

ACHIEVING THE PROMISE OF HEALTH INFORMATION TECHNOLOGY: WHAT CAN PROVIDERS AND THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES DO TO IMPROVE THE ELECTRONIC HEALTH RECORD USER EXPERIENCE?

HEARING

OF THE

**COMMITTEE ON HEALTH, EDUCATION,
LABOR, AND PENSIONS**

UNITED STATES SENATE

ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

ON

EXAMINING HEALTH INFORMATION TECHNOLOGY, FOCUSING ON WHAT PROVIDERS AND THE DEPARTMENT OF HEALTH AND HUMAN SERVICES CAN DO TO IMPROVE ELECTRONIC HEALTH RECORD USER EXPERIENCE?

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TUESDAY, JUNE 16, 2015

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

The committee met, pursuant to notice, at 10:04 a.m., in room SD-430, Dirksen Senate Office Building, Hon. Bill Cassidy presiding.

Present: Senators Cassidy, Alexander, Isakson, Collins, Roberts, Whitehouse, Murray, Casey, Franken, Baldwin, Murphy, and Warren.

OPENING STATEMENT OF SENATOR CASSIDY

Senator CASSIDY. The Senate Committee on Health, Education, Labor, and Pensions will please come to order. We're holding a hearing on how to improve electronic health record systems with a particular focus on the physician experience. Ranking Member Whitehouse and I will each have an opening statement, and then introduce our witnesses. After the witnesses' testimony, each Senator will have 5 minutes of questioning.

First, I thank Chairman Alexander for calling this meeting and allowing me to chair this hearing on Achieving the Promise of Health Information Technology: What Can Providers and the U.S. Department of Health and Human Services Do To Improve the Electronic Health Record User Experience?

You get on the internet, and oftentimes it's kind of crazy. On the other hand, every now and then, you come across something good. Jonathan Halamka, CIO of CareGroup Health Systems recently wrote,

“Providers are fed up with interface fees; how hard it is to accomplish workflows required by the accountable care business models, including care management and population health; unsatisfied with the kind of summaries exchanging, which are often lengthy, missing clinical narrative, and hard to incorporate or reconcile with existing records.”

I will add on a personal note, as a physician, that time is better spent looking into a patient's eyes to make sure that she comprehends that even though she has cancer, there is hope, as opposed to clicking on a computer screen to document something unimportant to her but required by someone far removed from the exam room. This panel will discuss how to transform electronic medical records from that just described to something better.

Over the past few months, this committee has identified specific areas where EHR implementation is falling short. One of these is the overly burdensome Meaningful Use requirement developed by HHS. It does not just affect older physicians—kind of the curmudgeons who remember the old days, but young residents as well.

Indeed, only 11 percent of eligible physicians have successfully tested for Stage 2 of the EHR Meaningful Use Program, even though penalties for noncompliance begin this year. This suggests that Meaningful Use requirements are so burdensome that many doctors will take a financial penalty because of an inability or unwillingness to comply with burdensome government standards.

Another concern is the lack of interoperability between different EHR systems. We have heard that there are reasons why interoperability is difficult to obtain. There are coordination problems where vendors implement technical standards in inconsistent ways or adopt divergent privacy, security, or trust policies that govern how EHR information is exchanged.

The committee has also heard, however, that some vendors and providers adopt business practices which block the flow of patient information. If this is true, it is inexcusable.

To put it boldly, taxpayers put up \$30 billion with a promise that there would be better coordination of care and, therefore, better healthcare, and it is alleged that what has been delivered are proprietary systems and information siloes serving business models. If true, this is wrong and breaks trust with those taxpayers and those patients.

I look forward to hearing from the panel on these issues and what Congress and HHS can specifically do to reform the EHR program so that it empowers physicians and other providers to serve patients better and delivers upon the promise to those patients and to taxpayers that their information is being used for their benefit and not for the benefit of others.

I now recognize Senator Whitehouse for his opening statement.

OPENING STATEMENT OF SENATOR WHITEHOUSE

Senator WHITEHOUSE. Thank you, Chairman Cassidy. I want to particularly thank Chairman Alexander and Ranking Member Murray for the opportunity that they have given Senator Cassidy and I, to preside over today's hearing.

Health information technology is key to enabling national priorities like the President's Precision Medicine Initiative and the transition to alternative payment models. It is critical national infrastructure and should be seen just like our highway system, and it will support a learning, improving healthcare system done right.

While the HITECH Act spurred a tremendous leap in the adoption of electronic health record systems, I think we all agree that

there remains room for improvement. EHR adoption is necessary but not sufficient, and it needs to be done well.

That's why today's hearing, which highlights healthcare providers' experience using electronic health records, is so important. We have a lot to learn from providers' experience integrating EHRs into the practice of medicine.

I very much respect my Republican colleague's concerns about the usability of EHRs and remaining barriers to the interoperation of different EHR systems. There is a lot of frustration to go around.

But since we aren't going back to paper records, let's focus on what we can do moving forward. The HELP Committee is squarely positioned to put the building blocks of our health IT infrastructure firmly in place to improve transparency in the electronic health record marketplace, to empower providers to vote with their feet if they're not satisfied, and to identify best practices for deploying electronic health records as a care management tool.

If we make progress on these issues, I think we'll see improvements in the usability of electronic health records, gains on electronic health record interoperability, better care for patients both in treatment and in prevention, and a new wave of IT innovation which is really the hidden promise behind all of this. I look forward to hearing the witnesses' testimony and to working with the HELP Committee to achieve these goals.

If I could make an introduction, I'll let you make the others. While I have the microphone, may I proceed?

It's my pleasure, last but not least in my comments, to introduce our witness from Rhode Island, Meryl Moss. Meryl is chief operating officer of Coastal Medical, a primary care-driven medical practice that cares for 120,000 patients at 20 offices across Rhode Island. Coastal Medical has also taken on the responsibility of becoming an accountable care organization and is a leader as a provider organization in that area already, earning wonderful results.

As Coastal's chief operating officer, Meryl Moss explores new ways to deliver high-quality, patient-centered care while building business lines and the Coastal Medical brand. She studied economics at Boston University, received her master's in administration at the Carroll School of Management at Boston College, and is a graduate of the Brown University Executive Master of Healthcare Leadership Program.

I'm delighted that she could come down here, and I thank the chairman for allowing me to make her introduction.

Senator CASSIDY. The next witness is Vindell Washington. Dr. Washington currently serves as the president of the Franciscan Missionaries of Our Lady Health System Medical Group and chief medical officer where he provides strategic leadership to the five medical groups across the health system, overseeing the services that directly support these practices and leading physician adoption of technology within the health system.

This is the hospital where I continue to see patients, and when I'm cussing and fussing at the computer system, I think of Dr. Washington.

[Laughter.]

Dr. Washington is board certified in emergency medicine and still sees patients at Our Lady of the Lake Regional Medical Center

in Baton Rouge. In addition, he oversees 500 physicians and advanced practitioners in more than 70 care locations, working to fulfill the regulatory requirements for EHRs, providing recommendations on how to translate the regulatory requirements into useful tools for clinicians to improve care.

Our third and final witness is Dr. Tim Pletcher from East Lansing, MI. Dr. Pletcher is the executive director of the Michigan Health Information Network Shared Services, a public and private nonprofit collaboration to facilitate the exchange of health information in Michigan to improve the healthcare experience, increase quality, decrease cost.

Dr. Pletcher is also an adjunct research investigator of learning health sciences at the University of Michigan Medical School and presents nationally on the topics of health informatics and data science.

Dr. Washington, will you go first, please?

STATEMENT OF BOYD VINDELL WASHINGTON, M.D., MHCM, PRESIDENT, FRANCISCAN MEDICAL GROUP, CHIEF MEDICAL INFORMATION OFFICER, FRANCISCAN MISSIONARIES OF OUR LADY HEALTH SYSTEM, BATON ROUGE, LA

Dr. WASHINGTON. Good morning, Chairman Cassidy, Chairman Alexander, Ranking Members Whitehouse and Murray, and other distinguished members of the committee. Thanks for that introduction.

I'll just add a little bit more about our health system. We do take care of about 40 percent of the residents of Louisiana. That's about 70,000 annual discharges across the health system, 220,000 emergency department visits across the State.

The physician group I lead is a multispecialty group. One other bit of background information. Our health system uses a couple of—actually many—but a couple of major electronic health record systems: Cerner, predominately on the inpatient side, headquartered in Kansas City, MO; and Epic on the outpatient side. We do have some of those challenges with a couple of electronic medical records.

I do practice predominately at Our Lady of the Lake Regional Medical Center. The location is in Livingston, where I do most of my clinical emergency medicine work. We were joking just before the start. I will be documenting in Cerner on Thursday when I see patients again, so I do have some firsthand experience on the topic that we're going to talk about today.

It's an honor to appear before you today alongside this accomplished panel. My comments really will focus on the challenge of improving the user experience of electronic medical records. I certainly get a lot from my colleagues in the health system about how I can make their lives better. Senator Cassidy is not the only one who is cursing occasionally when we have to implement new care activities.

Really, if you talk about the Federal activity around the American Reinvestment and Recovery Act, it's been a great change in healthcare and healthcare delivery. In particular, the major tenets within the act, the high-tech portion of the act, the activity around improving quality, reducing errors, engaging patients and families,

and making information available across all care venues—they're really universally applauded. Most folks are excited about that possibility and that potential.

However, those complaints that were mentioned earlier about increased burdens on the practitioner, loss of some of that interaction between providers and patients, and frustration with the new requirements that are put upon folks as workflows change have come to dominate some of the discussions among providers within our health system. Even as the capability of electronic health records to reduce errors and to improve communication has gone forward, there's really been a lot of stress as providers try to meet this adoption and take advantage of this new technology.

I really just want to share a couple of ideas that I think could improve the overall user experience. I think one of the main drivers and one of the main activities would be to adjust the required documentation for billing and quality, to adjust that documentation to more accurately align with the new care models that are developing with electronic health records.

As an anecdote, we spend a lot of time in the health system redesigning workflow based on those new capabilities in electronic health records. If you look at what we are required to document and how we are required to gather data and put it into the EMR, it's the exact same set of activities that were required before we used electronic medical records. In my mind, it has driven some of the technology and deployment.

In my opinion, too much effort is spent recreating the attestation and documentation checkboxes that existed in the paper world, which are just no longer relevant as we switch to electronic medical records. As the industry switches from volume to value, this attention to rewarding and policing the individual work effort should be replaced by efforts to really reward outcomes of the activities with patients. Right now, that's not the case.

Documentation really should be just that effort of gathering the necessary elements for providing care and continuity of care. That information then is used as a reminder to providers of the care, as opposed to documentation being about this policing activity.

The electronic health records are really becoming capable of constructing these care documents as this care is being delivered. Sometimes, in my opinion, this effort is stymied by some documentation requirements both in the quality area and in the billing area.

The second point that I'd like to make is really this idea of setting tighter standards for interoperability and standardizing some of the terminology. One of the things I think most physicians were prepared to expect as we went to electronic medical records is there would be a tradeoff. There would be more effort placed on actually documenting those encounters electronically, but the tradeoff would be that after that information was input, it would be easily exchanged and easily available across all of the areas that healthcare has provided. That really has not turned out to be the case.

We have a lot of work that's been done. The Office of the National Coordinator of Healthcare Information Technology has been working on this for about a decade so far. It's certainly being ably led now by Dr. Karen DeSalvo, also a fellow Louisianan, and I

think the 10-year interoperability plan that they produced is the right direction. My push would be to accelerate the activities in that plan.

The idea of being able to exchange that information easily across those care venues is the goal. Currently, what happens, though, is that even if you take something like the clinical continuity of care document, which is the standard document to exchange, and you try to plug that from one EMR system to another or to one HIE, even though they meet the standards, there's a lot of work and a lot of re-engineering that has to be done for those documents to be available, much less individual data elements between those.

I would say there's also some problem that rests with the fact that in medicine, we really never got to the area of standardizing terminology in the discussion points among providers. One example is around labs. There has been for about 21 years now a lab documentation standard called LOINC, but even though that's a standard format that's been around, it has not been universally accepted that that's how we're going to refer to labs.

So in one system, a complete blood cell count or a CBC or a red cell count—all those terminologies exist. Even when the communication is improved, the actual documentation of data and where those data elements go is not always that straightforward.

Senator CASSIDY. Dr. Washington, can you summarize the rest of your remarks, and we can move to questions?

Dr. WASHINGTON. Yes, sir. That is the end of that portion, which was really about the terminology. I would say those two actions would foster more innovation, reduce unnecessary work, and provide more value to providers.

Thank you.

[The prepared statement of Dr. Washington follows:]

PREPARED STATEMENT OF BOYD VINDELL WASHINGTON, M.D., MHCM

Increased user adoption of electronic health records (EHR's) in clinical practice has not led to universally improved provider experience. Complaints of increased time burdens on the practitioner, loss of provider interactions with patients, and frustration with new requirements and changed workflows dominate discussions among providers even as the capability of EHR's to reduce errors and improve communication has grown. Federal action in the American Reinvestment and Recovery Act has pushed the adoption of technology in medicine in a way only wistfully contemplated in the past. The major tenets of improving quality, reducing errors, engaging patients and families, and making important information available appropriately, are almost universally applauded. Most would agree that despite the promise of the effort, there is much room for improvement in the provider user experience.

Three Federal actions could improve the overall user experience by changing the environment in which these activities take place.

Recommendations:

1. *Encourage development consistent with new clinical work flows by adjusting the required documentation for quality and billing.* The current information workflow and documentation requirements are largely based on paper documentation efforts. For example, having providers place their initials on outside laboratory documents was a way of ensuring that providers did the work of intellectually engaging in the review and interpretation of important patient data. This type of activity was critical for ensuring that work was appropriately performed and a version has found its way into much of electronic documentation. Checking boxes to show that data was reviewed, or that tests were performed, or attestations of agreement with documentation performed by others on the healthcare team place unnecessary burdens on providers and do not substantially improve the care. It also lessens the value of providers practicing at the top of license. As the industry switches from volume to

value the importance of documentation as a check and balance should lessen and providers should be rewarded more for expected outcomes. Documentation should consist of gathering the necessary elements for continuity of care—as a reminder to providers of the care provided on a certain date and time. Documentation in the new workflow should be a product of the care delivery. EHR's are becoming capable of constructing care documents as a product of information gathering, but this effort will be stymied by burdensome documentation requirements.

2. *Set tight standards for interoperability and standardize terminology.* One of the important value propositions for providers in the digital age is the free flow of information. Having key clinical data from all points of care has been a challenge for decades and the speed of future clinical improvements will depend on our ability to aggregate data from disparate clinical systems. The Office of the National Coordinator of Health Care Information Technology, currently under the direction of Karen DeSalvo, has been a champion in this space. They have recently published a 10-year interoperability plan that outlines a way forward. Adopting and accelerating the standard will help meet this challenge. ONC should not unilaterally set the standard, but could both convene the appropriate stakeholders where necessary and most importantly, select the specific standards. For example, clinical continuity of care document (CCD) standards have been developed, but they are not necessarily compatible. A vendor may produce a certified CCD, but this does not mean that another vendor can translate it into an understandable format. A more specific standard would help in this regard.

Some of the problems rest in the fact that there are many areas of medicine that don't use truly standard terminology; therefore, setting a technical standard will not fix all issues in this space. For example, in laboratory, Logical Observation Identifiers Names and Codes (LOINC) give a standard format, but variance still exists in whether all laboratory values in all clinical systems maps to this format or any single format. The lack of full standardization leaves providers to input discrete data into their system, without getting the benefit of cross communication between systems.

