

**ACHIEVING THE PROMISE OF HEALTH  
INFORMATION TECHNOLOGY**

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**HEARING**  
OF THE  
**COMMITTEE ON HEALTH, EDUCATION,  
LABOR, AND PENSIONS**  
**UNITED STATES SENATE**  
**ONE HUNDRED FOURTEENTH CONGRESS**

FIRST SESSION

ON

EXAMINING ACHIEVING THE PROMISE OF HEALTH INFORMATION  
TECHNOLOGY

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OCTOBER 1, 2015  
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## ACHIEVING THE PROMISE OF HEALTH INFORMATION TECHNOLOGY

THURSDAY, OCTOBER 1, 2015

U.S. SENATE,  
COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS,  
*Washington, DC.*

The committee met, pursuant to notice, at 10:01 a.m., in room SD-430, Dirksen Senate Office Building, Hon. Lamar Alexander, chairman of the committee, presiding.

Present: Senators Alexander, Burr, Cassidy, Murray, Casey, Franken, Bennet, Whitehouse, Baldwin, and Warren.

### OPENING STATEMENT OF SENATOR ALEXANDER

The CHAIRMAN. Good morning. The Committee on Health, Education, Labor, and Pensions will please come to order.

This is our sixth hearing in this Congress on health information technology and the government's electronic health records program. Senator Murray and I will each have an opening statement, and then we'll introduce our panel of witnesses. After our witnesses' testimony, Senators will have about 5 minutes of questions.

This is a wrap-up session. We've really been working together, the committee staff on the Democratic and Republican side, and we've worked with the Administration to see if, jointly, we could improve electronic health record systems.

Senator Murray and I were just talking a little earlier. I don't want anybody to think that the committee's goal on either the Republican or the Democratic side is not to move forward on electronic healthcare records. We don't want to stop them. We want to get them right, although we might have different opinions about how to get it right. I think I can speak for Democrats as well as Republicans on that.

Over the last 5 years, the taxpayers have spent about \$30 billion to encourage doctors and hospitals to adopt electronic health records systems. The whole purpose of this is to benefit patients so that they and their healthcare providers have quicker and better access to their health histories, and their doctors, hospitals and pharmacists can provide them with better care. Making electronic health records succeed is essential to the biomedical research and innovation legislation that we hope to mark up and finish this year and have ready for the full Senate to work on.

No. 1, it's especially critical to President Obama's Precision Medicine Initiative to assemble 1 million genomes and allow doctors to take advantage of that genomic information to prescribe the right

medications in the right quantity at the right time. It doesn't make any sense to go to all this trouble to gather the information if you can't use it effectively.

No. 2, getting electronic health records is also important to the shared goal between the Administration and Congress adopted in recent legislation—the doc-fix legislation, we call it—to change the way the Medicare program pays doctors so that Medicare is paying providers based on the quality rather than the quantity of care they give patients.

Under the new Merit-Based Incentive Payment System, 25 percent of the score that determines a provider's penalty or bonus payment will be based on participation in meaningful use and how well they comply with the regulations involving electronic health records. You're not going to be very successful with a merit-based system if electronic health records aren't working.

We're now entering a period where the government is penalizing doctors and hospitals if they do not adopt electronic health records systems instead of giving them money as an incentive. Stage 1 of Meaningful Use has been a success. Stage 2 is not a success. Only 12 percent of doctors and 40 percent of hospitals have been able to attest to Stage 2.

The Administration has revised its rules for Stage 2. Most people believe it would be a big help to adopt that final rule immediately. I have urged those rules for Stage 2 be adopted immediately. I have also asked the government to make the rules final for Stage 3, to require doctors and hospitals to create electronic health records, no sooner than January 1 of 2017, and that the Stage 3 requirements be phased in at a rate that reflects how successfully the program is being implemented.

Patients need an interoperable system that enables doctors and hospitals to share their records, but they need time to do it right. There are no reasons I've found not to do it on the schedule I've just suggested: Stage 2 now, Stage 3 in a year.

There are five reasons—and I won't go into detail about them, but I'm going to mention each one—to do it according to the schedule I've suggested. One is only 12 percent of doctors and 40 percent of hospitals have attested to Stage 2. Rushing out Stage 3 seems premature.

No. 2, I've mentioned that within the merit-based payment system for doctors, 25 percent of the penalties or incentives depend upon attesting to meaningful use. It's important that meaningful use be right. Just this week, the Administration began the process to develop regulations for its value-based payment system. It makes sense for the final stage of electronic health records to be developed at the same time you develop your merit-based payment system records.

No. 3, several of the leading medical institutions in the country—and I won't name them—have recommended that we take more time on Stage 3. One of those, one of the finest, said it was literally terrified of Stage 3. That's no way to have a success.

No. 4, the Government Accountability Office this week issued a report saying that complying with the meaningful use program is taking so much time that it's actually preventing work on interoperability.

And, finally, we're working on legislation which we hope that the full Senate and Congress will adopt next year. We'll finish, we hope, in this committee this year and adopt it next year with our 21st Century Cures. We want to do in our legislation what the Administration can't do administratively. It would make sense to me to do that together.

We're working on physician documentation; giving patients better access to their own records; encouraging the entire health team. We're working on things essential to interoperability; data blocking; certification; improving standards; security and privacy of patient records. All of those things help make electronic health records a better system.

I visited the Budget Director the other day and gave this advice:

“When I was young and playing the piano, I used to like to play fast, and my piano teacher would say to me, ‘Lamar, play the music a little slower than you can play it, and you're more likely to get it right when you have a recital.’”

Well, my advice to the Administration on this is similar. You could go ahead with Stage 3, but I would suggest you go a little slower than you need to go and make sure you don't make a mistake.

Senator Thune, chairman of the Commerce Committee, and I wrote a letter to the Administration suggesting the schedule I've just described. A bipartisan group of 96 Republicans and 20 Democrats in the House did the same. I've got four letters I'd ask consent to put in the record reflecting that advice also from doctors and hospitals and others.

[The information referred to may be found in Additional Material.]

The CHAIRMAN. I want to make sure what I'm about to say isn't misunderstood, and I'll conclude and go to Senator Murray. We have an opportunity in Congress to carefully review whatever decision the Administration makes about how we proceed. One way we can do that is through the innovation legislation we're working on. Another way is through the congressional review process if we don't like the rule.

I hope one of the lessons from the Affordable Care Act is that it's better to move ahead with consensus if you can get consensus. You can get consensus here. Republicans and Democrats want electronic health records to succeed for the benefit of the patients of this country and because it's critical to at least two of the Administration's major initiatives, precision medicine and merit-based payment.

Why not move ahead on a schedule that adopts Stage 2 now and Stage 3 in a year and use the time between now and then to develop support and build on consensus and get doctors, hospitals and vendors to buy into what you're doing and go out of office at the end of the next year with a big success instead of a big problem? The big problem would be if you prematurely announce the rule and the people who don't like it try to repeal it from the day you do it.

Senator Murray.

## OPENING STATEMENT OF SENATOR MURRAY

Senator MURRAY. Well, thank you very much, Mr. Chairman.

Dr. DeSalvo and Dr. Conway, thank you so much for taking the time to be here and for all you do to help improve the health and well-being of families across our country.

I also want to thank all of our colleagues who are joining us today and for the bipartisan commitment all of you have shown to improving our Nation's health IT infrastructure.

This is the sixth and final hearing in a series intended to explore ways that Congress can help improve health IT for patients and providers. Over the course of this conversation, we've heard striking examples that show how important electronic medical records are to providing patients with the care they need.

Whether it's understanding a loved one's full medical history or being able to look up your own healthcare information online or using a patient's medical record to catch a dangerous interaction between medicines, it is very clear that a strong health IT infrastructure is a critical part of building a healthcare system that works for patients and families and puts their needs first.

Hospitals and providers have made great strides over the last few years when it comes to adopting health IT. Today, almost 83 percent of physicians use some form of electronic health record. That is compared to just 18 percent in 2001. The HITECH Act that passed in 2009 was a big part of that transformation, and I am very grateful for the work that so many doctors and hospitals have done to bring our healthcare system into the 21st century and improve the value and quality of care patients receive.

There is certainly more to do, and I'm pleased that over the last few months, this committee has explored ways to build on this progress in a bipartisan way. I've been very focused on a few areas in particular.

I believe that we need to prioritize standards so that, increasingly, systems developed by different vendors and used by different doctors are actually able to speak to each other. In the same way that an email sent from a gmail account makes sense when it's opened in Yahoo, data in one EHR system should be structured so that it makes sense in others.

Other industries have been able to converge around common standards for exchanging digital information. It is important that healthcare organizations continue to adopt a standardized approach to sharing and using electronic health information. These standards would not only support important research but they would also cut down on the amount of time providers spend on administrative tasks and allow them to focus resources on providing care.

We also need to continue supporting the development of a network of networks so that providers have many options for trustworthy information sharing and they don't have to reinvent the wheel every time they need to exchange information with a new facility. Put simply, this is like making sure that someone with a Verizon plan can call someone with a Sprint plan.

Many organizations are working hard on this already. They are developing networks that allow information to be shared between patients' different health care providers.

One great example is in my home State of Washington, the Everett Clinic. They have set up an infrastructure to share information with 121 different providers, helping to make sure a doctor has as much information as possible on hand about her patient's health. This is an effort Senator Baldwin is especially interested in, and I really appreciate her work on it.

We should also look for ways to make it easier for providers to shop for electronic records systems and vote with their feet when one isn't working or when an organization is, as we've discussed in the committee, unnecessarily withholding data. I know that Senators Whitehouse and Cassidy have been very focused on this last challenge and on ensuring that providers can speak up about technology that isn't getting the job done, and I think that's very important.

Security is another critical challenge. As electronic health records become more integral to our healthcare system, we need to prioritize developing technology and best practices that can stand up to the realities of today's cybersecurity threats.

Finally, one area that I think is absolutely critical is patient engagement. If you can easily look up and download your bank statement, you should be able to do the same with your medical history. For far too many patients, these experiences are very different.

In our last hearing on EHRs, I told a story I'd heard about a woman looking up results of a pregnancy test in her medical records and finding her hormone levels listed instead of a simple yes, you are, or no, you're not. We've heard many other stories about patients seeking their medical records and being given massive binders, unreadable PDFs, and stacks of CDs. In the 21st century, we can and must do a lot better than that. I'm very hopeful we can do more to ensure electronic health records are accessible to patients so that they are able to stay engaged in their care.

I want to close with some news I got recently from Washington State. A doctor at Swedish Medical Center in Seattle wrote to my office about how electronic health records have changed the way her office works. She said that while their EHR system is far from perfect, it is alerting patients to come in for important preventive healthcare services, like cancer screenings.

She said that since the summer, they have identified two breast cancers, two colon cancers, and one cervical carcinoma that otherwise may not have been detected. The doctor wrote me and said,

"There are five people in our clinic that would have gone undiagnosed and possibly died that now have caught the disease early and will hopefully see a long, happy life."

This really reinforces the importance of the bipartisan work this committee is doing to strengthen our healthcare information infrastructure and improve our healthcare system for patients like these and their families. We've come a long way. We've got a lot more to do.

I'm looking forward to working with you, Mr. Chairman, on a bipartisan effort on this.

Dr. DeSalvo and Dr. Conway, thank you again for being here and sharing your expertise with us.

The CHAIRMAN. Thank you, Senator Murray.

