it.

MS. KAMARCK: This crowd may in fact have some comments.

MR. MEEKS: But we would love feedback. This stuff is very complicated. I don't know that I'm capable of getting it right the first try, so we need to hear what we're doing wrong, where we missed it, what we need to change. And we need feedback from folks like you because we're scheduled to mark up February 9, which is pretty soon.

MS. KAMARCK: All right. Well, let's hear from this group because having gone through the organizations represented here, this is actually a pretty weighty group. So why don't we start up here and we'll kind of go down and around. We have some time.

MR. GAGLIANO: Lou Gagliano; I'm a healthcare consultant and have practiced both on the instrument side and now on the policy side. So philosophically I think what I'm struck with is the issue of incentives versus in essence penalties. And I think the reason that's important is the following issue: we have a fractionated payer system in the United States and the payers really have a stake in this game, which is to send their patients in their covered lives to the place where the best care is given. And we need to figure out some way to connect the quality measure of what is going to happen based on some of these programs, whether it's MACRA 2 or phase 3, both from the physician side and the hospital side, so that payers can begin to think about how to migrate patients to where the best care is given. And we have to recognize in that that there is a philosophy here of maybe saying well, we're taking the patient out of it. But frankly, the patient in a lot of cases cannot make good decisions.

Comments?

MS. KAMARCK: Yes, Mike, do you want to lead off?

MR. CONNLY: It's a bit out of my area of expertise, but I mean I think it's just that it's

interesting when you instruct that patient can't always make the best decisions. Because one of the things, in addition to thinking about how we get the system to work together -- and the phrase I like to think of is not in terms of penalties or in terms of rewards, but how you make doing the right thing the path of least resistance. So it's just easier to do what needs to be done in a way that's consistent with the broader values or the broader goals than what was there.

One thing we need to remember that's really critical is that maybe the most powerful stakeholder of all is in fact the consumer.

And you had asked a question about email and it made me think a little bit about the fact that we have all the direct interaction with the payer community, provider community, et cetera, but then we also have a set of consumers who have their own values, who very much value privacy, very much value security, but also very much value convenience. And we're in a situation where we're trying to find that right balance between them and really need to continue to innovate to improve that.

MS. ELISE: I was going to comment a little bit on the -- from ONC's side of it, I mentioned before the 2015 edition rule that we released -- final rule that we release fall of 2015, and that's pretty much our rule of the list, as it were. Some would hear me say a buffet, we provide a buffet if you think about it of certified health IT. So it could be things related to your ability to computerized provider order entry, to do clinical decision support, to do patient capture of information. And a developer can look at our list and say these are the things that I need to support the provider population I work with. And then the provider also can look at our list and say, developer, these are the things that I need from your system to be able to do. So as part of our list we do think about that. We think about things from not only the perspective of the provider, but also the perspective of the patient. We actually have an entire team at ONC that works on consumer e-health.

From the rule perspective, we even included in the 2015 edition a couple of things that we think focus on the larger patient perspective. So, one, being able to capture patient information. So we said that's one of the things we need to be able to do. And CMS echoed that in their rule as well through their certified EHR technology definition, but being able to capture patient information and also being able to provide the patient with information as a provider in the way that works for them. So that's whether it's encrypted or not, for example.

Another thing that we wanted to do is we wanted to think about what information helps the patient the best. So that's things like not just clinical data, but we wanted to provide an option in our buffet, as you have it, of being able to think about social determinants, what some would call social determinants of health. We call it social psychological and behavioral data. So are you depressed, educational status, things of that nature that provide a fuller picture of what the patient looks like. And that to us goes to things like continuity of care. But it also goes to how that information is able to move. So does it just sit siloed in the system, or is it able to move from the primary care provider to the dermatologist and then back to the primary care provider. So that type of information is also where we're taking it. So trying to take in more information about the patient that can help, but also being able to take in patient information.