3. *Match patient engagement goals to markets; the effort should be about making choices available.* Much effort across the country has been spent on moving the adoption needle on patient engagement technology. Making medical records digitally available to patients, improving on-line access to providers and information, and sending information digitally to other care givers has been the focus. This effort has most recently been measured not by availability but also by adoption. The question on this effort is not the inherent value of adoption, but the relative costs. As the information provided becomes more valuable patients will use the tools provided.

Senator CASSIDY. Thank you.

Mr. Pletcher.

STATEMENT OF TIMOTHY A. PLETCHER, DHA, EXECUTIVE DIRECTOR, MICHIGAN HEALTH INFORMATION NETWORK SHARED SERVICES, ADJUNCT FACULTY, DEPARTMENT OF LEARNING HEALTH SCIENCES, UNIVERSITY OF MICHIGAN MEDICAL SCHOOL, EAST LANSING, MI

Mr. PLETCHER. Thank you, Chairman Cassidy and Ranking Member Whitehouse and distinguished members of the committee. My name is Tim Pletcher. I'm the executive director for Michigan Health Information Network, MiHIN. It is the State designated entity or the focal point for health information sharing across the State of Michigan.

It's referred to as a network of networks. What that means is we basically manage the ecosystem for data sharing. We've actually enjoyed quite a lot of success over the last couple of years, getting roughly 6 million messages to sort of flow a week. This is a pretty major success.

The key to that success is largely that we've been able to get everybody to work together. When I say everybody, I mean the government, the health plans, even the commercial health plans, and obviously the providers, to pull together.

One of the keys to that success has essentially been something we call the Use Case Factory, which I'll talk about a little bit more. It's important to understand that a use case—and I apologize for techno speak here—but a use case is a common approach used by technology folks to extract requirements from individuals so they know what to build and deliver of value.

What we've done is we've kind of industrialized this use case approach into kind of being able to mass produce data sharing. The way we've done that is to identify what we want to do. For example, a use case is: We need to send data to the State registry, or we need to notify a doctor when her patient has been discharged from the hospital. Or a behavioral health specialist needs to communicate that they've made a potentially dangerous change to a care plan and has to reach out to a primary care physician that they mutually share.

Those would be functional, high-level, non-techy things to do that, under the hood, are pretty sophisticated. What we've done in Michigan with this Use Case Factory is we've begun to basically itemize—well, what are the top things we need to do?

Once we kind of rank order them—and we rank ordered in the State of Michigan something called Admit, Discharge, and Transfer notification, telling people when someone has been in the hospital. Then we formalize what's the value proposition around it—who wins, who loses, who needs to have this information—and then we take it to the next step, and we write something called a Use Case Legal Agreement that says, "These are the rules of engagement. These are the expectations. These are the limitations around use."

Once we get that done, we then move on to something called an implementation guide. The implementation guide packages up the context for how we are going to solve this, and it identifies which standards we're going to use to make things interoperable.

What we do next in that implementation guide is we say, "There's lots of choices in these standards. Here is exactly what you need to do to conform to how this is going to work." What that does is it drives a very rigid standard that we can actually ensure when we send things out that it will happen.

It turns out not everybody is wildly excited about sharing their data. What we then do, once all that is working, once all that is packaged, once all of the pieces are dealt with, we then align incentives to that use case to motivate its adoption.

I believe there's an opportunity for us to bump up the interoperability dialog nationally and begin to itemize the top use cases of priority, rank them, and say, "What do we need to do functionally," and then to go to the next step underneath and build out exactly what it is going to take in which order. I think this will build upon the really wonderful foundation that's been put forward. It'll help us accelerate the rate that we get to the vision that's basically outlined in the ONC 10-year plan.

[The prepared statement of Mr. Pletcher follows:]

PREPARED STATEMENT OF TIMOTHY A. PLETCHER, DHA

SUMMARY

Michigan Health Information Network Shared Services (MiHIN) is commonly referred to as a network-of-networks and has enjoyed success in Michigan with a

unique approach known as The Use Case Factory™ allowing health care organizations to routinely share more than 6 million messages each week (See www.mihin.org).

MiHIN formally endorses the work by the Office of the National Coordinator on the draft interoperability roadmap, especially the Learning Health System core values highlighted. The States and multi-stakeholder organizations such as Carequality, Commonwell Health Alliance, Direct Trust, the National Association for Trusted Exchange, and the emerging Learning Health Community are expected to play a critical role in advancing the progress and governance necessary to achieve the roadmap's vision.

Michigan uses a process called The Use Case Factory based on health information sharing scenarios, or "Use Cases". Each "Use Case" is a valuable "package" of health information sharing: such as a pharmacy updating a State registry with a child's Immunization status, a hospital notifying a primary care doctor that her patient was discharged from the hospital, or a behavioral health specialist informing a primary care provider of a change to a mutual patient's care plan. This approach to data sharing governance combines a Henry Ford style assembly line mass production technique with the modularity of container shipping, all linked to a lean manufacturing process for continuous improvement. Building a Use Case Factory reduces complexity by breaking data sharing activities into manageable chunks so that technical, legal, competitive, financial, or confidentiality concerns can be addressed without "boiling the ocean". Incentives, regulations or policies can target specific Use Cases to foster or accelerate adoption and data sharing, and also allow more meaningful measurement to occur. For example instead of asking if a doctor or hospital is "connected to an HIE", a more valuable question can be asked, is the hospital able to notify an unaffiliated doctor when her patients are discharged? When notified can the doctor's office followup with the patient within 48 hours? In Michigan targeted incentives related to the statewide Admission, Discharge, or Transfer (ADT) Use Case has resulted, in less than 2 years, in 93 percent of all admissions being made available to help providers coordinate the care of patients to reduce unnecessary re-admissions or Emergency Department visits. A recent adopter clinic saw their ability to support transition of care management rise from 3 to 5 patients per month, to 40 patients a month.

Summary of Recommendations:

1. Encourage HHS to establish the top 100 prioritized Use Cases, including both infrastructure Use Cases (e.g., provider directory, patient matching, identity, consent, secure transport, etc.) as well as more functional population health, clinical, consumer, and administrative Use Cases.

2. Promote the establishment of a Use Case Factory in each State or jurisdiction and at a national level by beginning with the HHS Use Cases and leveraging State government and national multi-stakeholder groups accordingly.

3. Encourage health plans to use Direct Secure Messaging (DSM) or connectivity to health information exchanges for some percent of their interactions with providers so those providers can use the same infrastructure for both clinical and administrative purposes without having to go backward to a fax machine. Similarly, encourage judicial systems & public health to align.

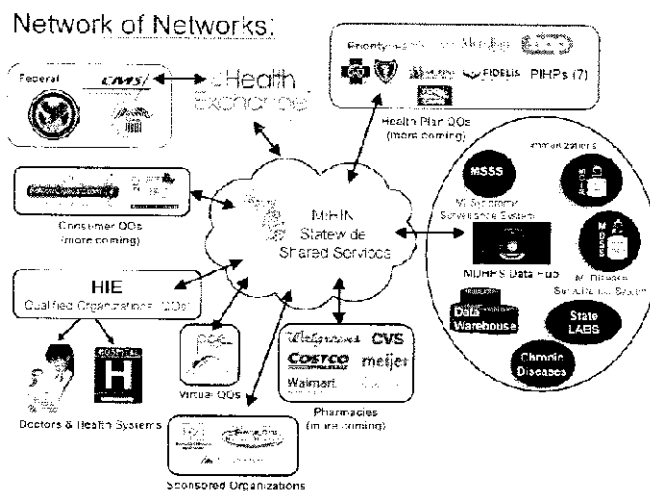
4. Encourage health plans to use query capabilities such as the eHealth exchange and pay for HIT (like the Social Security Administration established through the MEGAHIT program) to obtain electronic medical documentation using Meaningful Use aligned approaches such as HL7 Consolidated Clinical Document Architecture (C-CDAs) to support claims audits.

5. Encourage HHS to work with Medicaid and Medicare health plans and also commercial plans to seek greater alignment and consistency on quality measures and to develop a "report once" process for quality measures.

The Learning Health Community movement and perhaps a number of the other multi-stakeholder organizations implicitly envision as one of their key goals—*inter-operation* (as opposed to interoperability, which is a capability versus an outcome)—as a driver of better human health.

Chairman Dr Cassidy, Ranking Member Whitehouse and distinguished members of the committee, thank you for the opportunity to share my thoughts on the physician experience relative to health information technology and to offer some near-term and long-term suggestions to help improve upon the current State. My name is Tim Pletcher and I serve as the executive director for the Michigan Health Information Network Shared Services (MiHIN). MiHIN is Michigan's State designated entity for health information exchange and is commonly referred to as a network-

of-networks enabling healthcare organizations to share information. MiHIN has enjoyed success in Michigan with a unique approach known as The Use Case Factory™ allowing health care organizations to routinely share more than 6 million messages each week (See www.mihin.org).



To begin, I would like to formally endorse the work by the Office of the National Coordinator on developing the draft interoperability roadmap and call attention to the learning health system core values highlighted in the roadmap document. The ultimate goal of the roadmap is to establish

“a nationwide learning health system—an environment that links the care delivery system with communities and societal supports in ‘closed loops’ of electronic health information flow, at many different levels, to enable continuous learning and improved health. This kind of system allows individuals to select platforms and apps to share and use their own electronic health information to meet their needs without undue constraints.”

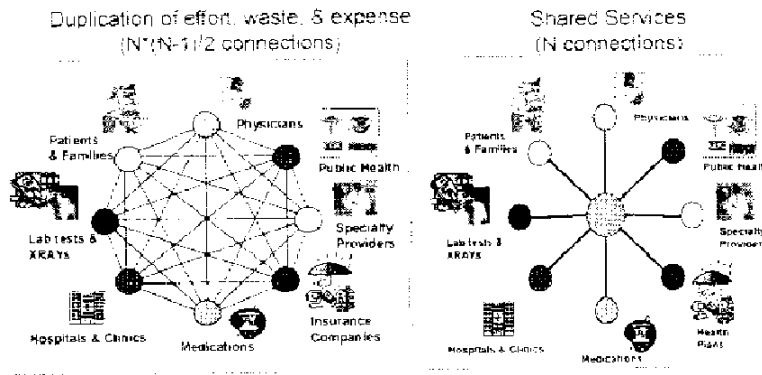
To achieve this objective it will be important to recognize and support the work of a number of organizations in addition to each State that I believe will play a critical role in advancing the progress and governance necessary to achieve the roadmap’s vision. These are Carequality, Commonwell Health Alliance, Direct Trust, the National Association for Trusted Exchange, and the emerging Learning Health Community.

Even before Electronic Health Records (EHRs) and Meaningful Use entered the scene, providers were drowning from administrative or defensive medicine workloads. It is my observation over the years that providers routinely share as much information with those who pay for or regulate care as they do with other providers. Yet the health plan or payer community, especially the commercial health plans, have been remarkably absent from the meaningful use dialog and the associated data sharing. Providers have been encouraged to send a certain percentage of their transitions of care to other providers using specific technology like Direct Secure Messaging (DSM), yet all of their interactions with health plans are done either by a payer-specific portal that requires the provider to remember another login ID and password or to use a fax machine. Likewise, increasing Medicare or Medicaid audit requirements has resulted in a significant increase in new requests by health plans for supporting clinical documentation from providers. A major opportunity exists to have the health plans begin to adopt the same data sharing approaches as providers. This will help ensure that providers do not bear the whole cost associated with establishing these Use Cases and will help guarantee that providers have increased value and incentive to adopt the Use Cases for clinical purposes.

If we are to achieve the vision of a Learning Health System we need to prepare for ultra-large scale data sharing. While there has been considerable success in motivating hospitals and providers to adopt individual Electronic Health Record systems (EHRs), connectivity between those disparate EHR systems and networks, and

standards for how data is captured, stored and communicated, involves complex and burdensome problems that cause considerable frustration in the lives of providers and their patients.

To help illustrate the complexity of scale and the associated benefit of standardization versus an unsustainable point-to-point approach let me share a network math formula of $N*(N-1)/2$, where 'N' is the number of health organizations being connected. At small numbers the quantity of connections and data sharing is very manageable: two organizations equals one connection, 5 organizations equals 10, and 25 organizations equals 300 connections. Extrapolating to about 5,700 U.S. hospitals and 230,000 practices, however, and applying this formula, results in 26.5 billion point-to-point connections. This does not include dentists, pharmacies, public health offices, schools, food banks, the judicial and corrections system, and the multitude of other organizations that increasingly play an important role in the social determinants of health. This simple math helps illustrate why a design for interoperability is necessary and also shows that, as more organizations attempt to share data independently with point-point connections this becomes overwhelming, an increased waste of resources, and ultimately unsustainable.



To help simplify this interconnectivity problem in Michigan we have created a network-of-networks where we share services that are focused on unique health information sharing scenarios, which we call 'Use Cases,' and which we manage through a process we call The Use Case Factory. Each "Use Case" is a valuable "package" of health information sharing: examples of Use Cases include a pharmacy updating a State registry with a person's recent immunization, a hospital notifying a primary care doctor that her patient was discharged from the hospital, or a behavioral health specialist informing a primary care provider of a change to a mutual patient's care plan. One may think of this approach to data sharing governance as a Henry Ford-style mass production assembly line combined with the modularity of container shipping, all linked to lean continuous process improvement.

Building a Use Case Factory reduces complexity by breaking data sharing activities into manageable chunks so that technical, competitive, financial, or confidentiality concerns can be addressed without "boiling the ocean." Incentives, regulations or policies can target specific Use Cases to foster or accelerate adoption and data sharing and also allow more meaningful measurement to occur. For example instead of asking if a doctor or hospital is "connected to an HIE," a more valuable question can be asked, is the hospital able to notify an unaffiliated doctor when her patients are discharged? When notified can the doctor's office followup with the patient within 48 hours?

Each Use Case has its own value proposition, its own legal agreement transparently outlining rules of engagement or conditions of use including any costs. Equally important, each Use Case includes a distinct implementation guide removing all ambiguity about how to implement the data exchange standards so that interoperability is achievable.

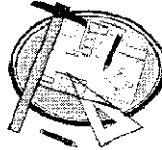
Use Case Components



Use Case Summary - explains purpose and value proposition/business case for sharing data



Use Case Agreement - legal document covering expected rules of engagement (Trusted Data Sharing Organizations sign Use Case Agreements)



Use Case Implementation Guide - technical specification that outlines standard format details for data transmission & content

For example in Michigan, targeted financial incentives from payers to providers related to the statewide Admission, Discharge, or Transfer (ADT) Use Case have resulted, in less than 2 years, in 93 percent of all admissions statewide being made available to help providers coordinate the care of patients to reduce unnecessary re-admissions or Emergency Department visits. Using Michigan's statewide ADT Use Case, recently one clinic saw their ability to support transition of care management rise from 3 to 5 patients per month, to 40 patients per month, a tenfold increase in care coordination.

Finally, because specific incentives are directly linked to the statewide ADT Use Case, in addition to overcoming hospitals' initial reluctance to send ADTs, in order to continue the incentives hospitals have been asked to improve the quality and standardization of the data being sent as well as begin to support additional Use Cases such as Medication Reconciliation at Discharge, a Use Case that will help reduce the number of Adverse Drug Events (ADEs) and prescription errors. Adoption of a Use Case approach helps elevate the conversation so that it does not become mired in technology debates, but rather ensures that the clinical or business needs are driving the technology agenda and not the other way around.