I want to thank Senator Murray, as we have been working all year in a bipartisan way on this. Our hearings have been bipartisan. Our working groups have been bipartisan.

Our hope is that Senator Murray and I will be able to present a bipartisan starting point for our medical innovation legislation to the committee for its consideration that would include whatever we need to do about electronic health records that the Administration can't do by Executive order, that can then be ready for the Senate, passed and be combined next year with the House 21st Century Cures and enacted. That's the schedule that we hope to go on, and we're making very good progress.

We have two witnesses today from the Department of Health and Human Services. The purpose of the hearing really is to wrap up the work we've been doing within our bipartisan working groups and with the Administration to try to identify five or six steps that we could take to improve the electronic records system.

First, we'll hear from Dr. Karen DeSalvo. She is the National Coordinator for Health Information Technology and Acting Assistant Secretary for Health for the Department of Health and Human Services. As National Coordinator, she has spent a lot of time on this issue and worked well with the committee, and we thank her for that. She's been nominated by the President to be the Assistant Secretary for Health, and her nomination has been cleared by this committee already.

Our second witness is Dr. Patrick Conway. He is the Deputy Administrator for Innovation and Quality and Chief Medical Officer at the Centers for Medicare and Medicaid Services. He leads the Center for Clinical Standards and Quality, which is responsible for all quality measures and standards of Medicare and Medicaid providers. He is also the Principal Administrator for the Electronic Health Record Incentive Program, commonly referred to as meaningful use.

Dr. DeSalvo and Dr. Conway, thank you for coming. If you would summarize your remarks in about 5 minutes, there are several Senators here who would like to have a conversation with you about electronic health records.

Dr. DeSalvo.

**STATEMENT OF KAREN DeSALVO, M.D., MPH, MSc, NATIONAL COORDINATOR FOR HEALTH INFORMATION TECHNOLOGY, DEPARTMENT OF HEALTH AND HUMAN SERVICES, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NEW ORLEANS, LA**

Dr. DeSALVO. Good morning, Chairman Alexander and Ranking Member Murray and distinguished committee members. I'd like to start by thanking you all for your ongoing interest in continuing the country's progress toward health information technology and seeing that we create an open, connected community of health.

I do appreciate the opportunity to appear here today and discuss with you the current State of health IT in our Nation and how we can work together to see that these systems realize their full poten-

tial now and in the future so that health information is available to the right person, at the right place, at the right time in a private and secure manner. I do firmly believe that we have common ground and shared goals.

Under my leadership, the Office of the National Coordinator for Health IT has been working urgently to ensure that we realize a return on investment for electronic health records. Our urgency mirrors your own and hundreds of doctors, consumers and stakeholders with whom I have spoken during my tenure as National Coordinator and my own personal experience practicing medicine in the community.

We have, indeed, achieved a tremendous success in advancing the digitization of the healthcare experience for Americans. Nearly three-quarters of doctors and more than 90 percent of hospitals use electronic health records, and providers do want this progress to continue.

Our work is only beginning. We continue to work collaboratively to see that health IT matures and becomes a more seamless support for doctors and the health system as it seeks to provide individuals with the kind of safe, person-centered care that we're all working toward.

As Congress has recognized, the availability of usable electronic health information through a more connected and interoperable health system is a major priority. I have made it ONC's priority since I started my tenure a year and a half ago.

Within months of becoming National Coordinator, we released a vision document for interoperability and followed up shortly thereafter with a draft nationwide interoperability road map, which we have used to establish a dialog with the health IT community. In the road map, we describe what needs to be achieved when and by whom to reach the goal of the open, connected community of health IT so that we can support better care and efforts like precision medicine.

We have identified that we need to move forward with a set of shared interoperability standards, to establish an environment of trust, and to create the right business environment that will allow data to flow. We have been working with our Federal and private sector partners since the release of the draft road map but have not waited for the final version which will come out in the coming weeks.

Here are some examples of actions that we have taken in the near term to see that we can advance interoperability. We have set exact and explicit technology standards. We have promoted the use of APIs, which are doorways to the data. We are building an economic case for sharing data through the Secretary's delivery system reform effort. We are exposing and discouraging health information blocking.

We have been coordinating with our Federal partners to enhance education around HIPAA and privacy, and we have proposed in our certification program to push more transparency, more competition in the marketplace to encourage innovation in areas like usability and to help providers know what systems they are purchasing. We've been working to increase awareness of the hardship exemption for providers who might want to switch products and for those

who want to stay with the products they have, offering technical assistance on the front lines.

We believe that in addition to the actions we can take as an administration, the private sector needs to continue to contribute. They can help us make more progress now by agreeing to make publicly available APIs to allow consumers to have access and control of their data and share it where they like. We can agree to not knowingly or unreasonably engage in health information blocking, and they can agree to a set of federally recognized national interoperability standards for technology and policy.

In addition to the steps taken by the Administration in the near term and in the days to come and our partners in the private sector, we understand that the committee may be interested in ways to increase interoperability. We think this can be achieved by establishing a governance approach for how technology is used in practice, improving transparency in the market, and prohibiting information blocking.

A governance mechanism would ensure that those participating in the exchange and interoperability of health information can be held accountable, including, for example, vendors and providers. Improving transparency in the marketplace by outlining basic expectations would improve interoperability and exchange of information, making purchasing decisions easier if doctors and hospitals had a better sense of the cost, limitations, and other performance characteristics of their products.

Last, by promoting and prohibiting information blocking and associated business practices under programs recognized by the National Coordinator, we would prevent unnecessary impediments to data flow and interoperability of health IT. Any actions in this area should balance the need for not only health information availability, but patient safety and the interests of the business practices at hand.

Thank you to the members of the committee for this opportunity to discuss health information technology, which is, we agree, a critical underpinning of the better health system, where we have better care, smarter spending, and a healthier population. I do look forward to a continued partnership so that, together, we can achieve our shared goals, and I'm happy to answer any questions.

[The prepared statement of Dr. DeSalvo follows:]

PREPARED STATEMENT OF KAREN B. DESALVO, M.D., MPH, MSC

Chairman Alexander, Ranking Member Murray, and distinguished committee members, thank you for the opportunity to appear today. My name is Dr. Karen DeSalvo and I am the National Coordinator for Health Information Technology. Thank you for the invitation to be here to discuss the current state of health information technology in our Nation and how we can work together to help these systems realize their full potential now and in the future.

The Office of the National Coordinator for Health Information Technology (ONC) was established by Executive Order in 2004 and charged with the mission of giving every American access to their electronic health information when and where they need it most. In 2009, ONC was statutorily established by the Health Information Technology for Economic and Clinical Health Act (HITECH), enacted as part of the American Reinvestment and Recovery Act (ARRA). HITECH also provided the resources and infrastructure needed to stimulate the rapid, nationwide adoption and use of health IT, especially electronic health records (EHRs). In the 6 years since the HITECH Act was enacted, we have seen dramatic advancement in the use and adoption of health IT. The proportion of U.S. physicians using EHRs increased from

18 percent to 78 percent between 2001 and 2013,<sup>1</sup> and 94 percent of hospitals now report use of certified EHRs.<sup>2</sup> The combined efforts of initiatives like the Regional Extension Centers, the ONC Health IT Certification Program, use of standard terminologies, and the CMS Medicare and Medicaid EHR Incentives Programs have brought us past a tipping point in the use of health IT. Today, we are firmly on the path to a digital health care system; but, there is still much work to do.

Prior to becoming the National Coordinator in January 2014, I worked in a variety of settings, which provided me with keen insight into and experience working with health IT systems. My previous positions include serving as the Health Commissioner for the city of New Orleans, a Senior Health Policy Advisor to the Mayor of New Orleans, and a professor of medicine and vice dean for community affairs at Tulane University School of Medicine. In addition, I have practiced internal medicine for close to a quarter century. In all of these positions, I have established, purchased, utilized, implemented, and studied health IT systems. I not only understand the importance of health IT to improving the overall health care in this Nation, but I also understand firsthand the numerous complications and frustrations that we have faced, and continue to face along the way. I came to ONC to build on the incredible progress we have made since 2009, and to move us forward into a new and exciting era of health IT. Thus far, I have focused my energy and attention on what I believe is a fundamental piece of the puzzle to moving us forward, and that is a ubiquitous, safe, and secure interoperable health IT infrastructure.

Since I became the National Coordinator, ONC has been working intensely to harness the health care industry's energy and consumer demands for interoperability to drive improvement in health—we feel the strong sense of urgency and have acted on it quickly. The Nation asked for a clear strategy to get to interoperability and a learning health system, and we delivered that plan in “Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap Draft Version 1.0.” We received broad feedback and have heard agreement from critical stakeholders like developers, consumers, providers, technologists, and others that this plan is the right path forward, and that they would like to work with us to advance interoperability. The Roadmap explains that, in order to meet stakeholders' specific interoperability needs as quickly, securely, and safely as possible, we must: (1) build upon the current infrastructure; (2) ensure that applicable standards are consistently used; (3) foster an environment of trust where individuals can access their data in a private and secure manner; and (4) incent, through consumer demand and delivery-system reform, enduring, self-sustaining interoperable movement and use of electronic health information.

We anticipate releasing in the very near future the final streamlined Version 1.0 of the Roadmap, which will focus primarily on impactful, near-term actions we all can take by the end of 2017 to improve interoperability. These actions are detailed in three areas in the Roadmap. First, “Drivers,” which are mechanisms that can propel a supportive payment and regulatory environment that relies on and deepens interoperability. Second, “Policy and Technical Components,” which are essential items stakeholders need to implement to enable interoperability, such as shared standards and expectations around privacy and security. Third, “Outcomes,” which serve as metrics by which stakeholders will measure our collective progress on implementing the Roadmap.

We are also working across the Department on ways to increase interoperability. As part of the Department's Delivery System Reform initiative, HHS is using a variety of policies and programs to achieve a vision of information sharing and interoperability. A key component of the Delivery System Reform initiative is expanding the use of alternative payment models that reward quality over quantity and linking fee-for-service payments to quality and value. Electronic sharing of health information is an important element of how care is delivered under these models. ONC activities are focused on the Delivery System Reform goal to improve the way information is shared among providers to create a better, smarter, and healthier system. ONC is working closely with CMS on certifying that health IT products adhere to interoperability standards, providing support to stakeholders focused on sharing health information, and working with other agencies across HHS to reinforce the use of health information interoperability and adoption of health IT through a variety of policies and programs.

Achieving interoperability to meet stakeholder needs now, and throughout the next few years, can help us to realize our vision of a learning health system—one that delivers high-quality care, lower costs, a healthy population, and engaged people. It is clear we must move beyond electronic health record adoption and focus on

<sup>1</sup> <http://www.cdc.gov/nchs/data/databriefs/db143.htm>.

<sup>2</sup> <http://healthit.gov/sites/default/files/data-brief/2014HospitalAdoptionDataBrief.pdf>.

liberating health data, so critical information is available when and where it matters most to transform individual, community, and population health and care.

In our pursuit of achieving a learning health system, we are also continuing our work with our other Federal partners. As you know, we recently issued the Federal Health IT Strategic Plan 2015–20. This Plan, developed in partnership with over 35 Federal entities, demonstrates the extensive interest across the Federal Government to digitize the health experience for all individuals and facilitate progress toward a learning health system that can improve health and care. The Plan has been designed to support important changes already occurring in the health landscape, such as the Precision Medicine Initiative and the Department of Defense’s Military Health System’s acquisition of a new health IT system, as well as longer-range changes, such as FDA’s Sentinel program. The Plan’s long-term vision of a learning health system relies on the use of technology and health information from a multitude of sources for a multitude of purposes, and working with our Federal partners, with the Congress, and other stakeholders, our strategies will evolve to ensure we can meet this vision for the Nation. In addition, we will continue our collaboration with the Office for Civil Rights, and the Food and Drug Administration, both within HHS, and with the Federal Trade Commission to improve security in health IT and consumer understanding of security risks.