Now the last thing I want to mention is API. So we included this in our 2015 edition rule as well. Sometimes we have standards attached to what we put in a rule. Sometimes it's about functionality. And that's because in this case, in API, we took this to our federal advisory committees. There are two federal advisory committees that we work with, and we said tell us about APIs, give us some insight on where we are on APIs. We're actually doing the second phase of that now on some of the privacy and security questions that have come up about APIs. But the time when we were developing the 2015 edition, APIs is something that you see in many different sectors, but not as much in the health space. And we wanted to provide an opportunity for innovation to occur, recognizing that it's all not settled now and there's a huge place for the private sector to help think about what that looks like, what are the standards that attach. So there's a functionality requirement in our 2015 edition rule that supports APIs. And why is that important? Because that's one of the ways that patients are able to communicate with their provider, and it's also one of the ways that you can envision -- so in my wonderful blue sky world, in my brain, you can envision a world where a patient is able to look through an API and see the information from their dermatologist, see the information from their primary care provider when they were admitted to the hospital. And all of that information is in one localized place. Are we necessarily there yet? Not necessarily, but part of what we want to do at ONC is we want to support some of that work that's happening in the private sector, as you talked about.

MS. KAMARCK: Did you want to add something here, Brett?

MR. MEEKS: That's good.

MS. KAMARCK: Okay. Let's see -- right here.

MR. GRAHAM: Thank you very much. I'm John Graham from the National Center for Policy Analysis. I just had lunch with someone from Denmark, so my question is about international lessons can we learn. I mean Intel obviously is a global company and United Health Group has got international operations. And whenever I talk to someone, especially from Europe or -- they seem to be more connected in the healthcare space, so I wonder on the staff side are you folks considering international examples? Or even at ONC, you know, FDA has a lot of international connections, but from ONC I don't get a lot of signal that you're learning from what other countries have done. But I'm sure this panel would have some great comments on that, so thank you.

MS. ANTHONY: So I'll just mention briefly, there is I think a lot of work where we try to pull from a number of different kind of lessons learned and best practices, whether they're international or whether they're localized in terms of within the U.S. There is work with the UK, where we work with them and collaborate as well. But I think it's an ongoing conversation. It's one of those areas where we like to see what's happening and how some of that might be supported by our rule. Sometimes things are moving along pretty well, or sometimes we get to a point where a lot of progress has been made and we want to focus more on the next phase of that effort. So, for example, I talked about Stage 1, Stage 1 was really about adoption. Can you do this, do you have a system that can do this. As Dr. DeSalvo talks about we are now moving to the next step, which is does your health information technology support the outcomes you want to achieve, which is a different conversation. So you have the technology, but now can you use it to get to the outcomes for the patients that you want to see. So wherever we can pull from to incorporate some of that information, lessons learned, is where we would.

MS. BORRELLI: If I could just add that being an international company sometimes we have the opportunity to work with different policy makers and bring those ideas. And in fact, Steve Posnak has agreed, from ONC, to meet with Denmark and Norway on what they're doing on telehealth and remote patient monitoring because they've actually deemed the Continua Health Alliance standards as the standards for how they're going to issue RFPs because these are standards through personal health, which we've been talking about, that the patient supplies the data, but it's all interoperable, it's

plug and play. And when you go through the certification and testing process you come out at the end with the certification that means your systems are interoperable. So I could have a Phillips weight scale along with a Roche insulin tester and all of that would be connected to an Intel platform and it would all work. And that's what we're looking for. So Denmark has done an excellent job as well as Norway in that area. And I think ONC has been really open to talking with these folks.

MS. KAMARCK: Let's see, the gentleman in the blue shirt over there, and then we'll come back up here.

SPEAKER: So for those of us who work in the healthcare ITS sector, interoperability has been the name of the game for quite some time now, but I think we always hear about how it's still lagging, especially as it was just mentioned compared to Denmark for instance. What do you think could be done on the parts of -- you know, I think there's a lot of pieces. There's vendors and hospitals and also government. Where do you think each of those -- who -- what role do each of those play? And also if you could also loop in something about the new fire regulatory standard.

MS. KAMARCK: You want to start with that one?

MR. CONNLY: I'm not familiar with the new fire regulatory standard. Sorry. But the rest of your question, I can say that if you take a look at the interoperability roadmap, it's clearly good work and it's clearly the right path. It also is clear that it's going to take a lot of stakeholders to make that work, that that is going to take the private sector, it's going to take the public sector, it's going to take a considerable amount of work to get that together, or to get that roadmap moving and to get it prioritized.