1. A first recommendation is to encourage HHS to establish a prioritization of the top 100 most valuable/important Use Cases.

This would include the development of a formal value proposition for each Use Case Summary in the context of decreasing costs, improving the patient experience, increasing quality, or specifically reducing provider burdens. It would also require the development of focused legal agreements outlining for each Use Case the rules of engagement for sharing the data within that Use Case Agreement. Once these agreements are completed constituents can understand expected use of their data and follow a common chain of trust across organizations allowing them to consent to share their data for specific purposes and not be limited to either opt-in or opt-out at a high level. Finally, for each Use Case there should be an associated implementation guide describing exactly how to implement the underlying data standards to best support the function of the use case and insure interoperability. The implementation guides should include appropriate provisions for situations when multiple options for communication exist, such as when equivalent delivery standards may be acceptable viable alternatives.

This initial list of 100 most important Use Cases should include both infrastructure Use Cases (e.g., provider directory, patient matching, identity management, consent management, etc.) as well as more functional Use Cases such as clinically relevant Use Cases (populating immunization registries, notifications of transitions of care, sharing lab results, care plan sharing, distributing death notices, etc.), Use Cases that enable research, and Use Cases associated with quality reporting and performance. Finally, some expectation for the required incentives needs to be identified to ensure that providers will have either the additional appropriate resources to adopt each Use Case or an anticipated penalty to motivate self-funded adoption.

2. A second recommendation is to promote the establishment of a Use Case Factory™ in each State or jurisdiction and at a national level by beginning with the HHS high-priority Use Cases and leveraging State government and national multi-stakeholder groups accordingly.

This approach can accelerate the prioritization of data sharing efforts and help providers and their vendors prepare for more clearly defined functionality and understand why certain activities are desired versus compliance by simply checking off a requirement. It also offers a mechanism for health plans to align incentives to promote priority Use Cases at a local level.

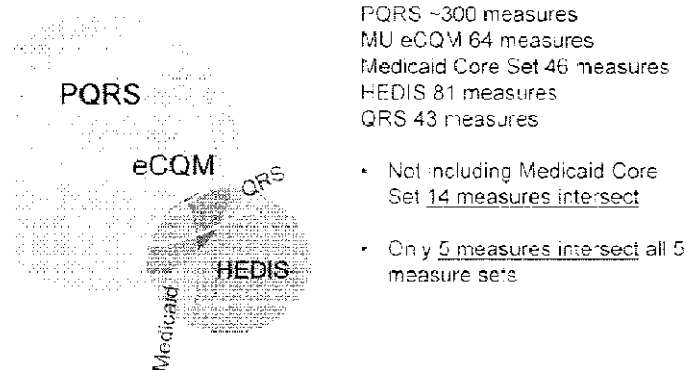
3. A third recommendation is to encourage health plans to use Direct Secure Messaging (DSM) or connectivity to health information exchanges for some percentage of their interactions with providers so those providers that have connected EHRs or DSM can use the same infrastructure for both clinical and administrative purposes without having to go backward to a fax machine once they have invested and overcome the onboarding process for using technology. Transactions related to priority Use Cases such as authorizations or care coordination are better than general communications.

- a. Similarly, encourage legal staff and judicial systems to use Direct Secure Messaging for some percentage of their interactions with providers related to the release and exchange of medical documentation and consent;
- b. Encourage public health organizations to use Direct Secure Messaging for at least some percentage of their interactions with providers.

4. A fourth recommendation is to encourage health plans to use query capabilities such as the eHealth exchange (like the Social Security Administration established through the MEGAHIT program) to obtain electronic medical documentation using approaches aligned with Meaningful Use such as HL7 Consolidated Clinical Document Architecture (C-CDAs) to support claims audits. Currently health plans send people out to clinics to conduct chart abstracting as the principle method for collecting of this type of information. Encouraging this dual use of query capabilities for both administrative and clinical purposes will help accelerate routine adoption on a broader scale and spread the costs across both the provider and payer community.

Another major effort that will also help the physician experience is to align the commercial payer community better with Medicare and Medicaid activities. In Michigan we have begun a process to help reduce provider burdens related to better alignment of quality measures among commercial, Medicare, and Medicaid health plans and the physician community. The startling work of a MiHIN intern produced the Venn diagram below showing how few quality measures exist in common among the multitude of quality measures being collected. An examination of the measures available in the Physician Quality Reporting System (PQRS), the meaningful use stage two electronic clinical quality measures (eCQMs), the Healthcare Effectiveness Data and Information Set (HEDIS), and the Quality Rating System (QRS) resulted in only 14 measures in common. Including the Medicaid core set in the comparison dropped the count from 14 to only five common measures. Further examination revealed that in Michigan and likely nationally each health plan has different data collection processes and different incentives linked to even those measures that are similar. One physician organization executive commented “It’s like the physicians are expected to work for multiple bosses at the same time”. Plan A wants one thing, Plan B wants another, and Plan C something different. A definite opportunity exists to allow providers to look at quality measures across their panel of patients without first having to be cognizant of which health plan the patient uses.

Alignment Example: Quality Measures



5. A fifth recommendation is to encourage HHS to work with Medicaid and Medicare health plans and also commercial plans to seek greater alignment and consistency on quality measures and to develop a “report once” process where providers are able to submit their quality and performance measures using one consistent means for their entire panel in a way that allows for important population segmentation, but does not require providers to experience unneeded duplication and extra cost to report the same quality measures to each individual health plan.

In closing, the Learning Health Community movement and perhaps a number of the other multi-stakeholder organizations implicitly envision as one of their key goals *interoperation* (as opposed to interoperability, which is a capability versus an outcome) as a driver of better human health. These organizations are about working together to collaboratively realize an infrastructure built upon the fusion of technology, policy, people, and culture that leads to a national system for sharing health data to enable useful and rapid exchange that is governed, organized and operated by different levels of public and private multi-stakeholder collaborations.

The Use Case Factory approach can help accelerate the creation of a secure information supply chain capable of evolving into a Learning Health System and prioritize the exchange of critical data, information, and knowledge aligned to improve health, reduce costs and enable an ever-growing list of Use Cases. Priority Use Cases will range from public health, surveillance, consumer engagement, new levels of clinical decisionmaking, empowering policymakers, to ultimately accelerating research to practice. Instead of interoperability being the end goal, there is an opportunity to enable the emergence of a culture of continuous and rapid learning in pursuit of protecting and advancing human health as the end goal, with achieving interoperation recognized as a driver, and interoperability being an essential enabler on the larger journey.

Links of Significance:

Michigan Health Information Network Shared Services: www.mihin.org.

Carequality: <http://healthwayinc.org/wp-content/uploads/2015/01/Carequality-Principles-of-Trust-Final-Carequality-template.pdf>.

Commonwell Health Alliance: <http://www.commonwellalliance.org/>.

Direct Trust: <http://www.directtrust.org/>.

Endorsers of the Learning Health System Core Values: http://www.learninghealth.org/s/LHS-Core-Values-Endorsements_80_06012015_V1.pdf; <http://www.learninghealth.org/endorsers/>.

National Association for Trusted Exchange: <http://nate-trust.org/>.

Social Security Health Information Technology: <http://www.socialsecurity.gov/disabilityssi/hit/our-initiative.html>.

(Note: Due to high cost of printing attached examples of Use Case Factory artifacts are being retained in committee files.)

Senator CASSIDY. Ms. Moss.

STATEMENT OF MERYL MOSS, MPA, EMHL, CHIEF OPERATING OFFICER, COASTAL MEDICAL, PROVIDENCE, RI

Ms. MOSS. My name is Meryl Moss, as Senator Whitehouse said, and I'm the chief operating officer of Coastal Medical, a very large primary care group in Rhode Island. I can't tell you how excited I am to be here, and I thank Chairman Cassidy and Senator Whitehouse for inviting me. I want to give a nod to Senator Warren, who is my own Massachusetts Senator. I'm very honored to be here.

Let me talk a little bit about Coastal. Coastal is a large physician group with 120,000 patients. We take care of about 20 percent of Rhode Island, so kind of big fish in a little pond.

We are so passionate about population health. We really feel like we can make a difference in the lives of our patients. We feel that with outstanding customer service, combined with improved quality, and reducing the cost curve, that we can actually do it. We can lead and move forward into this new healthcare environment.

Just to give you a little bit of background, we were a Meaningful Use Vanguard practice. We are an NCQA Level III patient-centered medical home. Every office is a patient-centered medical home and recognized. We adopted an E-ClinicalWorks electronic record in 2006, and in 2012, after lots of hard work, we won the National HIMSS Davies Award for most outstanding use of an ambulatory record in the country—so very excited.

I wanted to talk a little bit about Meaningful Use for a moment. Let me go back and talk a little bit about our shared savings contracts. We are a Medicare ACO. We were very lucky that we were an advanced payment ACO and did well with that. We have met all the quality measures and are succeeding in that space.

About 80 percent of our patients are now on shared savings contracts with some payer, whether it be Medicare or commercial payers. So we are sort of all in.

One of our first recommendations is that programs like Meaningful Use continue. It made a big difference for us. What was so special about it is that it allowed us to get buy-in from our doctors. It combined what we thought was really good quality targets with financial rewards. The quality targets we never thought were jumping through hoops, and we felt that if we had to go to our doctors and say, "You need to jump through hoops for this financial reward," they wouldn't have done it.

Having those quality targets that we felt were real, combined with financial rewards that allowed us to hire infrastructure to support the record, in terms of clinical trainers and so on, and also have some money left over for the physicians, was really important to us for success.

The other thing that Meaningful Use did was it gave standards to the electronic health vendors and said, "You have to do these or people can't attest to Meaningful Use." It didn't leave it up to us to figure out who was able to attest or who wasn't. We knew that ECW had to meet certain standards—at that time, it was CCHIT certification—and that if they did that, then we would be able to achieve Meaningful Use, and we have.

Our second set of recommendations revolves around quality. Right now, Coastal is reporting on 129 quality measures. That's on-

erous. It's inefficient. It doesn't work well, although we're making them.

What we did was said, "We can't really live like this," and so we created what we call the Coastal Core. We took the highest standard, the highest measure of every measurement and brought them together, because CMS has different measure requirements than just Meaningful Use, which has different measure requirements than NCQA, which has different measure requirements than HQPAF and Five-Star and United and Blue Cross. By the way, those are always changing. We had to come up with something that was workable.

We would recommend that the government consider having harmonized measures that we can all work with. We chose 30. It could be 20. It could be 40—whatever. It would be so much more helpful to practices like ours who are learning this new world and this new space to have something concrete to work with, and also to do something like they did in Meaningful Use and require the EHR vendors to support those quality measures and to support those workflows.

My last recommendation is that we look at data analytics. We are now trying to bend the cost curve. We are in the population health space. You cannot do that without data. You cannot do that without data analytics.

Right now, we get claims feeds from CMS, from United, from Tufts, and from Blue Cross, and we have a team of analysts who looks at the data, reviews it, analyzes it, and is looking for opportunities for us to intervene and provide better care at reduced cost. It is highly, highly inefficient.

We think that data analytics should be embedded in the record. It should be combined with clinical data, and it should also be combined with quality data so that when we look at the patient, we're looking at cost, quality, and the clinical experience all together.

That's my testimony, and I again thank you for allowing me to speak and sort of having a little bit of the front line. Thank you.
[The prepared statement of Ms. Moss follows:]

PREPARED STATEMENT OF MERYL MOSS, MPA, EMHL

SUMMARY

Coastal Medical is a primary care-driven ACO that manages the quality, cost, and experience of care for 120,000 patients at 20 community-based offices across Rhode Island. Providers work in a team-based model of care, and a centralized infrastructure offers administrative and clinical services. All practices utilize the same electronic health record, and every office is NCQA Level III recognized. Coastal practices were amongst the first in the Nation to achieve Meaningful Use.

In 2012, Coastal entered the Medicare Shared Savings Program (MSSP) and also implemented commercial and Medicare Advantage (MA) shared savings contracts. Coastal saved \$7.2M and earned a shared savings payment in year one of the MSSP, and has since earned shared savings in other commercial and MA programs. The transition to population health management has driven the creation of a variety of innovative clinical programs, including a Medicare Annual Wellness Visit Center, a Diabetes Management Team, a Transitions of Care Team, and a "Coastal 365" clinic that provides urgent primary care visits every day of the year. These initiatives have improved quality, enhanced patient experience, and reduced costs.

When Coastal first implemented an EHR in 2006, it was considered to be a tool for scheduling, billing, and documentation of care. Today, the EHR plays a crucial role in measuring and reporting quality of care, identifying cohorts of patients for specific interventions, closing "gaps in care", analyzing variation in performance

amongst providers, enabling enhanced communication within office-based teams, and coordinating care with other providers.

Federal incentive programs have supported evolution of the use of the EHR at Coastal. The Meaningful Use, Beacon Communities, Regional Extension Center, and other programs all promoted a higher level of EHR use by focusing on improving care for patients and providing revenue to build infrastructure and incent physicians. Given the current state of the industry, similar incentives appear to be needed for several more years.

EHR certification standards have brought great value. Providers often do not have the expertise or bandwidth to ensure that required functionality truly exists in an EHR product. Coastal appreciated that CCHIT certification was necessary for Meaningful Use submission. Vendors rushed to comply and the physician community could be certain that certified EHR's would allow the practice to achieve Meaningful Use if used appropriately.

The current complexity of multiple government and commercial incentive programs is daunting. Coastal now reports on 129 quality measures. "Harmonization" of quality metrics and other performance measures between government and private programs would greatly improve efficiency, and EHR certification standards could then be designed to support such standardized measure sets. Next generation EHR certification standards could also prescribe analytic capabilities to ensure that actionable financial and clinical data are analyzed and presented in an effective manner.

COASTAL MEDICAL: A SNAPSHOT

Coastal Medical is Rhode Island's largest physician-owned and governed primary care driven ACO (Accountable Care Organization). Coastal manages the quality, cost and experience of healthcare for 120,000 patients at 20 community-based offices across Rhode Island. Our 84 physicians and 27 advanced practitioners work closely with nurse care managers and clinical pharmacists in a team-based model of care. A centralized infrastructure offers a broad range of administrative, IT, and analytic support functions to the office practices, as well as clinical programs that serve every Coastal patient. Most Coastal physicians hold ownership in the organization, and many serve in significant leadership roles.

All practices utilize the same eClinicalWorks electronic health record. New practices that join are converted immediately to use of this EHR. The majority of Coastal patients receive care under one of six shared savings contracts based on total cost of care.

COASTAL'S JOURNEY TO MEANINGFUL USE AND ACCOUNTABLE CARE

Coastal first implemented the eClinicalWorks EHR in 2006, and began pay for performance contracting shortly thereafter. This was our first foray into "value-based payment". In 2009, Coastal decided to make the patient-centered medical home (PCMH) model of care a cornerstone of its plan for the future. By early 2011, every practice had achieved NCQA Level III recognition. Coastal practices were also amongst the "Meaningful Use Vanguard"—the first practices in the country to achieve Meaningful Use of an EHR. In 2012, Coastal received the HIMSS Davies Award, given to just one ambulatory care organization in the country each year in recognition of "utilizing health information technology to substantially improve patient outcomes while achieving return on investment."