We also understand that advancing health IT requires engagement beyond the government, which is why we have continued our ongoing collaborative work with not only this committee, but also outside stakeholders, patients, hospitals, and providers to name a few. For example, ONC is currently working with the National Quality Forum (NQF) to develop multi-stakeholder consensus around health IT safety measurement priorities, create an organizing framework for health IT safety measures, and identify potential health IT safety measures and current gaps in health IT safety measures. In 2014, we participated in a series of “Learning What Works” listening sessions in five cities across the country with the Robert Wood Johnson Foundation to hear from local leaders, residents, and professionals from a wide range of sectors on what information is important to them and how they might use it to help people lead healthier lives and improve health in their communities. ONC participated in these listening sessions and heard feedback about the importance of trust, data access, and how individuals and communities want to use data to improve overall health.

In addition, last year, Health Level Seven International (HL7) launched an initiative to accelerate the development and adoption of HL7’s Fast Healthcare Interoperability Resources (FHIR), with support from 11 organizations, including EHR vendors like Epic and Cerner and health systems like Mayo Clinic and Intermountain Healthcare. Following the JASON Report,<sup>3</sup> our Federal advisory committees urged the Office of the National Coordinator to focus on an approach involving public application programming interfaces (APIs) and FHIR, which you see in our proposed 2015 Edition certification rule and is also addressed in CMS’s proposed rule for Stage 3. I’m optimistic because I am seeing more collaborations like these from the private sector. For example, the Argonauts Project, which is a coalition of industry vendors and providers, is collaborating in an unprecedented fashion. They are accelerating the maturation of FHIR, to see that we have a safe, but highly usable new technology that stands to transform the health IT ecosystem.

Through this ongoing work, as a Department, we have concluded that to achieve a learning health system, we must build upon the current health information infrastructure and work together to focus on three key areas. We have prioritized and intend to focus on: (1) ensuring that electronic health information is appropriately available, easily transferable, and readily usable by the patient, provider, payer, scientist, and others; (2) improving the safety and usability of health information technology and allowing the market to function in a way to incentivize necessary improvements; and (3) simplifying program requirements to lower administrative burden and create a clear link between program participation and outcomes. We believe this work will support providers as they adopt and use health IT and work to deliver better care for patients. While ONC will support efforts on all three fronts, we plan to focus our attention most acutely on addressing the first two.

It is imperative to a functioning health information technology infrastructure to have data available to the right person, at the right place, at the right time. ONC can make a big impact in this area by promoting interoperability, addressing information blocking, and by empowering providers to engage patients. In 2012, ONC took on the responsibility for spreading the Blue Button initiative nationwide. This work was done in collaboration with the Department of Veterans Affairs, the White

<sup>3</sup>JASON. (2013). A Robust Health Data Infrastructure. Washington, DC: MITRE for Agency for Healthcare Research and Quality.

House, and a host of other public and private sector leaders. Patients can securely access their health data from multiple sources and then choose to download that data to their computer, thumb drive or smartphone without using any special software, or choose to share that data with individuals they trust—whether it's their other physicians or family members. To date, there are more than 600 member organizations participating in the Blue Button initiative. Meanwhile our actions over the next year will focus on continuing to build the economic case for interoperability, including increasing incentives and improving the regulatory and business environments; coordinating with health information technology stakeholders to coalesce around a shared set of technical standards; exposing and discouraging health information blocking; and ensuring the implementation of robust privacy and security protections.

We recognize that the current marketplace does not always function in a way that promotes a learning health system. ONC is committed to supporting providers as they use health IT for more advanced applications and encourage the private sector to address this challenge. For example, we proposed the 2015 Edition rule with the goal of improving transparency for certified health IT systems. We believe we can help by driving secure, safe and usable products while also continuing to offer technical assistance to providers. Through the 2015 Edition proposed rule, we also are continuing to help make the business case that investments in health IT tools that support better care coordination and population health management offer an important way to drive continued innovation as vendors seek to meet the needs of providers moving toward value-based care.

In addition to taking steps administratively within these important spaces, we understand that the committee may be interested in ways to make technology more usable by (1) establishing a governance mechanism for how technology is used in practice; (2) improving transparency in the market; and (3) prohibiting information blocking. For example, a governance mechanism would ensure that those participating in the exchange and interoperability of health information, including, for example, health IT vendors, can be held accountable. Defining and outlining basic expectations would improve interoperability and the exchange of information. Moreover, providers would be able to make more informed purchasing decisions if they had a better sense of the costs, capabilities, limitations, and other performance characteristics of certified health IT. And, last, prohibiting information blocking and associated business practices by providers, suppliers, and vendors of health IT certified under programs recognized by the National Coordinator would prevent unnecessary impediments to the use of health IT for the interoperable exchange of electronic health information. Of course, any action in this area should balance the need for availability of electronic health information with the need to promote patient safety, maintain the privacy and security of electronic health information, and protect the legitimate economic interests and incentives of providers, developers, and other market participants.

We share the goal of making this technology more usable, and should the Congress choose to legislate in this area, these actions could further help health IT reach its full potential. With that in mind, ONC is committed to moving forward by promoting the use of health IT to encourage information exchange, not only across the Department and Governmentwide, but also with outside stakeholders, including the Congress. We realize everyone has a role to play in moving health IT systems forward and look forward to the challenge ahead of us.

Thank you again for inviting me today.

The CHAIRMAN. Thank you, Dr. DeSalvo.  
Dr. Conway.

**STATEMENT OF PATRICK CONWAY, M.D., MSc, ACTING PRINCIPAL DEPUTY ADMINISTRATOR, DEPUTY ADMINISTRATOR FOR INNOVATION AND QUALITY, CENTERS FOR MEDICARE AND MEDICAID SERVICES CHIEF MEDICAL OFFICER, CENTERS FOR MEDICARE AND MEDICAID, COLLEGE STATION, TX**

Dr. CONWAY. Chairman Alexander, Ranking Member Murray, and members of the committee, thank you for the opportunity to discuss the work of the Centers for Medicare and Medicaid Services related to health information technology.

When I started practicing medicine, I remember trying to read hand-scrawled consult notes, struggling to find an x-ray in the basement of the hospital, and going to the lab to track down lab results for patients. It was not an effective system.

I practice as an attending physician on weekends in a hospital with a electronic health record, or EHR, networked with other hospitals across the region. With the click of a button, I can pull up lab results, x-rays, or consult notes. I can even show the radiologic image to a worried family on the computer screen and explain the treatment.

When I was at Cincinnati Children's Hospital, I led efforts, using our EHRs, to measure quality across the system. We used EHRs as an essential tool to measure and improve care and patient outcomes.

Health IT is an important catalyst for improving care delivery and can help prepare providers to be successful under alternative payment models. Earlier this year, Secretary Burwell announced measurable goals and a timeline to move the Medicare program and the health system at large toward paying providers based on quality rather than the quantity of care they deliver.

In April, Congress passed the Medicare Access and CHIP Reauthorization Act, or MACRA, which aligns with and supports the Secretary's goals by requiring implementation of a new value-based payment system for physicians and other clinicians in Medicare. We would like to thank those on the committee who supported MACRA and have helped continue our efforts to accelerate delivery system reform.

CMS has worked to advance the use of EHRs as an investment to ensure we can realize the benefits of value-based payment systems established by MACRA and other initiatives. We are focused on implementing MACRA in a manner that allows physicians and other clinicians to succeed in improving their practice and, most importantly, in delivering high-quality coordinated care to all people.

CMS will also work to implement provisions in MACRA that address information blocking by requiring providers to demonstrate they have not acted to limit or restrict interoperability of certified EHR technology.

Under alternative payment models, it is essential for providers to communicate across care settings, reduce duplication, and engage patients. The effective use of health IT can help providers achieve those aims. For example, health IT can help a patient transition safely from the hospital to home by enabling inpatient and ambulatory providers to quickly and easily share information.

The Medicare and Medicaid EHR incentive programs provide incentive payments to eligible professionals, hospitals, and critical access hospitals in order to encourage the adoption of health IT to improve care for beneficiaries. Participation in the program remains strong. As of July 2015, more than 474,000 healthcare providers had received payment for participating in either the Medicare or Medicaid incentive program. That represents over 70 percent of eligible professionals and over 95 percent of eligible hospitals.

CMS is working to simplify program expectations and give providers needed flexibility while advancing important capabilities such as effective health information exchange and population health management that are essential to better care and lower costs. Many of the proposed objectives and measures for Stage 3 are focused on interoperability. For example, we have proposed to encourage providers to make available their EHR's application program interfaces, or APIs.

APIs are like road maps for computer software. Opening them up allows programmers to design applications that help patients view and share their health information where and when they need to. In fact, the majority of the proposed measures in Stage 3 require interoperability and information exchange, which is a significant increase from Stage 1 and 2.

In addition, CMS identified redundancies, duplication, and incidences of measures that were topped out. Based on that analysis, we proposed the Stage 3 rule focused on an aligned set of only eight objectives and measures, down from 20 in Stage 2.

We have also proposed to give eligible professionals options within several objectives, allowing providers flexibility to concentrate on factors of health IT implementation that are most applicable to their practice. Furthermore, CMS has proposed to modify Stage 1 and 2 requirements to reduce complexity, lessen providers' reporting burdens, and shorten the EHR reporting period in 2015 to 90 days to accommodate these changes.

In totality, these proposed changes put an end to the stages of so-called meaningful use and move us forward to MACRA and comprehensive quality and value programs for physicians, clinicians, and hospitals. Our primary goal is to ensure beneficiaries and providers can realize all the benefits of EHR systems to support high-quality, value-based care.

We will continue our work with ONC, providers, Congress, and others to improve the interoperability, make health IT more user-friendly, and simplify program requirements as we work to transform the healthcare delivery system to achieve better care, smarter spending, and healthier people.

I have read all three of my older children into the congressional record, and I am dedicated to a long-term, affordable, high-quality Medicare program for our new 2-month-old daughter, Isabelle Ann Conway, who is now also in the congressional record.

Thank you again for the opportunity to testify. I'd be happy to answer your questions.

[The prepared statement of Dr. Conway follows:]

PREPARED STATEMENT OF PATRICK CONWAY, M.D., MSC

Chairman Alexander, Ranking Member Murray, and members of the committee, thank you for the opportunity to discuss our work at the Centers for Medicare & Medicaid Services (CMS) related to health information technology (health IT). CMS is committed to working with providers and stakeholders to harness the potential of health IT to improve the quality and reduce the cost of care—and, more broadly, transform our Nation's health care delivery system.

As a result of the Medicare and Medicaid Electronic Health Record (EHR) Incentive Programs, adoption of electronic health records continues to increase among physicians, hospitals, and others serving Medicare and Medicaid beneficiaries. Higher EHR adoption has helped care providers evaluate patients' medical status, coordinate care, eliminate redundant procedures and provide high-quality care. The pro-

portion of U.S. physicians using Electronic Health Records (EHRs) increased from 18 percent to 78 percent between 2001 and 2013, and 94 percent of hospitals now report use of certified EHRs. EHRs also will help speed the adoption of key delivery-system reforms by making it easier for hospitals and doctors to better coordinate care and achieve improvements in quality.