And just a couple of thoughts from our perspective in terms of that roadmap is some very important things that we'd like see is to build that coalition of private and public and to make it work, and also address the issue of data matching. In particular how -- the data matching, how you know a record is tied to a particular person. I know there's a lot of discussion about that, as to whether you do that with an ID or whether you do that otherwise. And then, finally, the issue of data blocking, or we might call it data hoarding, in terms of making sure that there are the right incentives so that data is freely expressed for the benefit ultimately of the patient, not just for the benefit of the organizations.

MS. ANTHONY: I can add to that. I feel like I'm talking too much so I'll try to keep this one brief. Thank you for mentioning the interoperability roadmap. I think that's obviously a key piece of

the work we're doing. We also have the Federal Health IT Strategic Plan. That's another piece of our puzzle. But all of these come together to the goal of trying to get two I think outcomes in a lot of ways.

So the interoperability roadmap, you're right, it is not just a government tool, it's not just a government action. From the time that we released it, even in the draft form, it was really about a coordination and commitments from the private sector, as well as our work that we're going to do from the public sector, as it were. So there are a number of things that we've been working on continuously on that. One is just to mention this on the state side. States are another key player in this. Medicaid, for example, if you think about EHR incentive programs -- not to really speak for CMS, but that's a big piece of it obviously -- MU. So we just released a state compendium that's on our website, healthit.gov -- that's our little plug. And if you check it out it's a great resource. It's a great resource because -- and this is one of the projects of our Office of Care Transformation and Kelly Cronin -- and what it does, is it provides a list, a searchable list of activities states are doing in -- whether it's risk management, whether it's interoperability, all these different things. You can actually do a drop down list and you can see how states are implementing these very innovative programs. And that's a way of us bring best practices up and dropping it back down so it's a resource for folks to think about interoperability for example. That's one thing.

The other thing I wanted to note is information blocking, which I was sure was going to come up. So we released a report -- wow, some time ago now, but it seems like just yesterday -- an information blocking report, and this is something that Congress asked us to do. And we put it together and it talks about what information blocking is from our perspective. And one of the things we note in it is information blocking can happen from a number of different actors. It's not necessarily developers, it's not necessarily providers. It could be a number of different stakeholders who are involved in that. What we're doing now is we're thinking about how can we help to provide more information across the landscape in terms of products so that everybody is more informed about what their products can do, what the restrictions are on the products. So in our 2015 edition rule we included a whole section that updated the transparency requirements. So things like when a developer is coming to us for certification, what type of information are you making available to providers about the product, are you talking about the types of costs. And then, if I'm a provider, how do I find that information, where do I go for it. So we

included a provision that requires it to be available at a particular website or web address and you have to provide that to us. And then we're doing our part in terms of transparency and moving the conversation because we have what we affectionately call the chapel, which is a certified health IT products list. And all developer products that are certified are included on there. And we're increasing the type if information that's available on that list. And it's available on line. But things like transparency and what are the disclosures that a developer is making about a particular project. So that goes to increasing the information that's available across the landscape, so that things like information blocking, for example, are discussion points between the provider and the developer in terms of what the product can do, what types of costs might be associated with that type of action. So in terms of transparency we're trying to get there through that avenue as well.

And then one other thing -- I'm sorry -- I want to note --

MS. KAMARCK: That's okay.

MS. ANTHONY: -- I'm sorry -- is we're also working with our federal partners. So OIG, Office of the Inspector General at HHS, they recently released a policy reminder as it were. It's not so much alert because it's not new information, but the stark and anti kickback provisions allow for product or software to be shared with another provider, for example, and there are usually certain restrictions associated with that. But one of the things that -- while that exception allows for that software to move -- let's say I'm a hospital and I am giving technology or software to a practice I work with, usually there are restrictions on that. What the exception allows is for that to happen. But one of the things that OIG has said is that if you're doing that be mindful that there are certain requirements attached to whether you are blocking when you're doing that. So if you're giving that technology under the exception to a practice or a hospital, are you putting restrictions that affect or involve information blocking? And be mindful of that as you do that because we want to make sure that that's not happening. So there are different ways that we're looking at information blocking to try to address it from a number of different avenue.

I'll be quiet.

MS. KAMARCK: Okay. Let's see, right here, and then we'll go to you, ma'am.