In January 2012, Coastal implemented its first commercial and Medicare Advantage shared savings contracts with Blue Cross Blue Shield of Rhode Island, and then in July 2012 Coastal went live with both the Medicare Shared Savings Program (MSSP) and the Advanced Payment Model.

SUCCESS IN ACCOUNTABLE CARE, AND THE REQUIREMENT OF A SUFFICIENT EHR

Happily, in Performance Year 1 of the MSSP, Coastal was able to reduce the total cost of care for its population of 10,000 Medicare beneficiaries by 5.4 percent below benchmark, pay all advanced funds back to CMS, and earn an additional shared savings payment from the MSSP. For every \$6 saved by the Coastal MSSP ACO in Performance Year 1, \$3 went to CMS, and \$2 went to repay CMS the advances that were used to cover the incremental costs of providing accountable care. There was \$1 left for Coastal to reinvest or distribute. A portion of Coastal's shared savings payment from CMS was reinvested to support new clinical programs, and the remainder was distributed to *every* Coastal employee—not just the physician owners. The shared savings distribution checks were hand delivered by Coastal leader-

ship with a message of thanks for supporting all of the change that was required to achieve success. That change is ongoing.

The transition to population health management has driven the creation of a variety of new and innovative clinical programs at Coastal. These include an Annual Wellness Center for our Medicare and Medicare Advantage members; a pharmacist-led Diabetes Management Team for blood sugar regulation and insulin titration, a Transitions of Care Team to ensure that patients transition safely from the emergency room and hospital to home, and a “Coastal 365” clinic that provides urgent primary care visits every day of the year. Coastal is also in the process of opening a specialty clinic to serve our highest risk cardiac and pulmonary patients, and is expanding a pilot of embedding behavioral health specialists directly in primary care offices.

Our work in population health management has improved performance on quality, enhanced the patient experience of care, and reduced the overall cost of care. None of this success would have been possible without our CCHIT certified EHR.

THE EVOLVING ROLE OF THE EHR

When Coastal implemented an electronic health record in 2006, we had no idea that the electronic record would play such an important role in changing the way that we actually deliver care. Our initial notion was that the EHR would function like a glorified word processor. In 2006, providers, office staff and leadership were thinking of the EHR only in terms of scheduling, billing, and documentation of care. Over time, Coastal recognized the power of the EHR as a tool for mining data to guide *proactive* outreach and provision of care to patients. It also became clear that the EHR is an essential tool for communication between the professionals working in our office-based teams, and for coordination of care with community-based specialists and hospital-based providers. Today we view the electronic health record first and foremost as an essential tool for population health management.

It is interesting to note that in the early days of our electronic health record implementation, we were really forced by circumstances to begin the work of standardizing documentation. That exercise was a harbinger of our work today to accomplish standardization in so many more domains of care delivery, such as clinical quality improvement, patient engagement, cost efficiency, and customer service. In 2006, we simply could not foresee the crucial role that the EMR would play in population health management. Today, the EMR plays a crucial role in functions such as:

- measuring and reporting quality of care,
- identifying cohorts of patients (such as patients with diabetes) for specific interventions (e.g., our Diabetes Management Program),
- identifying and closing “gaps in care” (e.g., scheduling a procedure for a patient who is overdue for a screening colonoscopy),
- analysis of variation in performance from provider to provider (e.g., comparing how well one provider does in treating high blood pressure vs. her peers).

THE IMPORTANCE OF FEDERAL INCENTIVE PROGRAMS AND THE VALUE OF EHR CERTIFICATION STANDARDS

Coastal providers have embraced the EHR. Incentive programs helped make that possible. The Meaningful Use, Beacon Communities, and Regional Extension Center programs supported a higher level of EHR functionality and EHR use in four concrete ways:

1. They focused on improving care for patients;
2. They provided a clear road map and guidelines for achieving program goals;
3. They supplied dollars for infrastructure development and support; and
4. They created a financial incentive for physicians.

We would recommend that incentive programs continue to reward EHR adoption, interoperability, improved patient access, and improvement of performance on quality measures. This is still new work for many in our industry, and we are learning how to better care for populations of patients every day. These programs help us to focus on what is most important, and provide revenue for infrastructure support that is in short supply in many physician groups.

In addition to financial support, the Meaningful Use program organized providers and vendors around a single set of measures designed to positively impact patient care. This was most important. Individual physicians and physician groups often do not have the expertise, sophistication or bandwidth to differentiate between individual electronic health records and ensure that the required functionality truly exists in an EHR product. We greatly appreciated the fact that CCHIT certification was necessary for meaningful use submission. Vendors rushed to comply and the

physician community could be certain that the record would allow the practice to achieve meaningful use if used appropriately.

As organizations embrace population health management and successive iterations of payment reform, we can see that the cause of improving performance of our health care system will once again be well-served if certification standards can stay out ahead of where most providers are working.

ONE SOLUTION TO REDUNDANCY: THE "COASTAL CORE"

We believe that tracking and reporting on quality truly makes a difference in the care of patients. However, the complexity of this work has been daunting at times. Coastal currently reports on 129 different quality measures, many of which differ only slightly among payers. To help channel our providers' focus, we created the "Coastal Core": 30 streamlined measures with a single set of instructions. Coastal created processes in each practice that are focused just on these 30 measures, and we hired and trained quality staff to audit progress. We track our performance on these measures each month. Every day our offices use Coastal Core "exception reports" and "alerts" to close gaps in care.

EHR CERTIFICATION: CORE QUALITY MEASURES

We are coming to the realization, through our most recent experience, that there should be harmonized quality measures that all medical groups can use as a standard. The government uses one set of measures for CMS ACOs and a different set for Meaningful Use. Insurers require us to achieve different quality targets and these are ever-changing. NCQA requires different measures as well. All are good, but many are overlapping. This just creates unnecessary complexity and confusion.

If CMS and commercial payers were to establish an agreed upon "core" group of quality measures, and if electronic health vendors were driven to support that "core" through certification standards, this could greatly improve the efficiency of quality measurement, quality reporting, and quality improvement across our industry. The physician community could be certain that whatever record that they purchased would have the basic functionality to manage the core measures that should be used by insurers, the government and accrediting bodies. It is worth noting that several State-based collaboratives have already attempted to "harmonize" quality measures in order to reduce the burden of measurement and reporting and allow aggregation of performance data relative to a standard set of performance metrics. An analogous process on a national level would likely yield significant benefit and produce substantial systemwide cost savings.

EHR CERTIFICATION: ANALYTICS, BOTH CLINICAL AND FINANCIAL

One of Coastal's biggest challenges has been in the area of data analytics. We are fortunate that we receive claims files from CMS, United, Tufts, and Blue Cross. However, extensive work needs to be done by our analysts to process those files in a way that helps us to understand how we can intervene with patients to impact the quality and cost of care. This work is currently very costly and inefficient. Smaller physician groups probably cannot afford to make the investment needed to do this work, and in which case the cost of investing in analytics becomes a barrier to their entry into population health management and new payment models.

We believe that this is another area where the physician community could use help. We are moving to population health management and this work is virtually impossible without the right information. We would recommend that future iterations of EHR certification criteria include a requirement that data analytics capabilities be integrated into the electronic health record, so that both the financial and clinical data can be analyzed and presented in an efficient and effective manner. This would reduce the need for labor intensive and expensive "manual" report preparation by analysts.

Some vendors have already developed this technology as an add-on. Coastal has worked very closely with eClinicalWorks, our EHR vendor, to design an integrated solution for some of the analytic functionalities that ACOs will require, and we are just now poised to go live with this new analytics platform. We will need such tools if we are to succeed in our mission to provide better care, better health, and lower cost of care for the populations we serve.

Senator CASSIDY. Thank you, Ms. Moss. Thank you all.

Mr. Pletcher, before the meeting started, I was speaking to Dr. Washington. At the hospital where he serves, they have Epic as an

outpatient, Cerner as an inpatient despite a lot of effort with a lot of money spent on the middle where the two do not communicate.

When I read your testimony, you described yourself as a network of networks, and that one hospital could speak to your network and your network would speak to another hospital, limiting the number of interactions that would have to occur. We've heard how these programs don't talk to each other. Does Epic talk to your network, and, in turn, does your network then talk to Cerner?

Mr. PLETCHER. Yes, for certain use cases. The Epic hospitals and the Cerner hospitals all send out alerts or notifications that—

Senator CASSIDY. I got it. Your use case would be something essential regarding discharge planning, but it wouldn't be the entirety of the note.

Mr. PLETCHER. Exactly.

Senator CASSIDY. I think you also discussed the bidirectional.

Dr. WASHINGTON, you mentioned the problems that we have—I guess it would be Epic for your outpatient, so the pediatrician does the immunization, but it does not feed into the immunization registry, and the registry does not speak back to the program. Is that a fair statement?

Dr. WASHINGTON. Yes, sir.

Senator CASSIDY. Again, it sounds like your use case would give you that capability. Correct?

Mr. PLETCHER. Yes. We have a submit immunization use case that is working very well, and we've just opened up for business the query for immunization use case, which, again, happens technically under the hood a little bit differently.

Senator CASSIDY. Dr. Washington.

Dr. WASHINGTON. Mr. Chairman, I was just going to expound upon that answer. We are able to submit information to the LINKS registry in Louisiana. We've done that for a couple of years now. There are two elements. One is just the amount of work and effort it takes to do that and the amount of tweaking and retooling as upgrades and those other things happen. It requires a lot of maintenance to keep that working.

The State system is not an EMR system. There's another side of that equation for this two-way communication that you're speaking about.

Senator CASSIDY. The CBO originally scored the HITECH Act as saving money over the long run because they thought there would be more efficient transfer of records. It seems as if that promise probably has not been realized.

Ms. Moss, I was intrigued by what you were saying. I was speaking to a specialist earlier, and he was saying how, ideally—say, ophthalmology, gastroenterology—there would be a bidirectional flow where the gastroenterologist could report if she reached the cecum—the furthest extent of the colon on a colonoscopy—it would automatically filter up into a registry, and then it would come back to a dashboard in which she could compare herself to colleagues. That sounds kind of like the data analytics which you're describing.

Ms. MOSS. Yes. I think that if we had those dashboards—and that's why we're saying if we could convince or regulate the EHR vendors to have certain workflows within the record. I think it's very important that we compare with each other.

Senator CASSIDY. I only have 2 minutes left, so I'm going to ask you quickly. 21st Century Cures mandates that there's going to be a government agency that's going to set these standards. I'm a little nervous when the government attempts to regulate anything as dynamic as software standards.

There is another private organization, CommonWell. I'm told all participate except for Epic, and this would somehow come up with standards in which all could speak, one to the other.

Real quickly, Dr. Washington, would you rather the Federal Government convene this or that we basically force everybody to go into a voluntary organization, where it's all voluntary but you'd better sign up?

Dr. WASHINGTON. I guess my opinion on it is there needs to be some agency or group that says this is the standard that we will follow. I think it is a rapidly moving activity, and if I were able to outline what that would look like, it would more likely be a stakeholder group where that group comes up with standards.

Some of that's been done. LOINC, for example, that I mentioned earlier, was done without a regulatory agency. After that's done, it has to be sort of singled out. The Federal Government may be the only group after that stakeholder group that—

Senator CASSIDY. Mr. Pletcher.

I didn't mean to cut you off. I'm almost out of time.

Dr. WASHINGTON. Yes, sir. Go ahead.

Mr. PLETCHER. I listed in my written testimony a number of multi-stakeholder organizations that are equivalent to CommonWell. I think there's a role for all of them. I actually think the conversation needs to bump up to a higher level.

Senator CASSIDY. Would that be the Federal Government?

Mr. PLETCHER. The use cases could come out from the Federal Government. The standards then could be partitioned among whoever is best to sort of deal with that particular domain area.

Senator CASSIDY. Ms. Moss.

Ms. MOSS. We're not policymakers. But I can tell you from a practical level we could really use these kinds of standards.

Senator CASSIDY. You're agnostic as to who establishes them as long as they're established?

Ms. MOSS. Yes.

Senator CASSIDY. Thank you.

Senator Whitehouse.

Senator WHITEHOUSE. Thank you, Chairman. I think from reviewing everybody's testimony that there's quite a lot of agreement among the entire panel, and I'd like to just summarize a few points where I think we have agreement.

We seem to have agreement that when you consider the amount of money that's been spent on electronic health records through the Meaningful Use Program compared to the amount that supports information exchange, we've been heavy on the former and light on the later. The exchange part, the networking part, is where we need to pay more attention now. Is that something that everyone would agree with?

Mr. PLETCHER. Yes.

Senator WHITEHOUSE. I think I'm summarizing everybody's testimony pretty fairly there. The second is that there are administra-

tive and regulatory elements to what is required now through the H.R. process that could stand to be reduced or automated. I think Dr. Washington was most clear on that, but I assume everybody agrees with that.

Mr. PLETCHER. Aligned, I would say. I think there's a lot of opportunity to bring them—everybody's asking for roughly the same thing. It would be nice if they asked for exactly the same thing.

Senator WHITEHOUSE. Then there's some elements that I think everybody sees as the key to a successful electronic health record. One is that it creates a platform so the medical provider can engage in a better way with the patient. We may be great people, but we're terrible patients.

To have support, where our personal data equipment can somehow support that doctor-patient relationship so that we become better about taking medicine, better about reporting results, better about doing the things we need to do, and maybe get a friendly prompt from a nurse at the practice if we're not getting it in, that would be an important goal for the electronic health record system to improve. Correct?

Mr. PLETCHER. Absolutely.

Senator WHITEHOUSE. We need to do a better job of figuring out what data needs to get where when, because flooding all of the data into systems creates data blizzard. That's an important goal as well that you all accept?

Dr. Washington.

Dr. WASHINGTON. There may be even a pretty high degree of consensus on the amount of that blizzard that you want to exchange. I think people settle on use cases because it's the thing that's achievable. I want an admit, discharge, and transfer document.

I would like more than that if a patient has been seen and I'm seeing them in the emergency department. That's the thing that I can get at the easiest. That's how I would expound on that.

Senator WHITEHOUSE. The third sort of element of the electronic health record that seems to be very important to everybody is that we find a way to simplify and clarify the quality targets so that there isn't such a, again, data blizzard. Ms. Moss mentioned that she had 192 that she had to try to collapse down to 20.

Dr. Washington, you said that your organization had 300, I believe.

Dr. WASHINGTON. Yes, inpatient and outpatient. Yes, sir.

Senator WHITEHOUSE. My experience is that when you've got that much data, people are a lot less accountable about when they meet the standard because they can find some other standard where they did OK, and now it's a who struck John about which standard comports. It's not as effective a driver toward quality as if we simplified it.

So there are two benefits I take from that. One is simplification, and you know what your target is, and it'll tend to be the better standard, and two is there'll be more accountability toward those standards. Is that something that you all agree on?

Mr. PLETCHER. Yes.

Dr. WASHINGTON. Yes. I would also add the billing requirements as well. They are as much of a driver of additional documentation as is meeting the quality targets.

Senator WHITEHOUSE. That's a really terrific point and one that we should pay a lot of attention to, because the billing morass that doctors have to deal with—I went to the Cranston Health Center at Cranston, RI, the community health center, a couple of years ago. They told me they had more people fighting billing than they had providing medical care.

That's a system that's gotten a little out of hand. When you have multiple providers and nobody's synchronizing what their billing requirements are, there you are, stuck again.