Earlier this year, Health and Human Services Secretary Burwell announced measurable goals and a timeline to move the Medicare program, and the health care system at large, toward paying providers based on the quality, rather than the quantity of care they give patients. Such incentives will help achieve the critical goal of improving care delivery and access to information. Encouraging the use of health IT is an important component of HHS efforts to transform the delivery system. It supports the health information exchange needed to improve communication and care coordination, promote patient safety, enhance clinical decisionmaking, track patient outcomes and support payment for care quality. Health IT helps provide the information needed to clinicians and patients at the point-of-care.

On April 16, 2015, President Obama signed the Medicare Access and CHIP Reauthorization Act (MACRA),<sup>1</sup> which supports the Secretary's goals by requiring the implementation of new payment systems for physicians and other practitioners in Medicare by 2019: the Merit-Based Incentive Payment System and Alternative Payment Models. Together, these important steps to transform the way Medicare pays practitioners will promote a long-term business case for effective health IT adoption and, in turn, lead to better care and improved outcomes.

Health IT is an important catalyst for improving care delivery, enabling providers to prepare for and be successful under new alternative payment models. Under new payment models, it is increasingly critical for providers to communicate effectively across care settings, quickly and easily share health information, reduce duplicative and unnecessary care, successfully manage high-risk populations and engage patients in their care by communicating and sharing test results electronically. Effective use of health IT can help providers achieve those aims: helping a patient transition safely from the hospital to the home by enabling inpatient and outpatient providers to quickly and easily share key information; helping patients communicate with providers through secure, electronic messaging; and helping providers identify and communicate with patients who are in need of followup care to address their chronic condition(s). Additionally, many providers now are using clinical and patient-submitted data from health IT systems to track and improve population health.

While the use of health IT can promote higher-quality care delivery, we also recognize that providers face costs when adopting and implementing new EHRs and other health IT systems, such as the up-front cost to purchase new technology and the indirect cost of the provider's time to incorporate that new technology into practice workflow. By aligning CMS programs and providing flexibility, we aim to ensure that providers focus their resources on delivering high-quality care for our beneficiaries.

CMS is focused on efforts to simplify our program requirements to lower administrative requirements and create a clear link between program participation and better outcomes. These include providing provider flexibility in achieving meaningful use of certified EHR technology and aligning quality measures across payment programs. At the same time, CMS is supporting the ongoing efforts of the Office of the National Coordinator for Health IT (ONC) to make electronic health information more readily transferable and to promote more user-centric EHR systems. We believe this work will support providers as they adopt and use health IT and work to deliver better care for Medicare and Medicaid beneficiaries.

#### ENCOURAGING EHR ADOPTION

Since the passage of the American Recovery and Reinvestment Act of 2009 ("Recovery Act"), CMS has been hard at work implementing financial incentives and technical assistance to encourage the widespread use of certified EHR technology to improve quality, safety and efficiency; reduce health disparities; engage patients and families; improve care coordination; improve population and public health; and maintain the privacy and security of patient health information.

The Recovery Act established the Medicare and Medicaid EHR Incentive Programs, which provide incentive payments to eligible professionals, eligible hospitals, and critical access hospitals (CAHs) as they adopt, implement, upgrade or demonstrate meaningful use of certified EHR technology. To receive an EHR incentive payment under Medicare, providers must demonstrate that they are "meaningfully

<sup>1</sup>PL 114-10 <https://www.Congress.gov/114/plaws/publ10/PLAW-114publ10.pdf>.

using” their certified EHR technology by meeting thresholds for a number of objectives and reporting clinical quality measures.

States verify eligibility for the Medicaid EHR Incentive Program. Several additional types of health care providers are eligible for Medicaid EHR incentive payments, including nurse practitioners, certified nurse-midwives, dentists, and physician assistants who furnish services at a physician assistant-led federally qualified health center or rural health clinic. There also are patient-volume thresholds that providers must meet to be eligible for EHR incentive payments under Medicaid. Children’s hospitals, however, are eligible for Medicaid incentive payments regardless of Medicaid patient volume. In their first year in the Medicaid EHR Incentive Program, Medicaid providers also have the option to receive incentive payments based on whether they adopt, implement or upgrade a certified EHR technology.

The Medicare and Medicaid EHR Incentive Programs have progressed in stages, moving from basic data capture to advanced functionality of EHRs, including interoperability, patient engagement, clinical decision support, and quality measurement and then to increased health information exchange, interoperability and improved patient outcomes. This last phase, referred to as “Stage 3,” would make changes that are responsive to stakeholders asking for more time, flexibility and simplicity in the program.<sup>2</sup>

Participation in the Medicare and Medicaid EHR Incentive Programs remains strong. As of July 2015, more than 474,000 health care providers received payment for participating in either the Medicare or Medicaid Incentive Program. More than \$20.9 billion in Medicare EHR Incentive Program payments were made between May 2011 and July 2015. In addition, more than \$9.98 billion in Medicaid EHR Incentive Program payments were made between January 2011 (when the first set of States launched their programs) and July 2015.<sup>3</sup> As of July 2015, over 300,000 unique providers had received Medicare EHR Incentive Program payments under Stage 1 and over 50,000 providers had received payments under Stage 2.<sup>4</sup>

#### REDUCING ADMINISTRATIVE REQUIREMENTS AND INCREASING FLEXIBILITY

CMS is taking several steps to streamline Medicare and Medicaid EHR Incentive Program requirements and provide flexibility based on lessons learned from the initial years of operating the programs. For example, in March we proposed that Stage 3 will be optional in 2017,<sup>5</sup> giving program participants and industry more time to implement changes, update workflows and adopt new technology.

CMS also aims to streamline and reduce overall reporting requirements. We analyzed the objectives and measures of the program to determine where measures are redundant, duplicative or have “topped out.”<sup>6</sup> For Stage 3 specifically, based on this analysis, we proposed an aligned set of eight objectives and measures for eligible professionals and hospitals, down from 20<sup>7</sup> in Stage 2.<sup>8</sup> If finalized, we believe these changes will focus provider efforts on objectives that pertain to the advanced use of EHRs, such as using data to drive improvements in care coordination, care management and population health outcomes.

Providers have indicated to CMS that they need flexibility in implementing the objectives and measures of meaningful use in diverse clinical settings. As a result, we proposed to give eligible professionals measure options within several objectives to allow providers to report on measures most applicable to their practice.<sup>9</sup> In addi-

<sup>2</sup>Electronic Health Record Incentive Program—Stage 3 Notice of Proposed Rulemaking <https://www.Federalregister.gov/articles/2015/03/30/2015-06685/medicare-and-medicare-programs-electronic-health-record-incentive-program-stage-3>.

<sup>3</sup>[https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/July2015\\_PaymentsbyStatebyProgramandProvider.pdf](https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/July2015_PaymentsbyStatebyProgramandProvider.pdf).

<sup>4</sup>Ibid.

<sup>5</sup>Electronic Health Record Incentive Program—Stage 3 Notice of Proposed Rulemaking <https://www.Federalregister.gov/articles/2015/03/30/2015-06685/medicare-and-medicare-programs-electronic-health-record-incentive-program-stage-3>.

<sup>6</sup>“Topped out” is the term used to describe measures that have achieved widespread adoption at a high rate of performance and no longer represent a basis upon which provider performance may be differentiated. It is commonly used to justify removal of specific clinical quality measures from public and private sector quality reporting programs.

<sup>7</sup>Eligible Providers must achieve 20 Meaningful Use Objectives in Stage 2; Eligible Hospitals must achieve 19, see Stage 2 final rule here: <http://www.gpo.gov/fdsys/pkg/FR-2012-09-04/pdf/2012-21050.pdf>.

<sup>8</sup>Electronic Health Record Incentive Program—Stage 3 Notice of Proposed Rulemaking <https://www.Federalregister.gov/articles/2015/03/30/2015-06685/medicare-and-medicare-programs-electronic-health-record-incentive-program-stage-3>.

<sup>9</sup>For example, providers must report the numerator and denominators for all three measures within the Health Information Exchange objective. However, providers are only required to

Continued

tion, CMS proposed to focus objectives and measures on interoperability requirements, such as allowing the use of Application Program Interfaces and focusing on electronic exchange of health information between providers. In Stage 3, more than 60 percent of the proposed Meaningful Use measures require interoperability, up from 33 percent in Stage 2.

Finally, we are aligning clinical quality measure reporting requirements across payment programs to reduce reporting requirements and focus provider efforts on high-impact outcomes-based measures. Today, eligible professionals in the Medicare EHR Incentive Program that report quality measures to CMS electronically can receive credit in both the EHR Incentive Program and the Physician Quality Reporting System.<sup>10</sup> These results also will be used in calculating eligible professionals' performance under the physician value modifier and future value-based purchasing initiatives. The CMS goal is to allow providers to report once for all applicable quality programs. We also are working to align CMS quality measures with those used by the private sector, concentrating provider efforts and lowering the reporting burden for those providers that submit data to both public and private payers. While we are removing "topped-out" and outdated measures, we are simultaneously working to fill measure gaps by developing measures for important health conditions and provider types where sufficient measures have yet to be created. Over time, these measures will be added to our quality programs, making them more relevant to certain specialties and better reflective of the latest evidence base.

#### HEALTH IT AND DELIVERY SYSTEM REFORM INITIATIVES

CMS is working hard to implement MACRA, which will promote the adoption of new payment and service delivery models. The law creates a value-based physician payment system (Merit-Based Incentive Payment Systems or MIPS), and the adoption and meaningful use of health IT will be one of the categories for determining how Medicare provider performance is assessed—and rewarded—under MIPS. MACRA also encourages participation in alternative payment models by requiring eligible professionals participating in such models to use certified EHR technology.

Adopting health IT enables capabilities—like efficient communication across care settings, safe prescribing and managing overall population health—that are central to improving care and lowering costs. In addition to implementing MACRA, CMS is supporting the business case for EHR adoption through targeted initiatives that encourage health care providers to deliver high-quality, coordinated care at lower costs. These reforms enable us to pay based on value while promoting patient safety and better care coordination across the health care delivery system.

CMS initiatives include Accountable Care Organizations (ACOs)—groups of doctors and other health care providers that have agreed to work together to treat individual patients and better coordinate their care across care settings. They have the opportunity to share in savings generated from lowering the growth in health care costs while improving quality of care, including a measure that promotes use of EHR technology. Medicare ACOs have already demonstrated significant cost savings and improvements in quality. In 2014, 20 Pioneer and 333 Shared Savings Program ACOs generated more than \$411 million in savings. Pioneer ACOs also showed improvements in 28 of 33 quality measures and experienced average improvements of 3.6 percent across all quality measures. Shared Savings Program ACOs that reported quality measures in 2013 and 2014 improved on 27 of 33 quality measures.