SPEAKER: Thanks. Actually that segways well into the questions I have. I want to talk about two specific subjects. One is you need device identifiers. And second is cyber security of medical

devices. So the first one, there have been -- you know, lawmakers have asked CMS to require UDIs on claims forms and also ONC FDA has been very supportive of this, but there has been some pushback from hospitals and even ONC and CMS to a certain degree that the cost benefit is just not there.

And, secondly, because there are three different agencies who certify these UDIs and there's also the issue of not being automated that might actually put patients more at risk.

So he question I have about UDIs is what needs to happen in order for UDIs to be more widely adopted. Does there need to be a financial incentive, does there need to be more legislation?

And the second question is about cybersecurity. As some of you might know, last week FDA had a cybersecurity workshop. So on the one hand the market analysts I've talked to have said, you know, this might be a bit late in the game for FDA to require vulnerability testing, to require certain standards, possibly develop that, because they're really worried that 2016 will be the year where a device will be hacked into and somebody will be injured because of that. But on the other hand, you've got industry who says that this may be a little overblown. I was wondering as experts what are your thoughts on that, what side is more accurate in this? And secondly, what do we do about making sure that these devices are secure?

MS. KAMARCK: Brett, is this something you guys have encountered?

MR. MEEKS: Unique device identifiers came as part of a requirement that passed a few years ago. FDA has many authorities and we haven't seen a system put in place to track them in post market and there's a lot of talk about that right now. ONC in their 2015 edition certification rule actually requires UDIs to be part of electronic health records. They require a lot of things in that rule, but UDIs is one of them. So we haven't seen that happen yet because I think people are still building to the 2015 edition rule, but I think that will have a lot of good implications for UDI in the healthcare system in sharing data and being able to track devices.

There is something we include in our draft legislation right now which is requiring certified health information technology to be able to talk to registries. There are a lot of good registries out there that people spent a lot of time and money thinking about how we make data useful. Unfortunately a lot of systems don't talk to registries, so we just decided well, maybe you guys should talk to each other. I think the implications of that long-term for UDI and many other things are very big. I think there's a lot of ways

we can track information using the systems we have in place right now that just aren't being tapped.

In terms of putting it in claims, I know there are a lot of organizations that are very concerned about this. It's not my Committee's jurisdiction to say what CMS should or shouldn't do. I do know that CMS sent a letter last year saying that they do not want UDI in claims, that it would be too costly. And my thought is if it's going to be in EHRs maybe we see how that plays out and use it before we mandate it on CMS too. You know, I would point out two days ago the Congressional Budget Office announced that the hospital insurance trust fund for Medicare will be depleted in 10 years. So putting new requirements on Medicare at a time when we should probably be thinking about making sure Medicare lasts for some of the younger folks in the audience who pay into it and want healthcare when we're 65, assuming we're still here.

MS. KAMARCK: Any other comments? Mike or Alice?

MS. BORRELLI: Well, I would just say in terms of balancing we've had a lot of discussions on the privacy side and on HIPAA, what we can or can't do. And there just hasn't been a robust discussion on cybersecurity. So I think the time is ripe to really delve into that and do an interagency -- well, it's not interagency, but it's the agencies within HHS, along with DOD and the VA, to figure out what are best practices, what we should look at doing, and I think we need that conversation right now.

MS. KAMARCK: I think we're going to have one final question here because we're at the end of the hour. I'm sorry.

SPEAKER: Yes, thank you very much. My question I think --

MS. KAMARCK: We'll do you and you. We'll do two questions at one.

SPEAKER: Oh, sorry. I have the mic.

MS. KAMARCK: No, no, you go ahead. You're first.

SPEAKER: My question is I think primarily for Alice and Mike. And there is sort of a middle segment, it seems to me, between the provider and the patient which is this sort of clerical staff, for want of a better word, that works in practices and in hospitals, who do a lot of this and who are using the software. And so my question to each of you is as you've rolled out different things, have you found a skilled labor force in which to take the jobs that you're essentially creating?

And what increased role do you see for high schools and community colleges to produce the workers that employ it? And since you have a member of the Hill here, how do you see that playing out? Because I listen and I think it's great stuff, but where are you getting the people? Are they there, trained in order to sort of make that bridge?