The last thing I'd suggest is that on a lot of these issues, if we empower the local health information exchange, if we empower CurrentCare in Rhode Island, if we empower MiHIN—is that what you call it—in Michigan, they can be a forum for sorting through a lot of those issues without having to get the Federal Government engaged in doing a national thing.

Obviously, you want some national standards that they comport with. In terms of the application, I'd love to see State by State, network by network, a lot of exciting work being done to try to coordinate in these areas. It's hard for us to do that when the support for, say, CurrentCare in Rhode Island is so intermittent and so weak compared to the river of money that flows into Meaningful Use.

With that, I'll yield back my time, and I thank you.

Senator CASSIDY. Senator Alexander.

STATEMENT OF SENATOR ALEXANDER

The CHAIRMAN. Senator Murray and I asked Senator Cassidy and Senator Whitehouse to chair this hearing as one of the series that we have as a committee to try to make the electronic medical record system become something that realizes its promise, something that physicians look forward to rather than dread, and something that helps take better care of patients.

We're seeking to identify five or six things that need fixing in the next 6 months to a year, working with the administration. If the administration can fix those things, great. That's better. If we need to include some of this in the law that we'll be passing the beginning of next year, we'll do that. So I thank them for that.

Senator Collins will chair a hearing on who owns the medical records. We think we know who owns them, but who has the control of those. These are important, and these are something that—we have working groups, bipartisan working groups, that are already at work on several areas, and we intend to get a result.

Let me ask this question of the witnesses. Electronic healthcare records became law in 2009. Money began to be delivered in incentives in 2011. About \$28 billion to \$30 billion has been provided. We've gone through Meaningful Use 1 and 2.

We have two new rules that were promulgated in March, which would take us into what we call Meaningful Use 3. Those are supposed to become final this fall and to be implemented in 2018, although everyone will have to start working on that implementation right away.

I was visited yesterday by the CEO of the Mayo Clinic who said they have been trying to have a single medical record since 1907. Ten years ago, they had 10 different systems, but they weren't

speaking to each other. Now they're down to four. They're headed toward one.

They're starting the process of converting that. It will take 500 people 4 years at a cost of over a billion dollars to get their 4,700 physicians and 1.3 million face-to-face patients onto one vendor system and still maintain the single medical record. That's a big hospital organization, but that's just one. We have half a million doctors, and 5,000 hospitals that are affected.

My question is this: I, for one—and I suspect most of us—we don't want to slow down the promise of electronic medical records because we know it can save lives and help care for patients. Would it be wiser to slow down the finalization of this rule that's scheduled for this fall until we, working with the administration and physicians and doctors, have a chance to work on these suggestions about physician documentation, about who controls their own data, about data blocking, and make sure that the rule that you're required to implement is the right rule so that we can work toward a system that doctors and hospitals look forward to rather than dread?

Or would it be better just to push on ahead? Or would it be better just to push on ahead with some parts of these two new rules in the fall and reserve judgment on the rest while we continue to work on it? What would your advice be about that?

Dr. WASHINGTON. Well, I'd say that I've probably learned more about interim final and final rules from the Meaningful Use standards in the last 4 years than I ever have, and I think that sort of goes toward your last comment, which is to say is there a way that we can say this is a good metronome for us. It keeps us on track if we keep the spirit of the Meaningful Use activity live but pay close attention in this interim period that you're describing to make sure that the rules that come out for Stage 3 do advance us and not hinder us in our progress forward.

I think that's kind of how I would view it. We have parts of that activity that have been very beneficial for us in setting standards from a health system perspective. We've also had changes in the hearings up to the final rules that have been adjustments that have been very common since—out of ONC.

The CHAIRMAN. Mr. Pletcher and Ms. Moss, if Mayo Clinic is spending over a billion dollars in the next 4 years, everybody else is spending billions more. What's your advice?

Ms. Moss.

Ms. MOSS. We can't do any of this work without the record, and we can't do it without really using it robustly. I think what Meaningful Use did was it forced people to use it robustly. We can't improve quality if we can't measure it, if we can't track it.

I'll tell you we thought we were fantastic. You would ask any of our physicians, all Ivy League educated, and they would have said they hit it every time, and you know what? They weren't because we weren't measuring it. We were doing a good job, but now we're doing a better job.

Some of our quality targets are so outstanding that we know we have to be improving the care of patients, and the record is helping us do it. We can't go back.

The CHAIRMAN. Could I get an answer from Mr. Pletcher in my time left?

Mr. PLETCHER. I think we absolutely have to stay the course. I think we have to be more specific, but, absolutely, stay the course. We're getting better across the board. We're all learning, and it's been an incremental process, and that's been very good.

Even the quality measures, which are such a challenge in Meaningful Use 3, start to bring that into alignment and look at electronic clinical quality measures. I say we're on the right track, but we do have opportunity to improve. But, yes, stay the course.

The CHAIRMAN. Thanks, Mr. Chairman.

Senator CASSIDY. Senator Murray.

STATEMENT OF SENATOR MURRAY

Senator MURRAY. Well, thank you very much, Senator Cassidy, for chairing this hearing and to you and Senator Whitehouse for contributing, and a lot of members of our committee contributing to a very important discussion. I really appreciate that.

Health IT is absolutely essential to improving the quality and value of care for patients, and, as Senator Whitehouse referenced in his opening remarks, it's going to be invaluable in advancing precision medicine. Physicians are having a very hard time finding a user friendly electronic-healthcare record system that meets their needs.

I was really concerned to hear recently that there's a study that found that many electronic health-record vendors don't even have a team dedicated to user-centered design. In fact, one vendor with over a billion dollars in annual revenue and over 6,000 employees has zero employees dedicated to user-centered design.

That's why we need to make sure providers are able actually to vote with their feet when a system isn't meeting their needs, and more pressure from providers will actually force EHR companies to compete based on the quality of their systems.

Ms. Moss, I wanted to ask you what kinds of information would empower providers to be smart shoppers for EHRs and force vendors to compete on the quality of their product.

Ms. MOSS. I think it's really hard. This is really sophisticated stuff. Even in a group like ours, where we can spend a lot of time and we have infrastructure to be comparing one record against another and to go with one vendor against another, this is very hard. That's why we believe that standards would be incredibly helpful.

We have other work to do. We have to change the care we deliver for our patients. We really don't want to spend time deciding what vendor we're going to use.

Senator MURRAY. A lot of our providers are really concerned about the number of quality measures they're required to report on. You've all referenced that. Those reporting requirements aren't just from the HITECH Act, by the way. They're from other medical care quality programs and even from quality initiatives that run in the private sector by commercial insurers.

That is actually one of the reasons why the Center for Medicare and Medicaid Innovation is experimenting with a multi-pair demonstration that aligns not only the financial incentives, but also the quality reporting requirements. In Rhode Island—Ms. Moss, Rhode

Island and Coastal Medical have been leaders in multi-pair demonstration programs. Can you talk a little bit about that and how you think that's helping?

Ms. MOSS. I think what you're talking about is CSI or CTC.

Senator MURRAY. Correct.

Ms. MOSS. I don't think that we would be where we are right now if we hadn't started there. CTC—CSI at the time—was a multi-demonstration project, as you said, where all the payers got involved and they really invested in patient-centered medical home.

It really started us on our journey, and we've been able to move away in some ways from patient-centered medical home and now move into population health. None of that would have been possible without that foundation.

Senator MURRAY. All right. Focusing on quality improvement is no easy task for doctors, Dr. Washington. I'm sure you would assume that. It requires keeping a lot of details in mind, and, meanwhile, you're interacting with a patient who's sitting in front of you.

Not only that, but the science of measuring quality is still developing, which means a lot of our providers have a limited set of quality measures to choose from. It's especially true for providers in very specific subspecialties.

At our last committee hearing, Dr. Payne of the University of Washington testified that requiring that electronic health records work off of a set of standard data building blocks would make it easier to document quality measures and to develop new quality measures.

Dr. Washington, do you agree that working off a standard set of data building blocks could streamline the way that providers document the quality of care?

Dr. WASHINGTON. I think I understand what you're talking about in terms of building blocks. We do have considerations when we talk about how to put together numerators and denominators for certain quality metrics as they come forward. If that was put together in a more modular way, I think that would be helpful.

We've struggled with that idea as well of having a multispecialty group and having subspecialists with very few defined quality standards. Even some of the agencies like the National Quality Foundation don't have a slew of choices for those providers.

We've actually gone to talk about more patient-centered care and looking at some of those chronic diseases even with those subspecialty providers and, depending on their own clinical mastery and other drivers, to have them do the right things for their super subspecialized activity in the meantime. But, yes, I do believe some of that building block strategy would be helpful as we move forward.

Senator MURRAY. Thank you very much.

Thank you, Mr. Chairman.

Senator CASSIDY. Thank you, Senator Murray.

Senator Roberts.

STATEMENT OF SENATOR ROBERTS

Senator ROBERTS. Well, thank you, Mr. Chairman, and I'm happy to be here to witness the first peaceful coup I've seen in a committee in a long time. So I congratulate Senator——

Senator CASSIDY. I think I am a regent.

[Laughter.]

Senator ROBERTS. I appreciate the committee's commitment to oversight of our Federal investment in the electronic record system and continued work toward achieving the goal of interoperability. This is a \$35 billion Federal investment in expanding the use of electronic health records, and it was sold on the promise of improving care and lowering cost. I think we've all said that and understand that.

Many doctors have adopted it as technology, whether they wanted to or not, and are seeing benefits. The majority of docs that I hear from in Kansas tell me that the administrative burden on them is taking away from their time with their patients. A Wichita doctor told us,

“We're basically key-punching operators, transcriptionists, having to input the data ourselves. It has essentially tripled the time to complete a medical record. How on earth do you accomplish that when you're already working 12 to 14 hours a day?”

Couple this individual, but common, plea for relief with a medical economic survey from last year that says nearly 70 percent of physicians think their electronic health systems have not been worth it, and you can see the real problem that we're facing. Obviously, the system needs to work for our providers, and they need to see the benefits of improved care coordination to validate their financial time and investments.

Dr. WASHINGTON, are you able to quantify or estimate how much of your doctor's time is spent on functions or, as you say in your testimony, checking boxes that, prior to our electronic system, nurses or assistant staff would otherwise perform?

Dr. WASHINGTON. Senator, I'm not sure if I can actually quantify that. Certainly, in our studies—we've done studies on how long it takes to do transcribed medical orders in the hospital versus electronic orders, and, certainly, the overall time of the physician at the computer to do that has increased.

I will say when I talk to physicians about adoption in that space, though, that the clinical decision support tools that are within those EMRs that are the safety tools really only work if you, as the provider, are inputting the data. You get those alerts. You get those directions from the computer to do those activities.

Once you place an electronic order in the hospital, every division in the hospital that needs to act on that order gets it right away, as opposed to the old days in our practice where you would do rounds, and you would depend on the unit secretary to take your chart down, and you may be fourth or fifth in line, depending on what was going on before that order got sent to lab and some other places in the health system.

Those are, in some ways, the tradeoffs that happen. There is certainly a burden that's been increased by the electronic health

record. The balance in my mind is to try to make sure that there is some value around the clinical decision, important things that we didn't do as well on paper.

Senator ROBERTS. Let me ask you the obvious question. Do you think there's some documentation that nurses and other physician extenders can do as part of the care team to reduce the time and burden on physicians?

Dr. WASHINGTON. Yes. In fact, one of the things I was trying to reference in the testimony about billing is that there's a requirement now that we had literally trained on last week that, as a provider, I have to go behind a scribe or a technician and attest that a document that I'm already signing electronically—that I agree with what they've already documented.

That is all in this sort of billing and regulatory perspective. A review of systems requires an attestation by them, an attestation by me, and a signature at the bottom of the record in order to pass the billing hoops. To me, that takes away the advantage of having those folks practice at the top of their license.

Senator ROBERTS. I'm concerned—

Ms. MOSS. Senator Roberts, could I comment as well?

Senator ROBERTS. Yes, ma'am.

Ms. MOSS. We did a survey on our physicians last year about their satisfaction with the record, and it was not good. They said that they were working until the evening. When we really investigated, what we found was that the record itself drove all the work to them. I don't know if it was because it was a documentation tool to begin with and like a glorified progress note.

We spent the last year ripping that apart, and now our doctors do not do that. We've created workflows where nurse care managers and pharmacists and medical assistants do that kind of work. We're going to be surveying our doctors soon, and we're really hopeful that they have felt a tremendous difference.

Senator ROBERTS. Let me ask you a followup question on that, Ms. Moss. From your experience in upgrading and implementing the EHR systems, what's the range in financial costs you are anticipating in transitioning from Stage 2 Meaningful Use to Stage 3?

Ms. MOSS. I can't answer that. I don't know, sir.

Senator ROBERTS. Well, there you go.

I'm worried about the interoperability, Mr. Chairman, that is required to meet the financial investment that these medical groups and hospitals are making. It's like siloes in the intelligence community—not quite, but perhaps.

My time has expired. I thank you, Mr. Chairman.

Senator CASSIDY. Thank you, Senator Roberts. Just to let everyone know, our next Senators to ask questions are Senator Warren, then Collins, Franken, Isakson, Baldwin, Scott, Casey, and Murphy in the order in which they came.

Senator Warren.

STATEMENT OF SENATOR WARREN

Senator WARREN. Thank you, Mr. Chairman. According to a 2013 survey by the Massachusetts Medical Society, nearly every doctor in the commonwealth that works in a practice with 10 or more pro-

viders and 75 percent of doctors in smaller practices use electronic health records. Unfortunately, more than two-thirds of the physicians in these small practices reported that implementation of an EHR either significantly or somewhat slowed down their practice.

Here's the key. That same survey asked doctors what they would recommend to fix EHRs, and the No. 1 answer they gave is to make their system exchange medical information with other doctors.

I'd like to start with you, Ms. Moss. How has Coastal Medical's EHR, which exchanges patient information with major hospitals in Rhode Island, helped improve patient care?

Ms. MOSS. I can't even tell you the difference. I've got some measures here and I'm looking at influenza for our folks over 65. Flu vaccines save lives. In 2012, we gave shots to 57 percent of our patients over 65; last year, 93 percent. I think we could say we could have saved a life or two there.

BMI—same thing, 64 percent 3 years ago; now 93 percent of our patients have BMI measures in followup. If we can share, as you say, with specialists—and we're really just starting that. We get direct feeds right now from CurrentCare in Rhode Island for all hospital admissions, ER. We have a transitions team that's just helping those patients transition back to the office and home.

I think we're making a difference every day, and without that information, we wouldn't know what to do.

Senator WARREN. Well, that's very helpful, Ms. Moss. Thank you very much.

Doctors have been willing to work hard. They've invested time and they've invested money to implement these systems because they were promised that EHRs would accomplish three things: they would improve efficiency, they would decrease cost, and they would help the doctors provide higher quality care, as Ms. Moss just spoke to.

For those doctors who are part of practices that have the resources and the will to make their systems exchange data with other providers, it appears that that promise has been fulfilled or is certainly along the way. For most doctors around the country, especially doctors in small practices without the resources of a large healthcare system, there's still a long way to go.

Clearly, the technology exists to make interoperable records that can exchange patient information. Doing so can be both costly and have administrative burdens.

Mr. Pletcher, what barriers did you have to overcome to establish the Michigan Health Information Network Shared Services which promotes the regional exchange of health information?

Mr. PLETCHER. I'll tell you shortly about a statewide ADT use case that's letting doctors know when their patients have been in the hospital. Typically, doctors know that about 27 percent of the time on their own, but the rest of the time, they don't.

