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S. HRG. 113–290

HEALTH INFORMATION TECHNOLOGY: USING IT TO IMPROVE CARE

HEARING

BEFORE THE

COMMITTEE ON FINANCE
UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

JULY 24, 2013

Printed for the use of the Committee on Finance

U.S. GOVERNMENT PRINTING OFFICE

88–063—PDF WASHINGTON : 2013

For sale by the Superintendent of Documents, U.S. Government Printing Office
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HEALTH INFORMATION TECHNOLOGY: USING IT TO IMPROVE CARE

WEDNESDAY, JULY 24, 2013

U.S. SENATE,
COMMITTEE ON FINANCE,
Washington, DC.

The hearing was convened, pursuant to notice, at 10:35 a.m., in room SD–215, Dirksen Senate Office Building, Hon. Max Baucus (chairman of the committee) presiding.

Present: Senators Nelson, Carper, Cardin, Casey, Hatch, Enzi, Thune, and Toomey.

Also present: Democratic Staff: Mac Campbell, General Counsel; Karen Fisher, Professional Staff Member; and Peter Sokolove, Robert Wood Johnson Fellow. Republican Staff: Kristin Welsh, Health Policy Advisor; and Bryan Hickman, Special Counsel.

OPENING STATEMENT OF HON. MAX BAUCUS, A U.S. SENATOR FROM MONTANA, CHAIRMAN, COMMITTEE ON FINANCE

The CHAIRMAN. The hearing will come to order.

Thomas Edison said that "vision without execution is hallucination." When it comes to health information technology, or health IT, no one knows Edison's lesson to be true more than providers.

Dr. Jonathan Griffin from Helena, MT summed it up best by saying, "If health care is a car, health IT is the navigation system. It tells you where you have been, where you are now, and where you need to go. It also helps prevent wrong turns and avoid road blocks."

We all agree that health IT is a critical instrument to improving health care and reducing costs. Last week, administration leaders shared their views and said we have made progress. Medicare and Medicaid financial incentives are encouraging providers to use health IT, but more work needs to be done. That work should be focused in particular on ensuring that all of the various computer systems seamlessly share information.

Today we will hear from the vendors who build the technology and the providers who use it. No one knows better than doctors how important it is that technology works well. Technology can alert doctors to dangerous drug interactions; it can help them avoid duplication; and, most importantly, it can help doctors deliver the right care at the right time to their patients.

Health IT has revolutionized the way Dr. Jay Erickson, a family practitioner in Whitefish, MT, treats patients who take blood-thinning drugs like Coumadin. These drugs prevent life-threatening blood clots, but the doctor needs to constantly monitor a pa-

tient's dose to get it right. Simple things like the amount of spinach a patient eats can throw off the dose.

The dose must be high enough to prevent clots but not so high as to cause a stroke. Achieving the right level requires several blood tests a week. Before his practice starting using health IT, Dr. Erickson often had to wait a full day for the lab to fax the blood test results.

Then he would call the pharmacy with the prescription or give a handwritten script to his patient. The entire process could be repeated up to a dozen times to find a stable level of medication. Now, thanks to IT, the lab results are sent to Dr. Erickson instantly. He can quickly send prescriptions to the pharmacy electronically, and the process is faster and it is safer.

Dr. Erickson is glad he can use this technology, but it has required hard work and a major financial investment. He and the nine colleagues in his practice spent significant resources for the system and hired two full-time employees to maintain it.

Under a 2009 law called the HITECH Act, Dr. Erickson received incentive payments from Medicare and Medicaid for his use of the technology, but the incentive payments do not cover his costs. His system still cannot talk to the hospital system, so, when one of his patients is hospitalized, Dr. Erickson needs to send charts and tests back and forth by fax.

I have also heard from critical access hospitals that face their own unique challenges. They have more trouble than other hospitals getting the up-front capital necessary to install health IT. They cannot afford IT staff, and these small rural hospitals have trouble getting IT vendors to come to them.

Hospital-based rural health clinics are also ineligible for incentive payments. Critical access hospitals manage these clinics. Rural health clinics are important partners, but they cannot get funding for installing the technology they need due to their size and location. We must correct this.

As we discussed in last week's hearing, just implementing technology is not the goal. Rather, technology must be used to actually improve health care. Vendors need to create the right software so that when doctors want quality reports, they get accurate results. If the software is not written correctly, it may not recognize drug allergies or dangerous interactions.

Vendors must also create systems that talk to each other, even when those systems are not part of the same network. Medicare and Medicaid play a role. Their payment policies can help provide great incentives to providers to use health IT and for vendors to improve quality.

So, when it comes to IT, the vision is there, but, as our witnesses today know, it is the execution that matters. So let us ensure that our health IT vision is being executed in a way that lowers costs and improves care for all Americans.

[The prepared statement of Chairman Baucus appears in the appendix.]

The CHAIRMAN. Senator Hatch?