MS. KAMARCK: Excellent question. If you'll hold that question. Give it to this gentleman and we'll try to do two questions at once.

MR. CAMPBELL: Stanley Campbell from Eagle Force Associates. First comment, as we move from fee for service models to pay for performance, it's virtually impossible based on that larger shift of risk to not engage the patient. And so we've got to engage the patient. That being said, the security aspects of meaningful use 1, 2, and 3, the interoperability, information sharing, and we're full disclosure, we're partners with Kathleen Robinson and the federal group at Intel. So I've got to kind of push that out there first. And in that environment we actually have a certified system with NATO where the 28 nations of NATO have to come into a common operating environment where the United States military comes in with its AHLTA system, Germany might come in with the Siemens, England might come on with parts of McKesson, and the like, because all those nations of the 28 plus Australia have national systems which are commercial products primarily.

And so with that, on the security side, to the earlier question, those systems are at the US (inaudible), certified at DISA, the Defense Information Services. And the NATO has a standardization agreement, NATO STATNAG 2517. So the rules are there, the regulations are there, the governance is there, it is primarily U.S. led because U.S. funded it for the most part. We don't necessarily have to go to Denmark, who is a partner, to get best practices which are already up and running.

So with that as a question, how can we get the -- basically we've got industry as the biggest player, we've got the technology folks, because in that as a Navy pilot, when I get knocked down and I fall in a French cache they actually can see my electronic medical record from DOD. And then when they treat me it's no longer my dog tag getting pushed back, they can actually send my records back so when I get back to the U.S. side they can actually see what the French doc did to me.

So with that being said, the censures, the governance, the policy, I think we got it all right there. We should be able to do this.

MS. KAMARCK: Let's let NATO take over. Thank you. Let's take the clerical question first. Yes.

SPEAKER: It was a training question.

MS. KAMARCK: Training question.

MR. CONNLY: So we have a whole set of businesses in the Optum side from a big pharmacy business to large consulting business, to analytics businesses, to businesses that do nursing care, as I mentioned before, but we also have a lot of direct providers and we have been able to staff them well. Now, one of the things we've been really trying to push very hard is a set of automation tools and support tools for them. And the support tools are around computer aided coding and other things that make a big difference in terms of being able to stretch the capability of those folks. But at this time we are able to find people.

Having said that, of course we would agree that at our experience we're doing a lot especially in the technical area. We're hiring more and more college graduates, to see them be better prepared for college, to also see stronger performance in the skills that we get at our high schools of course would be very beneficial to our business.

MS. BORRELLI: And I would say we definitely need better skilled workforce. We're at a deficit from Intel's point of view, not only at the Ph.D. doctoral, but also at the two year college level. We could do so much more if we had a better educated workforce.

But I just wanted to give you this example. While my mother was in the hospital I was talking to the nurses and of course we talked about the electronic health record, and she said well I'd like to be doing work at the hospital across town, but they have a different EHR and I don't know how that works, and it's too much of an uphill climb for me to go over there and figure that out. And that jut drove home this interoperability standards issue.

And I'd like to address your question based on that. There is a lot of chatter about well, you know, we don't want to get tied down with yesterday's technology and any kind of legislation. At Intel we're all about standards. That's why we have a chip that works in multiple PCs, we have servers that work all over the world. It's because of copy exact, have a standard, agree to it, and move on. And I think it's been really hard for this community to swallow that tough pill. And until we do -- it sound like

NATO has figured that out -- until we do, until we have reference implementation models that the industry can decide on -- whether it's government regulations or industry agreements, it's not going to happen. And there is so much thought about well you can't innovate if you have to do the same thing. Well, that is just the opposite. You have to get the reference (inaudible), you hve to get those data elements standard. Then you can innovate all over the place. But if you're stuck every time a developer wants to do something different and you have to integrate with 150 EHRs like we did, then why not go banking where it's so much easier. We're losing that talent because it is so difficult to do a standard and to operate off of a standard in healthcare.

And that would be my final word.

MS. KAMARCK: Wonderful. I would like to thank our wonderful panel and our wonderful audience. I know there is just a lot of expertise in the audience as well as on the panel. Thank you very much. (Applause)

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