When we first asked all the hospitals to start sending this notification out, they were highly reluctant. When we packaged up the use case, and then we were able to get incentives behind the use case, essentially, part of their population health incentives paid them to say, "You must send, or you don't get the incentive," and they all started sending in a very short order of time.

Then incentives lined up with doctors being able to receive that same message. If I graph the utilization and the adoption, remarkably, it tracks to how the incentives were paid out or when the deadlines for them occurred.

This results in real patient value. It shifts some of the workload sometimes away from the doctor to other folks. I just attended a presentation last week where a care coordinator, basically, who was doing maybe three to five transitions of care activities a month is now doing 40 a month. That's a tenfold increase.

Some of those things are little things, where they notice a pattern that a patient has been going to the emergency department on a regular basis on the afternoon on Saturdays, because, theoretically, they're lonely. All they do is place a call on Friday, saying,

"By the way, Ms. Jones, we're open on Saturday until noon if you want to come in, and you're scheduled for an appointment in a couple of weeks,"

and they say, "OK," and it's just enough to tip the balance.

There's lots of little things that can fix this problem. It's sort of death by a thousand cuts. People are trying to swing for the fence when, really, it's lots and lots of little tiny things that add up to make a difference.

That's why it's so important to not just think of this as all around the doctor, which is very important, but also the implications. Those extra minutes that a provider takes helps inform a much wider circle of people that can interact and take care of the patients, too, and ultimately help reduce the sort of demand in some cases for overworked and busy providers.

Senator WARREN. I want to thank you both, and I know I'm out of time here. I just want to say that you make it clear that we need to create interoperable healthcare record systems so that all the doctors and their patients and everyone who is trying to help the patients can realize the promised benefits of a health exchange system. Interoperability is a top concern for doctors in Massachusetts, and I hope this committee will take real steps to address this problem.

Thank you, Mr. Chairman.

Senator CASSIDY. Thank you, Senator Warren.

Senator COLLINS.

STATEMENT OF SENATOR COLLINS

Senator COLLINS. Thank you, Mr. Chairman.

Dr. Washington and Ms. Moss, I want to touch on four issues that I have heard about repeatedly from physicians. The first has to do with physician satisfaction. Senator Roberts mentioned the survey that showed that some 70 percent of physicians say that their electronic health record system has not been worth it. Another study done by Rand said that the EHRs are the leading cause of physician dissatisfaction.

In Maine, I'm hearing from physicians telling me that it takes time away from the face-to-face interaction that they value with their patients, that they have to keep turning their back to the patient to enter data, to answer questions, that they really need scribes so that they can focus on the patient.

The second issue is relevance. I've heard complaints that the questions that are being asked are not relevant in a lot of cases, that they're not, for example, adjusted for the patient's age, that the focus is on checking the boxes rather than on outcomes and the quality measures that you've mentioned, Ms. Moss.

The third issue is cost. It's not only the penalties for doctors that are going to be imposed by CMS, but a physician in Maine, a gastroenterologist, who has a very small practice told me that he was looking at costs in excess of \$200,000 in order to adopt the latest electronic health record for his small practice. That's no small amount if you're in a small practice.

And fourth is the frustration over the lack of interoperability. I remember very well a few years ago visiting a federally qualified community health center in Maine that had adopted an electronic health record which it could share with other community health centers in Maine. I asked the question, "Well, can you share with the local hospital where your patients will go?" The answer was no, much to my amazement. That may have been fixed now, but it was amazing to me that that wasn't built into the design.

So I'd like your thoughts on the satisfaction issue for physicians, the relevance of the design of the electronic record, the cost, and interoperability.

Dr. WASHINGTON. Thank you for the question. I think that the provider satisfaction and the interoperability and the relevance of the data that's asked or that's part of that process—they're all related. I think that if you're really talking about that physician experience, part of it is the tool that I'm using helping me get through my day.

I think the capabilities are certainly there. I am certainly a champion of the electronic medical record from a use perspective. There have been lots of occasions where having some data at my fingertips has been helpful in making me either think about a diagnosis or a treatment pattern that I would not have otherwise or helped me not prescribe a medication that a patient had an allergic reaction to that I would have had to dig through the chart to find otherwise.

But your point is well made in that the promise was that we could get that information about allergies or other treatments from all care venues, and it's just difficult. The technology does exist, but the actual implementation and the cost pieces are very difficult to overcome.

Senator COLLINS. Ms. Moss.

Ms. MOSS. I'd like to take a step back. I represent a primary care group. Five years ago, they were miserable. We could not hire a resident out of training. Nobody wanted to go into primary care. I didn't even think we were going to have primary care providers for all of us baby boomers as we aged.

Going into this new value-based medicine and population health and really focusing on quality and reducing fee for service, our physicians are much happier. Our staff are happier, and our patients are happier. Our physicians like happy patients, and they also like happy staff. We have staff doing things that they would never have thought of before. They were glorified tour guides moving people from room to room.

I think the record is a tool, but I think the real important robust work that none of us should forget is the new way we're going to deliver care in the future. I'm just grateful that at the end of my career, I can participate in it.

Senator COLLINS. Thank you.

Senator CASSIDY. Thank you, Senator Collins.

Next is Senator Franken.

STATEMENT OF SENATOR FRANKEN

Senator FRANKEN. Thank you, Mr. Chairman.

I'm hearing a lot of the same things, but also some slight contradictions between—sometimes between the Senators who are asking the questions and you. For example, let's just talk for 1 second about the experience of the doctors.

Ms. MOSS, you just said the doctors, the primary care physicians at your place, are much happier than they were 5 years ago. You're also getting a lot of improvements in value of care—so that I'm hearing. I'm also hearing physician dissatisfaction. I'm sure they both do coexist, and that's what we're hearing.

I'd just like to ask of anybody here: Is there a big difference between older, crotchety doctors, like Senator Cassidy—

[Laughter.]

Senator FRANKEN [continuing]. And younger, tech-savvy physicians who aren't Luddites? I'm not saying you are. I know you're not.

Ms. MOSS. We didn't find that. We thought that. We thought we were going to have to spend a lot more time with our older physicians, and we found that if people are organized in a certain way, then they're organized within the record. I think younger doctors—they're coming in, they use it, they used it in their residency clinics. It's really very, very simple for them.

But our older physicians are not retiring right now. Our primary care physicians are not retiring. I mean, that's a big deal. They're hanging on.

Senator FRANKEN. You're just getting a win-win from what I'm hearing.

Ms. MOSS. Yes, we're getting a win-win.

Senator FRANKEN. Dr. Washington.

Dr. WASHINGTON. Our experience has been a little bit different than that. Generally speaking, our residents, who have all trained with EMRs, come out and they have very little transition, whether they're going to the inpatient setting or the outpatient setting. Where we've had more trouble is the mid-career or late-career physician, for whom this sort of change in practice has been quite different.

I'm not sure it's just the medical record. This idea of switching from volume to value, where my worth was judged by whether or not I could see 50 patients a day rather than hitting certain quality measures—there are a lot of pressures on that group of physicians in terms of changing the entire way they think about medicine. We have had better adoption with younger physicians.

Senator FRANKEN. You said something interesting earlier, which was sort of about the use of a scribe and how you—I understand that for the older, crotchety doctor, a scribe might be good. You

were sort of saying that not using the technology directly has a downside. Can you describe that?

Dr. WASHINGTON. It does. A lot of the promise around clinical decision support, which I guess is the EMR technical term, is around the EMR's ability to gather and look at data across all different settings, all different time periods. I may be very well aware of that lab that I ordered today or last week. If the EMR can bring to my attention, say, for example, a blood clotting study from last month and ask me about prescribing a new medication—

Senator FRANKEN. Being hands-on with the technology is helpful.

Dr. WASHINGTON. That is valuable at that point in time. I do believe, though, in terms of the use of a scribe, there are certainly areas of documentation where I should be able to accept the work that's been done by another team member. The old days of having me only be the captain of the ship, and I'm the only one who can document and make decisions—that's gone.

In my mind, having people practice at the top of license—and then areas around orders and areas where it's critical for me as a provider to engage with the EMR to get those alerts and directions—those are the critical areas.

Mr. PLETCHER. If I may comment?

Senator FRANKEN. Yes, but I want to get to use cases, so you've got to give me time to do that, because that would be in your best interest.

[Laughter.]

Mr. PLETCHER. Yes. I just want to say that many of the younger doctors are incredibly technically savvy, meaning they're much more sophisticated about what they want. We're seeing a whole new crop of folks saying "You give me this, this, and this" differently than folks who it's new to.

Senator FRANKEN. OK. Well, I see you left a lot of time for use cases. This seems like a really good organizing principle, use cases, which is, as I understand it, you lay out a number of commonsense use cases—if a doctor's patient is admitted to the hospital, you can tell the doctor. I couldn't believe what I heard, that 27 percent before knew it, and now 93 percent know it, something like that.

Mr. PLETCHER. If the message gets to them and they're able to receive it. It's got to be sent, yes.

Senator FRANKEN. That is a statistic that just blows my mind in the sense of, boy, that's an improvement. It seems to me that what we're saying is that there's agreement that we're going in the right direction, and that this is good and we don't want to not do—we want to keep doing this, but we've got to either simplify or—and make it interoperable.

How do you go there? I remember when there was VHS and Beta, and we went to VHS. I mean, at a certain point, that decision was made. It's criminal that these things aren't interoperable. I'm sorry I'm over. Best use—you guys think that's a way to go? Is there a way to go?

Dr. WASHINGTON. I think there is a way to go. This sort of concept—I was referencing this clinical care document, because that was the element of exchange specified in Meaningful Use. There's a CCDA document. The fact that I cannot send that document unaltered and have it be received by another system without some

tweaks, or to send it to a repository—we used Harris, Cerner, Epic, and some other vendors to exchange those documents. It was not sent out of the gate.

In my mind, it's the Beta or the VHS. It's the rail standards that the trains run on. That's the part where I think the government could be most helpful in saying, "This is the single standard." Even the fact that there were two bodies that certified EMRs for Meaningful Use meant that there was room for nuance in the interpretation of whether or not you met the standard or you met the standard, if you certified by CCHIT and you certified by another body.

Mr. PLETCHER. If I can comment, the rails is a necessary but not sufficient analogy, because you actually have to ask people to change their business process to get interoperability. You can say, "Send a care summary upon discharge," but you have to actually step back a little further and say,

"Hey, I want you to do a med reconciliation. Check what meds the patients are on when they come into the hospital, check what meds the patients have when they leave the hospital, take those two pieces of information and put it in the same package."

Part of this use case process is to sort of articulate,

"We're going to need you to change your business process and standardize on your business process so that everybody downstream who receives this big brown envelope with that data in it knows what to expect and how to use it."

The envelope will get it there, but what you now need to do is interpret it when it lands, and that's why being very specific and concrete about what you're trying to use it for is essential.

Senator FRANKEN. Thank you.

Senator CASSIDY. Thank you, Senator Franken.

Somehow I feel accused by the kettle, being called old and crotchety.

[Laughter.]

Senator FRANKEN. I just meant crotchety.

[Laughter.]

Senator CASSIDY. Senator Baldwin.

STATEMENT OF SENATOR BALDWIN

Senator BALDWIN. Thank you, Mr. Chairman and Ranking Member. I'm really encouraged that this committee is having this important conversation about improving electronic health records for both patients and providers. I wanted to start by commenting on an issue that came up at both last week's hearing as well as today's hearing already where it was suggested that Congress could compel all vendors to join one of the existing vendor developed exchange networks.

I have some strong concerns with that approach. I don't believe that it is Congress' role to pick winning or losing vendors. Last week, we heard from Cerner, which has developed a network, and at a previous meeting, we heard from Epic, which has also developed a network.

But there are more than just those two data exchange networks that are operating today and that are advancing the work of shar-

ing information. In my mind, instead of forcing all vendors into one, we should help put a national structure in place to connect all of the existing networks so they can seamlessly and securely share patient records with each other.

Dr. Pletcher, I am encouraged to hear that the Michigan Health Information Network Shared Service is already doing a lot of this work. You're doing it at the State level by creating common rules of the road, including identifying standard, technical, and legal agreements.

In your opinion, how can the Federal Government help build on this to create a national framework and to help facilitate the secure exchange of records between all of the existing networks and States?

Mr. PLETCHER. I think it starts with enumerating a list of things we want to do. These are the big tasks. It could be a growing list, but, say, the top 100, and they would be in two groups. They would be sort of infrastructure kinds of things and then very clinically facing kinds of things.

A lot of times, doctors on the front line aren't terribly interested in infrastructure. It's necessary to get the value that they really want to see at the point of care. Infrastructure things are like ways to match patients, a common list of all the providers. Do you realize there isn't sort of a directory you can go to say where are all the doctors in the Nation? There's thousands.

Those kinds of infrastructure functions can get sort of spelled out, and then the list of the more clinically facing things to do. As we make these lists and put them in order and basically build the incentives to fund people to actually do them, we can start pointing to the standards and say,

“Oh, you know, the care summary we've built will work for this one and that one and this one. Oh, here's a gap. We need to do something else.”

We can get all of this aligned so that the clinical needs and the business needs are driving the technology. I think there are, like I said in my written testimony, multiple groups working on pieces of this problem, and I think you need to have a mechanism to bring them all together. I think there's some work being done in the learning health community that is potentially very powerful, because it's got that long-range vision.

Senator BALDWIN. I have a couple of questions for the entire panel. Should Congress establish a public database with pricing information and performance measurements for various vendors, networks, and other EHR technology platforms to increase transparency for providers and for health systems? Why don't we start with Ms. Moss and go across?

Ms. MOSS. I don't feel like I'm equipped to answer the specifics of that question. I can tell you that the provider community needs the support, and we do need it simplified, and we do need the data.

Mr. PLETCHER. I'm not sure there's a lot of precedent for where that's done elsewhere. I think if you make the data open and allow it to come out of all those different systems and other people to build services on top of it like we see on our iPhones and things, there'll be a lot of pressure to make things more transparent.

Dr. WASHINGTON. I'm not sure if I am capable of answering that, either. I think one of the difficulties around selecting vendors is just that it's not most providers' day job. It's a choice that might last you 7 years or 10 years. These are long contracts. It takes a long time to put them in and pull them out.

I think the idea of having at least the notion that if I pick Vendor A or Vendor B or Vendor C, and if they go out of business, I could exchange my data and get it into another vendor's system, that doesn't make the choice such a critical and heavy choice. I think that would be one of the things that could be helpful.

Senator BALDWIN. I've run out of time for my last question, but let me just put it on the record and we can ask for feedback afterwards.

We've heard today from a number of stakeholders that many pieces of information that must be documented in the electronic health record under Meaningful Use are not necessary to quality patient care. I'm hoping that you can provide us with extra information on the types of data that are essential to direct patient care and what functions of EHR technology we should help accelerate.

Thank you, Mr. Chairman.

Senator CASSIDY. Thank you, Senator Baldwin.

Senator Casey.

STATEMENT OF SENATOR CASEY

Senator CASEY. Thanks very much, Mr. Chairman.

I want to thank our panel for your testimony and for being here today. This is a complicated subject so we need to listen to people who are in the trenches on this.

I really have two questions. One is on discharge and the aspects of the difficulties that can be encountered if a discharge doesn't go well from a hospital, and, second, a question on safety.