Another example is the Comprehensive Primary Care Initiative (CPC),<sup>11</sup> which is a multi-payer partnership between Medicare, Medicaid, private health care payers and primary care practices in four States<sup>12</sup> and three regions.<sup>13</sup> CMS requires all participants in CPC to use ONC Certified EHR Technology. A few of the ways the practices use such certified technology include: (1) reporting their practice results for all electronic clinical quality measures; (2) risk-stratifying their patient populations to focus on patients likely to benefit from active intensive care management; (3) ensuring patients can reach a member of their care team who has real-time access to their EHRs 24 hours a day; and (4) achieving meaningful use. Results from

achieve the thresholds for two measures to meet the objective. See Electronic Health Record Incentive Program—Stage 3 Notice of Proposed Rulemaking <https://www.Federalregister.gov/articles/2015/03/30/2015-06685/medicare-and-medicaid-programs-electronic-health-record-incentive-program-stage-3>.

<sup>10</sup>Electronic Health Record Incentive Programs Stage 2 Final Rules: <http://www.gpo.gov/fdsys/pkg/FR-2012-09-04/pdf/2012-21050.pdf>.

<sup>11</sup><http://innovation.cms.gov/initiatives/comprehensive-primary-care-initiative/>.

<sup>12</sup>Arkansas, Colorado, New Jersey and Oregon.

<sup>13</sup>New York's Capital District and Hudson Valley, Ohio and Kentucky's Cincinnati-Dayton region, and Oklahoma's Greater Tulsa region.

the first year suggest CPC, on average across seven regions, has generated nearly enough savings in Medicare health expenditures to offset care management fees paid by CMS, with hospital admissions decreasing by 2 percent across all sites and emergency department visits decreasing by 3 percent.

Finally, CMS is testing bundled-payment models,<sup>14</sup> which link payments for multiple services beneficiaries receive during a single episode of care, encouraging doctors, hospitals and other health care providers to work together on delivering coordinated care for patients. CMS recently proposed the Comprehensive Care for Joint Replacement initiative that would build upon other bundled-payment models already being tested by the Centers for Medicare and Medicaid Innovation. Providers and suppliers in the proposed joint replacement initiative would be paid under the existing payment systems in the Medicare program for services provided during episodes of care for hip and knee replacements. Following the end of a model's performance year, actual episode spending for beneficiaries who receive certain joint-replacement surgeries in a participant hospital would be compared to the Medicare episode price. Depending on the participant hospital's quality and episode spending performance, the hospital may receive an additional payment from Medicare or, beginning in the second year of the model, may need to repay Medicare for a portion of the episode spending. This proposed initiative, like other bundled-payment models, incentivizes the type of close collaboration among inpatient and outpatient providers and suppliers that is made easier with the effective use of health IT.

Although designed for different providers and care settings, all of these initiatives promote well-coordinated, high quality care and build the business case to adopt health IT systems that help providers manage population health and share information across care settings.

#### CONCLUSION

CMS will continue to support the adoption and effective implementation of health IT that supports better care and lower costs for Medicare and Medicaid beneficiaries. While health IT alone does not make care better, it is an essential ingredient to improvement of care and supporting providers as they transition from volume-based to value-based payment models. Health IT moves us away from illegible notes and prescriptions, reams of paper charts, x-rays that cannot be found and lost faxed lab results toward a health system where relevant information is available for providers at the point of care and for patients when they need it at home or at the pharmacy. As a practicing physician, I have experienced the power of health IT to improve care and patient safety, and I also realize that we need to continue to improve the programs and products so they support clinicians and patients in achieving better outcomes.

CMS's primary goal is to ensure that beneficiaries and providers can realize all of the benefits of EHR systems without unnecessary costs. Providers should be confident that their time and resources will be spent caring for patients rather than unnecessary or duplicative administrative requirements. CMS will continue our work with ONC to improve interoperability, make health IT more user-friendly, and streamline program requirements as we work to transform the health care delivery system and promote high-quality care.

The CHAIRMAN. Well, we welcome all four children into the congressional record.

[Laughter.]

We'll now begin a round of 5-minute questions. Let me repeat what I said earlier. At least, speaking for myself, I want to move forward, not backward, on electronic health records. There's no doubt in my mind that that's where we're headed.

Dr. Conway, it is correct, isn't it, that the merit-based payment system, or moving to paying doctors for value, is a top priority of the Administration?

Dr. CONWAY. Yes.

The CHAIRMAN. I gather from Secretary Burwell that she is bound and determined to get that done in the next year. Am I correct about that?

<sup>14</sup> <http://innovation.cms.gov/initiatives/bundled-payments/>.

Dr. CONWAY. Yes, sir. Implementing the MACRA legislation and the merit-based incentive program and alternative payment models is an extremely high priority.

The CHAIRMAN. It has broad support in Congress. You began the process of making regulations on that this week. Is that correct?

Dr. CONWAY. We released a request for information to get public input and engagement on the rulemaking process.

The CHAIRMAN. Right. When do you expect to have those regulations completed?

Dr. CONWAY. We are aiming to put out those regulations next year, most likely in the late spring timeframe.

The CHAIRMAN. Next spring. Isn't it true that 25 percent of the incentive payment or the penalty for doctors under your new payment system would depend upon how well they complied with meaningful use?

Dr. CONWAY. Yes. The good news is that Congress, in passing the statute for MACRA, enabled significantly more flexibility in the EHR incentive portion or meaningful use. In the RFI, we asked questions around the issue of the so-called all-or-none phenomenon from providers in terms of meaningful use. We believe the MACRA statute provides us more flexibility for that 25 percent in terms of how we consider successful use of electronic health records, and we want to thank Congress for that flexibility.

The CHAIRMAN. The most important thing would be the better the electronic health record system is and the easier it is for doctors to comply with it, the more effective your new value-based system will be. Right?

Dr. CONWAY. We are committed in the value-based system for electronic health records—

The CHAIRMAN. No, but is it right or wrong?

Dr. CONWAY. Yes, sir. We are committed in the electronic health record systems that they be usable—

The CHAIRMAN. A yes would be adequate. What I'm getting at is why wouldn't you want to develop the final rules for the electronic health record system at the same time you're developing your rules for your value-based system? Why would you go ahead with finalizing Stage 3 and then have to do what you did with Stage 2, which is then to say, "OK. This is our final rule, but it's not very good, so we're going to spend the next 2 or 3 years changing it."

Why don't you go ahead and do Stage 2, which you're ready to do, and then you've got Stage 3 out there, and work with doctors and hospitals and vendors and make your changes before you make it final?

Dr. CONWAY. We are committed to work with Congress, doctors, and other providers to improve the program over time. We're committed to work with you both on legislative and administrative options—

The CHAIRMAN. That's not an answer. That's not an answer.

Let me ask you, Dr. DeSalvo. If Proctor and Gamble was going to introduce a new soap or a new product, it surely wouldn't introduce it in the whole country to test it out. They would make sure it was right. If McDonald's was introducing a new sauce or gravy or hamburger, they would test it out.

Most businesses would do things that way, and as a result, we have in our private sector things like ATMs that actually work all over the world. We have an amazing system for making airline reservations. That's the kind of system we'd like to have for our electronic health records.

Why wouldn't it be a good idea to take my music teacher's advice and play it a little slower than you can play it and go ahead and do Stage 2 now? Only 12 percent of doctors can comply with Stage 2 the way it is now and only 40 percent of hospitals.

Let them do that, and then say, "We're going to do Stage 3 in a year. Count on it. Between now and then, we're going to work with you on all these issues." How can we reduce physician documentation? What other things can we do to encourage interoperability? Get buy-in and broad support in Congress for it, and then have a big success in a year, rather than spend the whole year defending a rushed-up program.

Dr. DESALVO. Senator, as Dr. Conway shared, we do want to get this right, and that means that we've taken a lot of time to listen and receive feedback for ONC's rule, the certification rule. An example of where we did, of course, correction is, for example, last summer, we realized that some of the approaches to technology we were taking needed to be fixed so that interoperability would be better. We have been willing to make changes where it was necessary along the way.

Similarly, with respect to flexibility, some year and a half ago, we worked with CMS on making adjustments so that if docs weren't ready to upgrade to a new product, if they needed more time to get used to their product and make it work better on the front lines, that flexibility rule has given them that additional time. Our track record reflects that we are willing to work with the private sector.

We do understand firsthand what that's like to be in the clinical environment and working with our electronic health records. Our certification rule, as proposed, itself has some of the protections and advancements that I believe are shared interests with this committee—so better security, more access to data for consumers through these APIs, better opportunities to address blocking, and opportunities to advance the marketplace so that docs and others know what they're buying, to make more transparency.

The proposals in our certification rule reflect the input and the guidance that we received through not just abstract conversation, but meaningful day-long conversations with docs and others to see how we could better serve them through this program.

The CHAIRMAN. Thank you.

Senator Murray.

Senator MURRAY. Dr. DeSalvo, I'm really pleased to see the hard work your office has done to advance the interoperability of health IT. Time and time again, we've had witnesses before this committee that testified that systems need to be interoperable to unlock the full potential of electronic medical records.

The interoperability road map that you developed with providers and developers includes some both short- and long-term objectives for achieving interoperability. This committee has heard about how

the lack of interoperability really impedes care coordination and quality improvement.

Can you share with us what your plans are for working with healthcare providers and health IT companies to accelerate the adoption of common standards and business practices that are needed to improve interoperability?

Dr. DESALVO. Thank you, Senator Murray. It is our approach and our philosophy that to get to interoperability, we have to do this with the private sector and with consumers as our goal, them having control of their data. They're right at the center of this.

All of our actions reflect their input and our cooperation with them to advance new technologies like something called FIRE—great name—a nice new way to have data be accessed in systems. That's the result of a collaboration between us and the private sector to see that that's moving along as quickly as possible, faster than we might be able to do it federally.

More importantly, what it's going to do is give consumers an opportunity to be able to pull their data out of the record at their—Sunday evening, I'm filling out the immunization record for my kid's camp. I can go online and do that in a way that's not going to be quite as clunky as it might be today for some families.

On the other hand, we see remarkable examples of how interoperability is already working, and we want to learn from those and build upon it. Right here in DC, in Maryland, there are systems where you can do a Google type search to find a patient and understand their last visit to the ER and the information that's necessary for the care in that doctor's visit.

New York, Nebraska—so many great examples of where this works. We've seen even within systems, like at Vanderbilt, they've been able to leverage what they've done with meaningful use around smoking and improve their smoking programs for the patients that are within their system.

The excitement is that we know the private sector is using the technology to create solutions around quality and safety and better care and information flow. As people move through the care system, it's giving them more access to data. Our goal is to catalyze that to accelerate it, but at the same time make certain that we're being clear that we all need to move to some federally recognized national standards, that we have to have the right trust environment, and we need to push on these drivers to make sure that the system is working on behalf of the consumers.

Senator MURRAY. Dr. Conway, there's a lot more work to do. Health IT really is supporting some improvements in the quality of care. Providence Health, which is in my home State, is using their electronic health record now to prevent a common form of hospital-acquired infection associated with catheters. Early results from that show their system is helping to implement clinical best practices that may eventually lead to shorter hospital stays, even reduce mortality.

You noted in your testimony that Medicare and Medicaid are rapidly changing how they pay providers based on quality, value of care they deliver to patients. Reduced hospital-acquired infections is just one of the ways that these new models will help improve quality for patients.

Can you talk a little bit to us about how critical health IT is to helping providers adjust to new models of care delivery?

Dr. CONWAY. Yes, Senator Murray. Thank you for the question. First, on Providence, I know the system relatively well—just incredible work in patient safety, patient engagement. Thank you for sharing that example.

Just a few other tangible examples to bring home the power of health information technology. One, in our Comprehensive Primary Care Initiative, a large focus is using electronic health records for advanced primary care and managing patients.