In the first case, discharge from a hospital in the context of so-called medical reconciliation—Mr. Pletcher, you were talking about your Use Case Factory, including health systems, pharmacies, and State labs. In particular, I guess I wanted to ask you about the question of pharmacists. Many pharmacists don't have access to patient records to verify patients' discharge medication list and other relevant information as to allergies or weight or some other circumstances they face.

What can you tell us about how we need to work better with pharmacies and physicians on this problem where they may have some information but not enough in the context of a discharge?

Mr. PLETCHER. The president of the Michigan Pharmacist Association is actually chair of my board. Medication reconciliation, discharge—med discharge use case I described. Who can it go to? Are we allowed to take that discharge and send it to the pharmacist?

It turns out your question is very timely, because on Thursday, we're convening the entire community of stakeholders to really work through the issues around where does pharmacy fit, where does monitoring prescription medications for safety, and what are the key use cases that we really need to focus and prioritize around that?

Pharmacists have said for a long time, “We need to get that information.” What we really don’t have are the rules of engagement packaged to sort of say,

“OK, everybody who sends the information is protected under an appropriate chain of trust if we deliver it to a pharmacist who’s not connected to their immediate organization.”

We believe we’ve got a process to sort of walk through those hoops and make it a very deliberate, very transparent, very measurable way to do that. We know the need is there, but what we haven’t got is sort of the alignment across the unaffiliated groups.

Senator CASEY. I’m thinking about particular circumstances where you might—an antibiotic prescribed for a child who—depending on their weight and things like that. I’m glad that you’re working through that.

I wanted to ask a broader question, I guess, about safety and whether hospitals are safer. There’s some conflicting information about it. It might be premature to make an overall determination.

We know in a recent report by HHS, the inspector general said the department has failed to ensure that electronic health records data are secure and accurate. Concerns have also been raised by the Institute of Medicine.

We’re at the point where the Office of the National Coordinator has settled on a center that would—and this is for the whole panel. That center would have no investigatory power but would provide a safe environment in which real life problems could be analyzed and solutions developed. The only problem is Congress didn’t fund it.

I guess the question is: What can we do by way of either statutory change or pursuing a regulatory strategy to make sure that this center can provide the kind of information we hope it would? Anybody have an opinion on that?

Doctor, do you have—

Dr. WASHINGTON. I would say that I think it is—to the general thought about whether or not hospitals are safer as part of the effort, I would say that we have a lot of examples in our health system where that is, indeed, the case, and we’ve been able to leverage that over the course of time. I think it has taken a long time. We first deployed an EMR in 1998 in our health system, and so we’ve been on the journey a long period of time. I think that, that is the case. I think that resources to help us study and look at it more specifically over the course of time would be a helpful thing.

I’ll tell you one of the dynamics that became very clear to me after I got involved in healthcare informatics is when I made—or when errors are made in patient care when you’re on paper, I mistake an O for a U, and they get whatever—the wrong dose, et cetera, and that happens for that one case and that one patient.

If we have a programming error, and an architect builds an order incorrectly, all 100 patients who were to get that medication had an issue that had to be resolved for that case during the day. So they’re on scale. Our errors are on scale these days.

I think we’ve done—through lots of checks and balances to help us get better at that deployment and to improve the safety in that space. That’s the kind of nuance difference that happens from a

workflow perspective that does need more intense study, in my opinion.

Senator CASEY. Thanks very much. I'm out of time.

Ms. MOSS, do you have something?

Ms. MOSS. Yes. I wanted to go back to the issue of pharmacy, because for us, there's another flip side to it, which is we really don't know when our patients fill medication—they get refills. It's very hard for us, because we want to ensure that we have very compliant patients.

But no files, no claims data can give us that, and patients go everywhere for their pharmacy. I think that this is another case where if we really shared data, it would go both ways.

Senator CASEY. Thanks very much.

Thank you.

Senator CASSIDY. Thank you, Senator Casey.

Senator Murphy—a good Irish lineup here.

STATEMENT OF SENATOR MURPHY

Senator MURPHY. Thank you very much, Mr. Chairman.

Thanks, everyone. This has been really helpful. The fee for service system is baked into the DNA of our healthcare system, and so—reorienting practice so that we're chasing outcomes and quality rather than volume. It's a difficult thing. It's turning around a battleship. I'm interested as to some of the ways in which you've used data to anchor this transition to quality.

Maybe I'll ask a question of Ms. Moss. A couple of things struck me about your testimony. First, you've taken some of the shared savings and distributed it to all of your employees, not just to your physicians, I assume with the goal of getting everybody baked into this new strategy.

And, second, you talk about with respect to this Coastal Core model, paying money to auditors, to folks that are just taking a look at the data and making sure that practice is aligning with your quality measurements.

Can you talk a little bit about how those two things have helped to turn that battleship around so that you're focusing on outcomes anchored by the data instead of just simply volume?

Ms. MOSS. To have engaged patients, we really feel we have to have engaged staff, because to have patients become compliant, we have to have groups and teams of staff working with them—patient-centered medical home care, nurse care managers and pharmacists and nurses and others, and even the person who answers the phone. They have to really do it the right way to capture that engagement.

When we were successful in shared savings, we made the decision with the support of our physician board and shareholders that we would distribute it to every single employee at Coastal, and it was meaningful. It amounted to about a week's pay for every person. Not only was there complete buy-in from the staff—and they're still smiling 7 months later—but it also said, "Next time, and if we keep working on this, you'll also partake in this." This isn't just about the physicians.

The physicians—it really meant something for them, because it made their staff so happy, and it made everybody feel like they were part of a team. I know that was your first question.

Senator MURPHY. Well, the second one is—and others can answer as well—which is the question of how you find the resources to manage the data and make it relevant to your frontline staff. That's what ACOs are supposed to do. ACOs are supposed to give you the money and the flexibility in order to put some money into auditors or case managers or whatever it may be.

What are the challenges we need to be thinking about in terms of the resources necessary to actually make the data useful to physicians and practitioners?

Mr. PLETCHER. I'll take a quick first. There are activities that are paying people for information. One of the things in my written testimony was there's probably a real opportunity to sort of look at the payer community as a whole, and as these sort of flow down, audit requirements come to—right now, they send people out into clinics to audit and look at the medical record to sort of figure out what's going on. Well, the Social Security Administration has an electronic way to do that that could potentially be used to sort of help augment the sort of way that people are manually doing some of those things now.

I think there's a real opportunity for dual use of some of that technology for the payer community to sort of get onboard with some of the things that we're actually trying to do with this sort of Meaningful Use EHR incentive. A lot of times, payers communicate back to those clinics and to those staff by fax while we've got doctors trying to do things electronically.

One of those opportunities for staff to be more satisfied is to not have to go back and forth to the sort of old world and the new world.

Senator MURPHY. Dr. Washington, part of your testimony is about the patient facing side of this. I think we're going to have another hearing in which we talk about the relevance of this information to patients.

Dr. WASHINGTON. Yes.

Senator MURPHY. Just talk a little bit—are there any concerns from the practice side about the information that should and shouldn't be available to patients? Are there pieces of the EMR that should be shared versus shouldn't be shared? We're going to have a separate conversation about how to make that relevant. Should there be any cautions that you'd provide to us?

Dr. WASHINGTON. I think we've worked through that in our health system over the past 4 years or so as we've opened up patient portals. I think the only—what I would consider a persistent or valid concern is when releasing lab results, for example, requires some consultative interaction with the provider, some conversation.

It's really been—the discussions that are relevant have been about the timeline. If the lab is available at 10 a.m., should I have an opportunity to call the patient that day? Should it be released in the next 24 hours?

I think we're past—at least in our health system, we've passed this idea that there's some information that needs to stay in a box. There's certainly some privacy items that people work through.

We've been able to manage those with our agreements for use and with parents and children that are close to maybe 13 or 14 years of age where those sort of nuances happen. We've worked through that. I think it's a very positive outcome.

Senator MURPHY. Thank you.

Thank you, Mr. Chairman.

Senator CASSIDY. I have a couple of followup questions, and I think Senator Whitehouse has a closing statement.

Dr. Washington, have you all done a time study—you mentioned younger physicians versus older physicians. When I instruct residents, I find if I ask if they've had an appendectomy, they don't look at the patient's abdomen to look for a scar. They look on the chart.

You're chuckling. I think that your—have you done a time survey? Epic, I think, estimates that it takes an additional 13 minutes per patient interaction to interact with the chart—13 minutes more of clicking boxes. Have you all done a time survey of the amount spent on the computer versus actually speaking to the patient?

Dr. WASHINGTON. We haven't done that in that particular way. We've certainly looked at the computerized physician order entry time and looked at those time stamps, and it does take a longer period of time to do that particular entry.

I chuckled just because I have had that particular experience in working with some mid-levels and newer providers, where somehow or another, that art has gotten sort of lost in the shuffle.

Senator CASSIDY. Believe me, when we speak about the curmudgeon, it's only because the curmudgeon knows that you should look at the belly.

Dr. WASHINGTON. Yes.

Senator CASSIDY. Senator Alexander asked the two of you about Meaningful Use 3, and both of you endorsed continued use of Meaningful Use 3. Here's a 74-page Federal Register of the new Meaningful Use 3. Have you all actually reviewed that Meaningful Use document? You all would endorse this 74-page kind of approach? Or is it just Meaningful Use in general that you endorse, not necessarily the way it's being outlined in Meaningful Use 3?

Ms. MOSS. Yes to the latter. I actually got the link yesterday, and we have not reviewed it. I did notice that some of the older stuff was being let go. They felt that it was redundant. No, we haven't gone through it with a fine tooth comb.

Senator CASSIDY. Believe me, if you can understand that, hats off to you.

Let me go to you, Dr. Washington. I spoke to a specialist, and he was saying that science progresses so rapidly, the idea that the Federal Register will have something which is relevant to his practice in 2 years is—and you're nodding your head yes again. We understand that intuitively. In the SGR bill, we allowed interaction between CMS and specialty societies to come up with the registries—a way for quality improvement.

We're looking for ways to improve this. Would it be reasonable for the Meaningful Use 3 to be defined by a specialty society in an iterative process, where if it's ophthalmology, they have something that they agree to and it feeds back to them, as opposed to how many flu shots have you given?

Dr. WASHINGTON. In the physician adoption side, it is much easier to talk to clinicians about recommendations from their specialty society than it is to take any other reference, including some of the ones that we believe in strongly or that have been vetted, and the timeline is about what you've outlined. We know that if the ADA or the American College of Emergency Physicians or fill in the blank is going to come up with a recommendation, it's usually around 18 months, a couple of years or so, before those sort of get encapsulated in a formal Federal—

Senator CASSIDY. As we look at recommendations, indeed, that iterative process might be a better way than something which is written in stone.

Would the two of you intuitively agree with that? Primary care may not be—Mr. Pletcher?

Mr. PLETCHER. Some aspects absolutely probably have to be iterative, but others where we know and we have alignment, I think we need to make sure they move forward and don't go backward. The last thing we want to do is send the wrong message that all was for naught, because we've made so much progress.

Senator CASSIDY. So, again, a Meaningful Use in concept, but the details could be worked out. Senator Murray—again, Dr. Washington—talked about people should have a chance to change vendors. We heard from Senator Alexander that Mayo Clinic is spending a billion dollars. It's hard for me to think that they're going to change their vendor after they've invested a billion dollars.

In your contract, is there a lock-out provision, that if you do attempt to change vendors, that the vendor locks you out of the data?

Dr. WASHINGTON. No, and I guess that's contract by contract, because I do remember with one of our last renewals, we had to negotiate clauses for how that transition may happen, including PACS data, the radiology data, which is the most difficult to transfer system to system. It's not a formal lock-out. It's just the difficulty of changing a system that you've invested 7 years in.

Senator CASSIDY. Decertifying and changing vendors may not be practical.

Thank you all. This has been very helpful for us, looking for solutions. Let me defer to Senator Whitehouse to close the hearing.

Senator WHITEHOUSE. I just wanted to thank you, Chairman Cassidy, and thank our committee chairman, Senator Alexander, for having held this hearing and for the very helpful, productive and substantive way that we've gone about it. I thought all of the witnesses were terrific, and I really appreciate that each of you took the trouble to come here.

Of course, I thought Ms. Moss was more terrific than the other two of you.

[Laughter.]

She's from Rhode Island, so I have to be a little biased in that respect. I think you've helped us lay out a framework, a pretty clear agenda, some things that we really can bear down and focus on to make sure we encourage to happen. I think that while nobody wants a central command somewhere at CMS directing every iota of the development of this process and probably inhibiting it, we are responsible here in Congress for setting the terms under which

industry will operate, providers will operate, people who are inventing the apps and the EHRs of tomorrow will operate.

I hope that we're able to go forward in a bipartisan and productive way, as has been the hallmark so far of Senator Alexander and Chairman Murray and this committee.

Thank you for this hearing, and thank you for the larger context in which it takes place.

Senator CASSIDY. Senator Alexander does have an additional question.

The CHAIRMAN. Actually, it's Senator Baldwin's question I wanted to re-emphasize. First, I want to thank the witnesses for coming and for your very helpful testimony. I thank Senator Cassidy and Senator Whitehouse.

Senator Baldwin's question was: Exactly what is it that doctors should not have to document? I would appreciate your writing that to us. What we have heard is that it would almost have to be—you talked about medication reconciliation orders, documentation, transition planning. It's almost as if someone would need to say in the government documents, "But you do not have to do this one yourself. You may have an aid do this."

Is there some way, some simple way, to identify some functions in the doctor's office that the doctor does not have to do his or herself and at least clear that much up? If there is, we'd like to know it. Dr. Cassidy is a doctor. I'm not. I'd like to have it in language that a non-physician could understand.

Senator WHITEHOUSE. Let me second that emotion.

Senator CASSIDY. Thank you both. The hearing record will remain open for 10 days. Members may submit additional information for the record within that time if they would like.

Again, thank you for being here. This committee stands adjourned.

[Additional Material follows.]

ADDITIONAL MATERIAL

RESPONSE BY BOYD VINDELL WASHINGTON, M.D., MHCM TO QUESTIONS
OF SENATOR ALEXANDER AND SENATOR BENNETT

SENATOR ALEXANDER

Question 1a–c. We have heard that there are a number of things under current documentation requirements that could easily be handled by other members of the care team.

- a. In your opinion, what specifically should absolutely be recorded by a physician?
- b. What should be passed on to other members of the care team, and which members should they be?
- c. Is there a way to clarify that this sort of delegation is allowed so that doctors don't feel they need to do all of the data entry themselves?

Answer 1a–c. In a team-based care environment, the physician should document in the electronic record specifically those items that either require his or her expertise in medical decisionmaking or where the direct interaction with the electronic medical record provides support for a clinical decision. The other areas of medical documentation should be reviewed by the physician, but direct entry by the physician does not inherently add to patient care. It likely only burdens the physician and does not allow the care team to operate at maximal efficiency.

Following this rationale, the physician should document the patient's physical examination (objective clinical findings and observations), assessment and plan (the result of the provider's review of all pertinent data and the care plan that comes from that analysis) and all orders that come from these observations and analyses. There are a subset of orders that arise as a part of pre-determined protocols that others on the care team should be free to enter (either as a result of a presenting complaint or as a result of objective data point—such as an EKG order on a patient with chest pain or a antipyretic drug for a patient with fever) or orders that are in keeping with a care giver's level of training. These delineations are often already designated by CMS, State licensing requirements, or facility bylaws.

Other members of the care can often collect the remainder of the necessary data—the history of the present illness, the review of systems, the medical history, the social history, allergies, and the medication list and its reconciliation. Of course upon review, the physician would be expected to gather and input additional information as necessary if the information is incomplete or the case particularly complex.

SENATOR BENNETT

Question 1. While the capability of electronic health records improves in functionality, error reduction and information exchange, we have heard that many physicians are still facing burdensome reporting requirements that take time away from focusing on patient outcomes. Dr. Vindell, you mentioned in your testimony complaints regarding increased time burden on practitioners. What steps can be taken to decrease the time burden on our physicians?

There are many billing documentation requirements that are hold overs from the paper record. In that setting, initializing documents to demonstrate that a caregiver has carefully reviewed them has been unnecessarily translated into electronic form. Assessment of the clinical complexity of medical decisionmaking continues to be measured by the number of items documented and tests ordered and interpreted. A review of evaluation and management (E&M) coding in the new electronic documentation paradigm would likely eliminate several unnecessary steps. Focusing payment more on the presenting condition and diagnosis could simplify the activity and free provider and vendors to concentrate on streamlining the documentation experience.

Question 2. While it is crucial that we work to improve the functionality and interoperability between doctor's offices and health systems, we must also remember that patients themselves have a critical role to play. Their ability to both access and contribute to their health information will help in the overall mission of a successful electronic health system. We know that patients want access to their data, yet many either lack access or have to collect and combine records from different providers in order to see their comprehensive record. How do you see the evolution of patient involvement and are there steps the HELP Committee can take to help ensure access at a patient level?

Answer 2. Patient involvement in the future is critical and we should continue to encourage participation. Engaged individuals are more likely to maintain their health and manage illness more effectively.

We should encourage strict interoperability standards that would make it easier to combine data from different vendors and enhance portability. Accelerating the 10-year interoperability plan espoused by the office of the national coordinator for healthcare information technology (ONCHIT) would most facilitate this goal. Data flow between electronic medical records is a key principle.

Second, recognizing that medical data is often highly specialized and the majority of patients cannot easily manage, we should help make it easier to obtain all care data from varied sources. If we facilitate standard nomenclature and taxonomy across the industry by adopting standards, data could be easily recognized across platforms. Last, accelerating the National Health Information Network (NHIN) Direct effort and granting access to Centers for Medicare and Medicaid Services (CMS) data repositories to patients could allow gathering of individual medical documents from different providers of care that Medicare patients could download without bearing the burden of primary data entry.

RESPONSE BY TIMOTHY A. PLETCHER, DHA TO QUESTIONS OF SENATOR ALEXANDER AND SENATOR BENNET

In response to Senator Lamar Alexander's questions:

"We have heard that there are a number of things under current documentation requirements that could easily be handled by other members of the care team."

Upon my return, I reached out to several of our leading physicians in our community to help formulate a response to the Senator's final question. Generally, there were two key areas of focused response: (1) encourage CMS to make the coding requirements more simple (it should not be harder than filling out taxes!); (2) facilitate ways for EHR's to become more reliable and improve the human computer interfaces to better reflect how doctors care for patients. I have done my best to capture and reframe their recommendations below.

1. *Simplify coding.* CMS has made coding much, much more difficult with recent decisions that specify many more extraneous factors, such as the type of patient, type of provider, etc. According to one physician "just looking at the CMS approved transition of care requirement makes one's head spin". Attached is a care management example.¹ The service code should have been limited to the first part that describes the service: 20 minutes of documented staff time performing coordination of care. CMS then added all sorts of attributes of the patient that makes documentation requirement so much more difficult. The description for the Transition of Care codes 99495 and 99496 are even worse. Just google these codes to see the descriptions. These codes should describe the service and avoid describing the circumstances of the patient. The documentation burden is that the physician must describe all the elements of patient complexity, etc. Great idea to pay providers for transition of care, terrible new burden for documentation.

2. *Re-examine CMS requirements for documenting risk adjustment.* Risk adjustment is an important area where CMS can stop the needless burden. The Medicare Advantage program is adding enormous, unjustified burdens to doctors and health plans. This all started with noble intentions. CMS didn't want health plans "cherry picking healthy patients and lemon dropping sick ones." They wanted to pay more to the plans that had enrolled sicker populations. Unfortunately the risk adjustment approach that they used proved very, very easy to "game." A huge industry of medical record reviewers, documentation specialists and the like now work for Medicare Advantage plans optimizing payments made by CMS for risk adjustment. Because CMS wanted to make sure that the patients truly had the conditions in their risk adjuster, a whole new dimension of documentation was created around Monitoring, Evaluating, Assessing/addressing or Treating the condition (nicknamed MEAT). Because it is so prone to manipulation, it now appears under this system that the Medicare recipients of California are sicker than those in Michigan. This is very unlikely. This means that the entire process is not only burdensome, but it is not achieving the CMS purpose of distinguishing the disease burden of the Medicare Advantage population.

¹The referenced example may be found at: www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/ChronicCaseManagement.pdf.

SENATOR ALEXANDER

Question 1. In your opinion, what specifically should absolutely be recorded by a physician?

Answer 1. Doctors should absolutely record the information necessary to inform themselves in the future when they need to review the patients history and it should be sufficient to explain the medical decisions they have made for when other providers who treat the patient after them need to know. Billing codes should be limited to describing the service provided and avoid describing the circumstances of the patient. The documentation burden comes when a physician is forced to describe all the elements of patient complexity purely for administrative purposes when it does not add any medical value.

Question 2. What should be passed on to other members of the care team, and which members should they be?

Answer 2. It's unclear that a focus on documentation for medical necessity by doctors will result in other individuals having to do more. My recommendation is to seek ways to remove documentation burdens under new health care transformation programs as a way to incentivize providers to embrace new healthcare reform objectives. One can envision that under value-based payment models traditional fee for service codes become less important and good documentation about medical decisions increasingly valuable. However, the evolving group of individuals focused on care coordination are better target for documentation of other factors associated with the patient.

Question 3. Is there a way to clarify that this sort of delegation is allowed so that doctors don't feel they need to do all of the data entry themselves?

Answer 3. Develop billing codes specifically for documentation by both physicians or non-physicians. One way to improve documentation is to pay for it. If CMS had to pay for additional documentation, then it would be less likely to request potentially unnecessary or limited value data attributes. Similar to the 1994 paperwork reduction act, a time calculation could be estimated so a definite provider "cost" or CMS value could be attributed to each documentation requirement.

My overall personal assessment from the physician dialog in our community around improving EHR design and usability is that a major thing that can be done legislatively would be to authorize funding or encourage some place within HHS to fund activities that lead to creating better human-computer interfaces for clinicians to use. This could even be the evaluation of novel ways to use multi-media and to record patient-provider sessions automatically or to explore methods to create modern shared notes with attribution; use of Wiki's instead of separate notes. Below is the summary and attached is an article² that many felt did an elegant job of capturing the main points. Here are some specific items that there was general agreement on.

1. Effective and ongoing EHR documentation training of clinical personnel should be an ongoing process.

2. Highlighted Policy Recommendations that link to EHR Design:

a. EHR developers need to optimize EHR systems to facilitate longitudinal care delivery as well as care that involves teams of clinicians and patients that are managed over time.

b. Clinical documentation in EHR systems must support clinicians' cognitive processes during the documentation process.

c. EHRs must support "write once, reuse many times" and embed tags to identify the original source of information when used subsequent to its first creation.

d. Wherever possible, EHR systems should not require users to check a box or otherwise indicate that an observation has been made or an action has been taken if the data documented in the patient record already substantiate the action(s).

e. EHR systems must facilitate the integration of patient-generated data and must maintain the identity of the source.

Finally, included in these types of improvements must be the appropriate use of alerts related to clinical decision support or clinical reminders. Currently, these systems are harnessed in ways that often insult doctor's intelligence or at best cause alert fatigue so the really important things are ignored or missed.

²The article referred to may be found at: <http://annals.org/aim/article/2089368/Clinical-documentation-21st-century-executivesummary-policy-position-paper-from-the-the-american-college-of-physicians>.

SENATOR BENNET

1. While it is crucial that we work to improve the functionality and interoperability between doctor's offices and health systems, we must also remember that patients themselves have a critical role to play. Their ability to both access and contribute to their health information will help in the overall mission of a successful electronic health system. We know that patients want access to their data, yet many either lack access or have to collect and combine records from different providers in order to see their comprehensive record. How do you see the evolution of patient involvement and are there steps the HELP Committee can take to help ensure access at a patient level?

In my opinion one of the major omissions of the Meaningful Use (MU) certified EHR requirements was that the emphasis was placed on sending data out, but not accommodating for data to come in with equal emphasis. For example patients can easily view, download or transmit data from their patient portal, but they cannot have data from another provider's EHR incorporated into their preferred providers portal.

Another related issue is that providers are incentivized to have patients use the provider's own portal versus another physician or health system portal. Technically, everyone should be excited about which ever solution works to get patients to utilize and engage around, however, the current model creates competition among providers for the patients to use the provider's own portal instead of the portal the patient feels most comfortable using. An opportunity exists to award all providers MU credit when patients being seen by multiple providers use any of the portals assuming the providers are exchanging data.

One Use Case that we are pursuing in Michigan is called "Patient Share" and has been designed to remove the burden from both the doctor knowing where to send the data for each individual patient and also the burden from the patient from having to pull (download or transmit) manually their own data from each portal. Instead, the "Patient Share" Use Case functions like a general purpose "carbon copy" of the patient's data from the provider after every encounter and sent to the statewide service. Patients are expected to have configured a statewide consumer directory with their preferences for where this data should be rerouted to services entirely under the patient's control such as personal health records or other services like clinical trials and other consumer level support programs consumers might consent to share their data with. This process is being designed to be completely automated.

One critical precursor to the "patient share" use case mentioned above and being able to share structured data with patients automatically in high volumes is the requirement to uniquely match each patient correctly. As the issues around patient matching and patient consent are resolved, combined with the improving capabilities for data to automatically come out of the EHRs the ability to provide data at the patient level will dramatically increase.

Question 2. Are there steps the HELP Committee can take to help ensure access at a patient level?

Answer 2. In addition the above, as mechanisms for consumer data access mature (e.g., HL7 FHIR resources, State level Use Cases like "patient share", Direct messaging, etc.) the HELP Committee can advocate for funding and regulations that encourage providers to not just offer patients access to their own data via provider specific portals, but also allow for and encourage electronic data exchange from third party services that have been approved by the consumer.

RESPONSE BY MERYL MOSS, MPA, EMHL TO QUESTIONS OF SENATOR ALEXANDER AND SENATOR BENNET

SENATOR ALEXANDER

Question 1a-c. We have heard that there are a number of things under current documentation requirements that could easily be handled by other members of the care team.

- a. In your opinion, what specifically should absolutely be recorded by a physician?
- b. What should be passed on to other members of the care team, and which members should they be?
- c. Is there a way to clarify that this sort of delegation is allowed so that doctors don't feel they need to do all of the data entry themselves?

Answer 1a-c. This question hits upon one of our greatest challenges: figuring out how to re-route work away from physicians when it can be done by other members of the clinical team.

Prior to the emergence of electronic health records (EHR's), ancillary staff supported providers by facilitating prescription refills, processing orders for labs and diagnostic tests, arranging specialty referrals, and filing clinical reports and consult notes. Unfortunately, adoption of EHR's now appears in many cases to have had the unintended consequence of funneling tasks previously performed by others back to physicians and advanced practitioners. On top of this, documentation requirements associated with new pay for performance and quality incentive programs have added another layer of administrative work. At Coastal, we have been learning just how burdensome this problem has become, as providers extend their days into the evening, and their weeks into the weekend.

We are all concerned about physician burnout and dissatisfaction. At Coastal, we are now re-examining our use of the EHR and re-engineering our office workflows in order to improve the professional experience of providers. Physicians often cite the EHR as a primary cause for burnout, but we believe that the root cause in many cases may actually be poorly designed workflows and a lack of appropriate delegation of administrative tasks. Our goal is to have every staff member perform to the highest level of his or her license, while ensuring that providers have timely access to all the information they need to care for patients.

At Coastal, we believe that physicians or advanced practitioners need to perform and document the physical exam, including the review of systems, current complaints, history of present illness, diagnosis, treatment plan including medications, and followup plan for each individual patient at each unique visit. Providers must also select the correct visit code for billing.

Medical assistants, given appropriate training and oversight, can verify current medications, review medication allergies, review past medical/surgical history, verify family and social history and perform and document fall risk, depression and other screening. They may also document tobacco/alcohol use, obtain and document vital signs and provide and document immunizations.

As we have begun to systematize preventive healthcare and improve communication across sites of care, review of correspondence and test results has become an increasingly time-consuming task. Many providers complain of "information overload". At Coastal, we are figuring out which reports a physician *must* see, and which reports can be reviewed by others. For example, which subset of normal test results that can be reviewed by a nurse and then simply filed electronically? Our providers are helping us develop standards to address such questions.

The key is to re-engineer the flow of work in a physician office to ensure that the work is performed or handled by the right person. Staff must be well-trained, supervised, and have the appropriate competencies. Physicians must be confident that patient care will not be compromised in any way. With the correct delegation of duties, patient care should actually *improve* as an enhanced and expanded medical team surrounds the patient.

For offices that are part of a larger organization, some administrative work can also be handed off to a centralized team that can serve many offices simultaneously. For example, at Coastal Medical, routine prescription refills are now accomplished by a team of pharmacy technicians using a detailed protocol and working under the supervision of a clinical pharmacist. Only a subset of refill requests—such as those for anticoagulants and controlled substances—are routed to physicians or advanced practitioners for review.

At Coastal, re-engineering of office workflows is part of our plan to create the "medical office of the future". Developing new patient-centered practices without overburdening the physician takes leadership, creativity, and good execution. Potential barriers for small practices are that they just don't have sufficient scale to support centralized programs, and may lack the operational expertise to make much-needed changes in workflow. Such practices may functionally hold themselves captive to whatever workflows seem to follow most naturally from the design of their particular EHR.

SENATOR BENNET

Question. While it is crucial that we work to improve the functionality and interoperability between doctor's offices and health systems, we must also remember that patients themselves have a critical role to play. Their ability to both access and contribute to their health information will help in the overall mission of a successful electronic health system. We know that patients want access to their data, yet many either lack access or have to collect and combine records from different providers in order to see their comprehensive record. How do you see the evolution of patient involvement and are there steps the HELP Committee can take to help ensure access at a patient level?

Answer. Coastal has had tremendous success with the implementation and use of the patient portal. Greater than 70 percent of our patient population is enrolled and we hear nothing but positives from patients, staff, and physicians. However, as your question points out, the information that we provide to our patients through the portal is limited to the data that exists within their primary care record.

Rhode Island's State HIE *Currentcare* is developing a tool which will enable patients to access elements of their PHI stored within the HIE.

We agree that both providers and patients should have access to complete, comprehensive and current PHI data. We recommend the following:

- Support and fund interoperability and HIE platforms.
- Mandate that EHR vendors share data and support HIE's.
- Mandate that EHR vendors support interfaces and data exchange between providers, and limit the fees that can be charged for such services.
- Require standard data formats for ease of communication and sharing.
- Encourage providers to invest in interfaces or HIE connectivity through incentive programs that would provide financial support for those investments.
- Support and incent easy patient access to their own data in HIE's.

Patient education is also a crucial component in all of this. When confronted with a technical laboratory or diagnostic report, patients often need background information and context from a provider in order to fully appreciate the significance of a test result.

[Whereupon, at 11:40 a.m., the hearing was adjourned.]