A practice in rural Arkansas, using their electronic health record, measure their patient population and figure out who's not getting preventative screenings, which you mentioned bringing those patients in for prevention; using remote technology to interact with patients to prevent exacerbations of diseases like diabetes and congestive heart failure; using various tools connected to their EHR to really achieve those better health outcomes for the patient population they serve in a small rural practice.

Another example in some of our accountable care organizations is using their electronic health record to track and coordinate care for patients across settings, across nursing homes, across primary care offices, et cetera, and really understanding what services that patients needed. And, last, true patient engagement, allowing patients access to their information to help manage their own care. It's a critical foundation to our delivery system reform efforts.

Senator MURRAY. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Murray.

Senator Burr.

#### STATEMENT OF SENATOR BURR

Senator BURR. Dr. DeSalvo, welcome. Dr. Conway, welcome. I've got to be candid with you guys. I really do thank you for the job you do. I wouldn't do it. You're stuck in a bureaucratic structure that has no hope of succeeding. Let me explain why.

Technology is changing at a pace that nobody in government envisioned ever would be this fast. I would only say this, that you're going to continually play a catch-up game, late to the party of change that the private sector makes because technology allows them to do it faster, cheaper, and better, and the whole of government is making no effort to structurally change to be able to respond to what your customers are doing day in and day out, or hoping to do, and that's to take advantage of that technological change.

I've got three questions. They're jump balls. If one of you or both of you don't take them, I will assign them.

[Laughter.]

The first one is why is interoperability so difficult to achieve? Second, how do you define the term you use, a safe and secure information system? And, third—this will probably be yours, Dr. DeSalvo. You said in your testimony to us that you have implemented some things along the way since the April deadline of comments on the road map. Well, this is 5 months later, and the testi-

mony says in the near future, we're going to see the road map. I sort of get the impression that we're like deer in the headlights.

Five months is a significant technological shift in the marketplace. The information you heard 5 months ago may or may not be relevant today from a standpoint of what doctors shared with you, what hospitals shared with you, what their data has suggested that they ought to do.

The question is, if the guidelines don't change, if there's not enough flexibility, how in the hell do we expect them to perform at the highest level of quality and execution, when it's, in fact, our regulations that stand in the way of doing it? The floor is yours.

Dr. DESALVO. Thank you, Senator. I actually really appreciate the questions, because I believe it reflects the way that we've been approaching this challenge as the Office of the National Coordinator. In the last year and a half since I've been National Coordinator, we have taken a shift and been working in a more open fashion with the technology private sector.

For example, the interoperability standards advisory, which is an action that we have taken as a result of the road map we developed with the private sector, with the technology industry. It's sub-regulatory so not regulatory, so that we can continue to iterate it and keep up the times, as you say. We are already on our second version in the last 6 months of putting out that document, and we'll have another turn of the crank in December as we are continuously getting feedback and making that better.

An example of how we work directly with the private sector to help spur new technology and/or make sure that we're ready for them is FIRE, which I mentioned earlier. I'm sorry to get a little wonky, but it's the sort of new thing—that everybody is looking forward to making the system more internet-like and making data more available.

We commissioned a report that we then handed to our advisory committee, who then pulled together a private sector team called the Argonaut, who have been working in concert to come up with this new technology that they have to mature. They've now matured it, and we are ready to receive on the other side as we're thinking about our certification program, or even as the DOD is thinking about how it's going to implement its records.

We are continuously in conversation and trying to make certain that we're doing our work in as much of a sub-regulatory fashion as possible so that we're giving guidance and setting guardrails but not getting in the way, because what we want to do is raise the floor. We want to get everybody on a set of shared standards that make sense, that are common, but not get in the way of innovation, because we really need to see the marketplace advance in such a way that it's going to meet the needs of the providers on the front lines.

Dr. CONWAY. The only two brief things I'll add on interoperability—we have significantly reduced the total number of measures and requirements, tried to simplify the program and really focus on high-level requirements to not stifle innovation, and those that are left are—the vast majority are focused on interoperability.

Second, on the new payment models, to give you another example, in our bundled payment initiative, where these providers are

caring for an episode of care across settings—they figure out, to your point—in the marketplace, they figure out how to share information, because it’s critical to be successful in these alternative payment models. Those are two tangible examples.

Senator BURR. I’ll let you answer what your definition of safe and secure is, but let me just say this. It’s amazing that they can figure it out, yet we can’t figure out how to design a structure, because you’re right. The private sector has total flexibility.

I hope you understand. I’m not being critical. I’m expressing something that every member hears. The healthcare community comes to us and says, “How are we going to do this?” We’re supposed to be the road map, and if the road map takes 7 months to do, after you’ve gotten all the input, 7 months is an eternity to them.

Do you want to address safe and secure for the information system?

Dr. DESALVO. Yes, sir. I’d like to just reemphasize that our milestones along the way of updating that road map is a reflection of the continuous conversation. It’s not that we go in a room and then put out a new road map. We’re continuously acting on it in partnership with the private sector.

The privacy and security components, particularly security, are a major focus for us. We have been working with the Administration—wide efforts around cyber security, and we tend to follow NIST recommendations, NIST recommendations about making certain that the systems are secure and that authentication works, and have used our certification program to—every time—maturations, but are encouraging the private sector to keep moving and not to—they don’t always have to wait for us. We really want to see them continuously update.

Senator BURR. Thank you.

Dr. DESALVO. Thank you.

The CHAIRMAN. Thank you, Senator Burr.

Senator Casey.

#### STATEMENT OF SENATOR CASEY

Senator CASEY. Thank you, Mr. Chairman.

I want to thank you both for your testimony, also for your public service. This is hard to get right, and we’ve got a ways to go.

I did note in Dr. Conway’s testimony in the first page some numbers that I know others have mentioned but it bears repeating. The proportion of U.S. physicians using electronic health records increased from 18 percent to 78 percent between 2001 and 2013, and 94 percent of hospitals now report using. There is progress, but I know we’ve got a whole host of problems to work through and to consider today.

I wanted to focus on the question of flexibility as it relates to care settings and to really zero in on those care settings as they relate to children.

Dr. Conway, we’ve all heard the expression for years that kids are not small adults. They have to be treated differently. They need different treatment regimens and approaches. Based upon the unique aspects of their care, are there ways that the electronic health records, both in terms of implementation and use, can be

tailored to meet those specific needs? Can you speak to that in terms of the different settings that we have for children?

Dr. CONWAY. Yes, Senator Casey. Thank you for that question and thanks for your dedication to child health. As a pediatrician, it means a lot.

I'll speak to a few aspects. With the CHIP reauthorization act, it gave us the opportunity to work on an electronic health record format, but was a joint effort between the Agency for Healthcare Research and Quality, ONC, and CMS. Through that work, we're able to develop standards adjustments for pediatrics, things like weight-based dosing, which are critical for children but not as critical for adults.

We've now tested that in several States. We've tested it with various vendors, and we're really working with the vendor community, with States, and with the pediatric community to make sure there are vendor products that meet their needs.

I alluded to Cincinnati Children's. At that time, this didn't exist. I did the implementation prior to that work, and we had to modify an EHR that was largely based on adults to our system. Over time, we'd like that to not be the case, where pediatric practitioners and hospitals have the ability to utilize the EHRs that have already been modified in a way that they're useful in pediatrics.

Senator CASEY. Just an additional question, and I'm going to be out of time. One issue that's surfaced is with regard to minors, the varying confidentiality restrictions. Can you tell us more about how to strike that balance between facilitating the use of electronic records among adolescent patient populations and balancing that with ensuring confidentiality?

Dr. CONWAY. Yes. I'll start, and Dr. DeSalvo may add more from the certification perspective. There are some of the same key principles from paper records that apply in an electronic environment. Then it's how do you adjust those in an electronic environment.

I'll give you some tangible examples. We have worked with a network of pediatric specialists who are actually using their EHR and social networking to engage their patients in a much more real way, in this case, for inflammatory bowel disease, a chronic condition.

That work has actually shown decreased hospitalizations, increased growth in better outcomes for patients. It's a critical example of not just using the EHR as a recordkeeping system, but how do you use that information to really engage patients, in this case, adolescents, in their own care and improving their care, including feeding data back into the electronic health record.

Senator CASEY. Dr. DeSalvo, anything on this question of confidentiality?

Dr. DESALVO. Just to add that today, across town, we're having an eConsumer Health Summit, where hundreds are in person and thousands online, of consumers who tell us not just themselves, but through their own data and others, that they have an expectation that providers are sharing their electronic health data on their behalf to improve their care and, in many cases, to improve the care of others like them with similar chronic diseases or other diseases.

In general, consumers are expecting and wanting information to be shared with their consent. Getting that right is what really mat-

ters. It needs to be informed consent, and we need to be able to protect their data when they don't want it shared. Those are the kinds of efforts we're always engaged in. Thank you.

Senator CASEY. Thank you.

The CHAIRMAN. Thank you, Senator Casey.

Senator Franken.

Senator CASSIDY. We're not going to this side?

The CHAIRMAN. I made a mistake. Excuse me.

Senator Cassidy.

#### STATEMENT OF SENATOR CASSIDY

Senator CASSIDY. I was going to thank my chairman, but never mind.

[Laughter.]

I do want to thank the Chairman and the Ranking Member. Obviously, we've spent a lot of time on electronic medical records. As a physician, I know just how fundamental this is to how we're going forward. Thank you all for your kind of dogged determination to make sure we get this down. Thank you.

I'd also like to announce today, as Senator Murray referred to, that Senator Whitehouse and I will introduce legislation this coming Tuesday to enhance interoperability. I think that Senator Whitehouse asked we share that with you all, and in the spirit of trust, we have shared it with you. Please don't backstab me. Senator Whitehouse and I thank you all for your partnership in this effort, and I look forward to working with him on that.

Let me pick up something—both Senator Casey and Senator Alexander just said things that kind of triggered with me. Senator Alexander started off by saying why don't we get the meaningful use right. I'm going to speak not as a Senator. I'm going to speak as a physician colleague. You'll understand what I'm about to say.

I had this kind of weird experience. I still see patients. I'm seeing a guy who had vomited blood the week before from varices. His belly is full of fluid. He's as orange as orange can be.

As I'm trying to get his medicines right so he doesn't re-bleed, talk to him about not drinking, get his ascites down to make sure that it's not infected, and get him down to a liver transplant unit, I'm supposed to take a minute of my precious time and ask him, "Have you stopped smoking?" The absurdity of that in this situation is evident even to those who don't know physicians.

One of the suggestions that we have had in these hearings from a subspecialist is why don't we allow subspecialists to define what their meaningful use Stage 3 is? What a pediatric endocrinologist is going to ask is far different from an orthopedist.

You've mentioned, Dr. Conway, that you're trying to make this more relevant. The ultimate in relevance is to allow the specialty societies to define, No. 1. And, No. 2, as Senator Alexander said, why don't we do that on the front end as opposed to kind of attaching it to the back? I hope you're about to tell me that, yes, you've already decided to do that.

Dr. CONWAY. There's a couple of points to bring up, and thank you for the question, Senator. One, with the proposal for the modifications, it does lessen the number of measures and provides more

flexibility, including flexibility to specialists in terms of what they focus on, in terms of care.

Senator CASSIDY. Does it allow the specialists to define for their own specialty that which should be meaningful?

Dr. CONWAY. It does to a large degree, and then let me try to explain. In the clinical quality measure arena, for example, we have increasing of flexibility, and as we move to MACRA, an implementation of a merit-based incentive system, we're working closely with specialty societies so we have measures relevant to their practice and give them the flexibility so if we don't have sufficient measures relevant to their practice, they can report that. They can say, "These measures are pertinent to my practice. I don't have"——

Senator CASSIDY. The impression I get of what you're saying, though, is as opposed to the specialty societies saying, "Listen, this is what only 30 percent of our colleagues are doing, 100 percent should, and this is maximally relevant," it is rather CMS saying, or your office saying, "Listen, this is what we're going to have you do, and you have latitude within this as to what you do, but let us know if we didn't do it right."

It seems better to have them tell you whatever you should be doing and isn't. You see where I'm going with that?

Dr. CONWAY. I do, sir. In terms of—to give another example where it is not us defining for the specialties, specialties can now use electronic health records and report via qualified clinical data registries to CMS. These are registries that are linked to the EHR, typically——

Senator CASSIDY. I get that, but that's not quite the question where I was. Are we going to allow specialty societies to define what meaningful use is? Just yes or no.

Dr. CONWAY. Specialty societies are allowed to define within meaningful use the measures that are most applicable to their practice.

Senator CASSIDY. Not those which should be applied. There's a difference there, and I think the difference is critical. One is they're being told to select from a smorgasbord that we have decided is relevant. This is—no, let us tell you what is relevant, and that would make it most meaningful. I gather that's not what you've done. Let me just say as a practicing physician that that's what we've heard in our testimony, and that's what we should do.

Let me ask—because I'm going to run out of time. The other thing we've heard is that absent a unique identifier, it's going to be very hard for the comatose patient being seen in New Orleans, who previously was seen at some hospital in Missoula—how does a doc in New Orleans figure out what the doc in Missoula ordered that would be relevant to the comatose patient now before her?

I guess my question—and we've heard how unique identifiers is like the only way, really, to get there, unless the patient can volunteer. Civil libertarians obviously are concerned about unique identifiers, and yet you've just told us that in e-health, there's an expectation that doctors are sharing records.

Without going further into the kind of obstacles there, what do you think of a global entry type situation? I bypass the long lines at the airport because I've given all my personal data to TSA, who figured out that I'm an OK guy and then allows me to kind of go

in with an expedited screening. This is voluntary, so the civil libertarians can't say, "Well, heck, it's big brother." Any thoughts about that?

Dr. DESALVO. Senator, let me begin just by thanking you and your staff and Senator Whitehouse and his staff. You've been great partners as we've been talking about this technology work that you're doing. This whole committee has gotten so steeped in it. It's exciting for us at the Office of the National Coordinator.

With respect to identifying the right patient, you and I experienced this after Katrina. Somebody is displaced to Missoula or wherever, and you want to make sure that that's the right Jim Smith, that you're giving the right drug or pulling up the right medication history for them.

There are models that work in the field right now that have been, to Senator Burr's comment, developed by the private sector and get pretty close to matching well so that we can maximally reduce harm within the constraints of being able to match. Are you the right person? I'm going to a bunch of algorithms to make sure that we have that right. We have been working very—

Senator CASSIDY. That's different from a unique identifier.

Dr. DESALVO. It is. That is the technology in hand, and we have been accelerating that, working aggressively to work on getting to a place where we have been making recommendations that everybody is going to move to a more safe system. That's one pathway. Since it's what we have today, and with working in places like Maryland, DC, New York and Nebraska, we need to keep advancing that.

There are private sector groups working on a unique identifier model, and we appreciate the work that they're continuing to do. We have partnered with them in some cases, just to be a part of the conversation so we can listen. It's possible that some may decide to go in that direction. In the meantime, we've certainly been making certain that everybody is being as aggressive as possible about getting the patient right so that we can reduce as much harm.

Senator CASSIDY. I yield back. Thank you.

The CHAIRMAN. Thank you, Senator Cassidy, and thanks for your contribution to the certification bill and for bringing your medical experience to the committee. We appreciate that.

Senator Franken.

#### STATEMENT OF SENATOR FRANKEN

Senator FRANKEN. Thank you, Mr. Chairman. I am not a doctor, but I played one in a sketch.

[Laughter.]

I want to make sure I understand Dr. Cassidy's question, because he created a scenario in which someone was basically in an emergency situation. In an emergency situation—just let me make sure of this—don't you have some discretion as a physician to say, "This is not the time I have to follow certain protocols in terms of electronic medical records." Also, aren't there—emergencies actually create—haven't we seen where in emergencies, electronic medical records are very, very beneficial because you can get records much faster?

Dr. CONWAY. I'll start if it's OK, and Dr. DeSalvo may add more. No. 1, yes, in emergency situations, we would want physicians and clinicians to deliver the appropriate care. We would not in any way want to regulate that, and it is appropriate. I practice in a hospital medicine environment where there are emergencies. You deliver the appropriate care. Whether it's a paper-based or electronic environment, you can document it after the delivery of that appropriate care, and that's what we would want.

No. 2, we actually do have examples. One patient, or the wife of a patient, spoke very eloquently at one of our events that the EHR prevented a safety event and literally saved her husband's life, because that information—he came in unconscious, not with information—had the ability for electronic health record information to be transferred. That was a life-saving event. I don't have specific data on how often that happens, but it can certainly occur, and we have instances where electronic health records have saved lives.

Senator FRANKEN. The Hennepin County Medical Center, when the bridge collapsed, used electronic medical records and found that they were extremely helpful in that situation.

Dr. CONWAY. Yes.

Senator FRANKEN. I just wanted to understand something, unusual as that is in a hearing. I'm co-chair of the bipartisan Senate Rural Health Caucus, so I want to talk about rural and small practices. I've been meeting with providers and health systems in rural communities across Minnesota to learn about the challenges that they face.

In previous hearings, I've talked about the resource constraints and sort of the asymmetrical bargaining power that tend to make it more difficult for rural providers to successfully adopt the EHR systems. They want to implement EHR systems and are striving, often struggling, to meet the meaningful use requirements.

Dr. DeSalvo, my question is: What is the agency doing to help rural and small practice providers be successful? We've talked a lot about carrots and sticks, but what are the agency's plans for providing continued support and technical assistance throughout the process, this transformational process?

Dr. DESALVO. Thank you, Senator. We share a policy goal that no provider, no patient, no person should get left behind. That means we have to, in some cases, pay special attention to smaller practices, small hospitals, small group practices, and those in rural areas to see that they have the technical assistance and the supports they need.

The Senator may be aware that our office, in partnership with HRSA and with USDA, over time has leveraged additional resources for broadband access, for additional technical assistance on the front lines. We did this with CMS in the meaningful use program. They were very successful early adopters, they being rural providers and critical access and small providers—keeping them in the program, but, more importantly, keeping them having a digitized care system so that information will flow and follow.

Their constituency is important, and it's increasingly important to the VA and the DOD. It's a part of the work we're going to do going forward to see that soldiers and veterans have access to their information as they're moving through those systems.

I had the experience of—it wasn't a rural, but it was close. It was a small 80-bed hospital that I was on the board of and led the development of our health IT purchase and started the implementation before I came to Federal Government, and it was—it's a challenge when you're that small. We had no IT shop. We were borrowing—parts of staff we were contracting out from nearby hospitals just to try to get the pieces back together.

I know it acutely, because I was on a hospital board when I was commissioner, trying to build a hospital and get it rolling. It's in my mind every day about how we make sure that they don't get left behind in this really critically march forward, because the people that they serve deserve to have as much access to data and information as those in urban areas.

Senator FRANKEN. Well, I'm out of time. Let me just put a word in for rural broadband, because if we're talking about tackling electronic health records, rural providers need that broadband.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Franken.  
Senator Baldwin.

#### STATEMENT OF SENATOR BALDWIN

Senator BALDWIN. Thank you, Mr. Chairman and Ranking Member.

It's clear that we still have more work to do with interoperability. Recently, industry stakeholders have made really significant progress in coming together to solve some of the IT infrastructure problems. For one, a diverse group of stakeholders from providers to EHR vendors, even competitors, are developing a unifying agreement to connect the existing exchange networks. This could serve as a national structure to ensure that all of the networks can securely share patient records with each other.

Just like we've heard with other examples—ATMs, et cetera, cell phone networks—it shouldn't matter what network your doctor belongs to. They should all be able to talk to one another.

Dr. DeSalvo, much if not most of the work in this space has been done for us. How can we ensure that patients and providers and developers benefit from all this effort that is ongoing and has already been done? What can the ONC do to both leverage and implement the work of these public-private collaborations? Specifically, I'm looking at—you were talking about guardrails, but nudges versus mandates, leveraging.

Dr. DESALVO. Well, Senator, thank you for the question, and I'm so encouraged in the last year, especially, by the work the private sector is doing to come together to set some shared rules of the road, to agree on privacy and security and, increasingly, standards. That's the reason that efforts like our interoperability standards advisory—it's a document, but it's really a process. It's a way that we've been working with them to come up with a federally recognized list of national standards, many of which are developed in the private sector.

This helps us, as the Federal partners who purchase and pay for and deliver care and make IT systems, also be on the same page with them so that we're using the same rules of the road and that

we're using the same standards as we all move forward. We consider ourselves partners with them.

At the end of the day, the guardrails are necessary in some cases because, unlike the private sector, I believe that we have the responsibility to protect everyone, no matter their geography, where they live, the color of their skin, the source of payment, the kind of provider that they have. If you think about rural America, making sure that all those connections are made and also that that data is available to consumers and for public good, public health preparedness and public health everyday.

There are additional—outside of the healthcare sphere that some of the conversations have been occurring. It's important for us to remember that we have a responsibility to consumers and to the community beyond. I agree with you. I'm encouraged by their advancements. I want to see that continue going. I want to see that we're holding them accountable and that we're setting, the right guardrails, governance expectations, that the data is there for the consumer when and where it matters in disaster and every day.

Senator BALDWIN. Following on for both of you, Dr. DeSalvo and Dr. Conway, we have throughout these hearings identified a number of areas where we need to do better to realize the full benefits of health IT. In both of your testimonies, you outline a number of initiatives that each of your organizations are planning to further advance interoperability as well as enhancing patient engagement and reducing the burden that we've all been talking about that providers have shared.

We, universally on this committee, are committed to these goals. I'm curious to know whether you believe that your agencies need specific new legislative authority to successfully achieve these goals, given the planning that you've outlined to us today.

Dr. DESALVO. Senator, we really do appreciate the partnership this committee has brought forward, this conversation into the public mind, and it's actually really helping to accelerate what's happening in the private sector. Thank you all for that.

We are looking across the Administration at every opportunity we have as an administration to see that systems are more usable, that data blocking is not occurring, and that interoperability is happening in a consistent and equitable way. There may be some opportunities where the committee could help to give us more opportunities to approach governance, so setting rules of the road, business practices and implementations in the marketplace, in some cases around blocking and in some cases just around consistent data sharing.

There may be additional opportunities for us to make the market more transparent, to be able to share business practices, costs, et cetera, of products so that docs and others know what they're buying. When they go shopping, it's more clear what they're getting and if the batteries are included, if you will. We have noted some of those. I have in my written testimony that was given, and I would really look forward to the opportunity to provide some ongoing technical assistance to the committee about that.

Senator BALDWIN. Dr. Conway.

Dr. CONWAY. We would agree with Dr. DeSalvo on the issues noted around information blocking, oversight of certification, et

cetera, and we're happy to work with the committee if there's other ideas that you would like technical assistance with.

Senator BALDWIN. I see that I have run out of time.

The CHAIRMAN. Thank you, Senator Baldwin.

Senator Whitehouse.

#### STATEMENT OF SENATOR WHITEHOUSE

Senator WHITEHOUSE. Thanks very much, Chairman, and thank you for yours and Ranking Member Murray's continued initiative and effort in this area. It's going to be very productive for our committee.

Thank you to Dr. DeSalvo, particularly, but both of you for your work and your leadership in this area. Thank you for the support you've given for my efforts with Senator Cassidy to try to improve the certification piece.

If I take a step back from this, I see a need—if health information technology is going to be really effective—for there to be very good health information exchange. One of the ways very good health information exchange happens is through very good health information exchanges, like CurrentCare in Rhode Island, like the exchange up in Maine. There are a number of them.

One of the continuing concerns and questions that I have is that meaningful use tees up an enormous amount of resources and directs them at supporting the purchase of health information equipment and kind of, in an indirect, like pool table bank shot type way, tries through the certification process and the standards to back encourage health information exchange. Having lived the life of Rhode Island's health information exchange of CurrentCare, I don't think that's adequate.

I don't think that having these big national companies that are clawing at each other for market share and that in some cases appear to be engaged in some pretty unfortunate practices, like data blocking and hiding costs in the contract that doctors get clobbered with later—they're not, I don't see, incented in any way to focus on going to a particular location, like Rhode Island or Maine, and supporting the development of a really robust local exchange. A really robust local exchange is a really important piece of this equation.

When you look at the amount of support—and, by the way, thank you for the support CurrentCare has gotten. They've won everything that's available out there. Even so, you put that up against the absolute avalanche of money that's going into meaningful use, and it seems very, very disproportionate.

What can we do to further encourage and support the development of health information exchanges at a local level? I would carve out of that the exchange of information within either a hospital system or a corporate system or a particular company that provides a service in health information exchange, because that doesn't work. It's not good enough to get health information exchange within your hospital chain or within everybody who buys this particular product. That, in fact, is really adverse to the public interest.

The place where you get across all those problems is when there's a public health information exchange. How do we make that work better? How do we tip the huge Mississippi River of money

that's flowing into meaningful use so that a bigger trickle of a creek comes off of it for information exchange?

Dr. DESALVO. Senator, I wish I had 3 hours to talk about that with you. Let me be brief because I have about a minute and 37 seconds.

Senator WHITEHOUSE. It won't be these 3 hours, but I'm all in.

Dr. DESALVO. Rhode Island is a model example of how the investments that the Office of the National Coordinator made through the HITECH funding in local health information exchange can take off and be successful. There's one in every State, and some are more successful than others. It is a part of the fabric of how data is going to move. Senator Baldwin mentioned some of the private sector efforts, which are also part of that fabric.

In the public interest, I agree, is for information to not stop at the artificial barriers between private sector network service providers and health information exchanges that may be run by the public sector or at the local level. That means that we need to see, first of all, that the artificial barriers of different standards don't exist, so we move to a shared set of standards so the data flow is easier.

We have a set of rules of engagement, rules of the road, that will be agreed to, and there is an accountability mechanism. The Senator asked about additional opportunities that we might need to be able to get into the space that you're describing, the certification program, and other opportunities that the Office of National Coordinator has. We have been pushing that through our proposed rule, but there may be additional opportunities for us to see that the public's interest is met in that space.

With respect to the business sustainability, what I want to see is that there is a sustainable business model that works for everybody in this country and is not a pay-to-play.

Senator WHITEHOUSE. My time is running out, but I really want to make this point. If you're really doing health information exchange through a public facility that brings in all comers and isn't picked off by a particular private sector company to emphasize its own business, if it's truly across the board, then, really, what you've done is develop a piece of infrastructure, a piece of safety, hardware, and I view it as akin to air traffic control at an airport.

Dr. DESALVO. Yes.

Senator WHITEHOUSE. We don't ask for our air traffic control system to have a sustainable business model. We know that it provides safety and supports the business models that are out there of the airlines. I really push back hard on the notion that a CurrentCare or the Maine information exchange or any of these need to show a sustainable business model. They don't. They support everybody else's sustainable business model.

Dr. DESALVO. We actually agree, sir.

Senator WHITEHOUSE. Great.

Sorry to go over the time, Mr. Chairman, but I sometimes get a head of steam up on this.

The CHAIRMAN. No, that's good. Thank you, Senator Whitehouse.

Dr. DESALVO. I'll catch you a little bit later and we can go over this.

Senator WHITEHOUSE. By the way, I think Dr. DeSalvo is terrific.

The CHAIRMAN. Senator Warren.

STATEMENT OF SENATOR WARREN

Senator WARREN. Thank you, Mr. Chairman.

We all know that one way to get the cost of healthcare under control and to improve quality is to change the way that we buy care. Instead of charging for each test, for each procedure, for each followup visit, we need a better way to pay.

Secretary Burwell has set the goal of transitioning 30 percent of Medicare payments away from fee-for-service by the end of 2016. One alternative payment model is bundled payments, a lump sum payment that covers all the costs of a procedure and the followup care. For example, BayState Health in Massachusetts has been bundling payments for hip and knee replacements and the necessary followup care for years, and it has improved quality and saved an average of \$2,700 per patient.

The data are clear. Bundles can help us move toward better outcomes at lower costs, and it's good to see that CMS recently announced their intent to use bundled payments, like Baystate's, in 750 hospitals across the country, starting next year through the comprehensive care for joint replacement model.

Dr. Conway, can you explain why interoperability, making sure that the electronic medical records can actually talk to each other, is important to facilitate alternative payment models like bundled payments?

Dr. CONWAY. Senator Warren, thank you for the question. I'm familiar with some of the work of BayState. I was in Massachusetts last week and it's just tremendous work.

On bundled payments, interoperability—thanks for your comments on the comprehensive joint model. We're very excited as well. We're getting comments on rulemaking now. I'm actually, this afternoon, talking to hundreds—and we actually have over 1,500 providers in our voluntary bundled model, and hip and knee replacement is actually the most common condition.

Interoperability is a critical underpinning. The key to effective care, in these bundled payment arrangements, is to truly coordinate care for that patient for the entire episode.

What we hear when we interact with providers in bundled payment is they're sharing information from the hospital to the physician group, to the post acute care provider, even home and remote monitoring technology. Some of them are very successful by getting patients in their home and then caring for them in their home, which is a lower cost setting and, generally, patients prefer.

The interoperability piece is critical to the success of bundled payments. As you said, we believe bundled payments are a critical piece of the overall picture of alternative payment models and delivery systems.

Senator WARREN. Thank you. That's very helpful.

This is the sixth hearing that this committee has held on health information technology, and one point that I think has come across in every single hearing is despite the success of Federal incentives in getting doctors and hospitals to implement electronic health records, most still can't exchange basic patient information.

Dr. DeSalvo, the Office of the National Coordinator for Health IT is charged with advancing interoperability of healthcare technology, which, as Dr. Conway said, can help advance alternative payment models. Is the reverse also true? Do payment models that require cooperation across care settings help promote interoperability?

Dr. DESALVO. Senator, it is absolutely true that moving to a changed business environment, moving to alternative payment models, ones that reward value and population-based care, requires us to have a health IT infrastructure that works, that provides the data necessary to the docs and the hospitals and the other care team members and the consumer, to know what information is there so they're not doing redundant tests, and that they're able to save money, reduce harm, and improve the quality of care.

These two concepts are so tightly linked. It is one of the reasons that the department's delivery system reform effort has been so tightly linked, that when we change the way we pay for care and deliver care—but it requires a new information model that we want to advance. System after system that's highly successful, whether it's in Massachusetts or—I was just at Intermountain yesterday. They can show you clearly that when they have better data, a better dashboard, they know where they're going, it helps them to reduce costs and improve quality.

Senator WARREN. Thank you. This is very helpful. I fully support CMS moving forward with the mandatory joint replacement model. The Congressional Budget Office estimates that widespread use of bundled payments could save our healthcare system \$46.6 billion. We need to continue to build interoperable health IT infrastructure in order to realize those savings.

That means setting common standards for transferring information and developing a way to accurately link medical records to patients. It also means creating incentives that encourage information sharing. Like Dr. DeSalvo and Dr. Conway have said today, alternative payment models are one way to create those incentives.

Moving forward with these new models and improving interoperability go hand-in-hand, just as you've said, tightly linked. I hope that the Office of the National Coordinator, CMS, and this committee will continue to coordinate on these initiatives so we can move toward a healthcare system that gives us better outcomes at lower costs.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Warren.

Senator Murray, any other thoughts?

Senator MURRAY. I just want to thank both of our witnesses today for their incredible work on this. This has been a really important series of hearings.

Mr. Chairman, we've heard a lot about how critical the role of information technology is in making sure that we have a strong healthcare system for patients, families, and everyone. I just want to thank you for this, and I look forward to working with you.

The CHAIRMAN. Thank you.

I want to thank the Senators here for their participation. This has been a pretty heavy focus on a target, but that's one way to

get a result. Your active participation in this has made a difference.

I want to thank Dr. DeSalvo and Dr. Conway for the work you've done with our staffs over the last several months. We've tried to identify five or six steps we can take to get an electronic health record system that had really gotten in the ditch back on track so that it helps patients and realizes all the promise that all of us have talked about.

I hope that everyone listening understands that I believe it's unanimous on the committee—that's kind of a bold statement to make on a committee this diverse—that we all want to go forward. Nobody wants to go backward. We want our country to have a system of electronic health records, and we want to create an environment in which that can succeed.

A couple of thoughts. A group of Senators met with a group of Nobel laureates earlier this week, and one of the Nobel laureates said something that fit into what Senator Whitehouse, Senator Burr, and others have said. She said that she thought it was likely that some disruptive technology would come along that we don't really anticipate and provide most of the answers for how we have an electronic health system that works the way we hope it will work. Maybe that's right. Maybe it's wrong.

What we want to get is a system that works as well as our airline reservations, as our ATM cards, and we would guess that there will be some Google-like or Apple-like entrepreneur that will come in and provide some answers to that. I guess what we're saying is in our regulatory structure, we need to leave room for that, and you've said that you understand that. That's a very important thing. None of us are wise enough to guess how that will happen.

Creating a platform which attracts applications and solutions is much better than trying to figure out what the applications or solutions are here. The government historically hasn't been that good at doing that. I hope that's a part of it, and I thought that was pretty good advice from the Nobel laureate.

My final advice is my starting advice from my piano teacher who said, "play it a little slower than you can play it, and you're less likely to make a mistake." You've got broad-based support for what you're doing, and recommendations have come from a number of us, not all of us, but a number of us that the wiser approach would be to adopt the Stage 2 rule now and get that percent of doctors up from 12 percent who comply with meaningful use and spend the next 12 months getting the meaningful use Stage 3 rule right and use the year to align it with the merit-based payment system rule that will be coming out this next year and with the legislation that will be coming out this next year.

That is more likely, it seems to me, to help get it right for patients than to go ahead and rush something out and run the risk that you're going to have people in Congress try to overturn the rule and spend the next year arguing about that rather than working together to try to have a big success by the end of next year.

I thank the Senators. I thank the witnesses. We look forward to the promise of an electronic health record system that works perfectly some day for the benefit of patients.

The hearing is adjourned.

[Whereupon, at 11:28 a.m., the hearing was adjourned.]

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