OPENING STATEMENT OF HON. ORRIN G. HATCH, A U.S. SENATOR FROM UTAH

Senator HATCH. Well, thank you, Mr. Chairman, for holding this hearing as a follow-on to last week's IT hearing. It is a good start to this conversation. I think we are all better informed of the complexity of the issues involved.

As I mentioned last week, I have heard from many providers and vendors, both large and small, about some of the challenges in becoming "meaningful users" as defined by the Office of the National Coordinator, or ONC.

I am hopeful that leaders at ONC and CMS are paying attention to our hearing this morning and that they will consider the thoughtful comments made by our witnesses. All too often, Congress creates programs that, despite our good intentions, have unintended consequences for those it seeks to help.

In this case, Congress passed a law which provided billions of dollars in incentive money for providers to purchase health information technology with the hope that it would help transform care, increase quality, and lower costs. These are all the right goals, so the question becomes, are the incentives well-placed and are they making a difference? If not, why not?

We know that unless you provide people with compelling reasons to make changes, changes are not going to occur. For example, there has to be a compelling reason for hospitals to want to share information among non-affiliated providers.

Likewise, there has to be a compelling reason for vendors to want to create technologies that work across various systems. It would seem to me that those reasons do not currently exist. If they did, we might not struggle with achieving interoperability.

Now, this seems to be the elusive Holy Grail of health IT. Everyone is talking about it, and yet it always seems to be out of reach. I am most interested in hearing the thoughts of today's witnesses about the timing of the various stages of meaningful use and the requirements involved.

Let me be clear. I think we need to hold people's feet to the fire so that we continue to make strides in delivering high-quality care. If that means making the requirements more stringent, then let us have that conversation. However, as I said to our witnesses last week, we have to give organizations enough time to acquire certified technologies and appropriately train staff to use them.

Ignoring the question of whether providers have the ability to keep up will only hurt the cause. This transformation will not happen overnight, but having the right time-lines in place is nothing short of a necessity for success. Providers cannot afford to waste resources on systems that quickly become out of date as CMS and ONC change requirements over time, and vendors should be afforded very clear instructions as to what is expected as part of a certified system. Indeed, when we are talking about spending millions of dollars on health IT, certainty is a must.

Mr. Chairman, I want to thank you once again for holding this hearing, and I look forward to hearing from especially this panel of witnesses, and we will go from there. Thank you.

The CHAIRMAN. Thank you, Senator.

[The prepared statement of Senator Hatch appears in the appendix.]

The CHAIRMAN. I would like to welcome the witnesses. First is Janet Marchibroda, who is the director of the Health Innovation Initiative at the Bipartisan Policy Center. Next is John Glaser, chief executive officer of health services at Siemens Healthcare; Marty Fattig, administrator and chief executive officer of the Nemaha County Hospital; and Colin Banas, chief medical information officer and associate professor, Virginia Commonwealth University.

Thank you all for coming. We really appreciate it. I know you spent a lot of time thinking about this hearing and you can tell us a lot of things that are pretty important to say, so we appreciate it very much.

Your full statements will be in the record, and I urge you to summarize in about 5 minutes.

Ms. Marchibroda?

STATEMENT OF JANET M. MARCHIBRODA, DIRECTOR, HEALTH INNOVATION INITIATIVE, BIPARTISAN POLICY CENTER, WASHINGTON, DC

Ms. MARCHIBRODA. Thank you. Good morning, Chairman Baucus, Ranking Member Hatch, and members of the committee. Thank you for the opportunity to testify before you today. My name is Janet Marchibroda, and I serve as the director of the Health Innovation Initiative at the Bipartisan Policy Center. Founded by former Senate Majority Leaders Baker, Daschle, Dole, and Mitchell, BPC is a nonprofit organization that drives principled solutions in a number of areas, including economic policy, energy, housing, immigration, and, of course, health care.

Our Health Innovation Initiative conducts a great deal of research and engages stakeholders in promoting improvements to health and health care through the use of innovation and health IT, and my testimony draws upon about six reports we have released over the last couple of years.

First, health IT plays a significant role in improving the quality, cost-effectiveness, and patient experience of care. Last year we convened a task force, led by former Senate Majority Leaders Tom Daschle and Bill Frist, that pulled people together and asked the question: what are the attributes of high performance health care, new models of care? Then we looked out into the field to look at what health IT capabilities are required and where are the gaps. Very quickly, I will run through those in my few minutes today.

First, electronic health records are key. We have seen adoption move to more than 40 percent among physicians and hospitals, but there still are gaps. Small physician practices lag behind, as do small and rural hospitals. Also, there are many providers, such as long-term care facilities and behavioral health care providers, that do not qualify for the incentives.

The second, and probably the most important point in my testimony is, in order to improve quality and reduce costs in health care, we need information to flow across the settings in which care and services are delivered. This is not only needed for care, but

also to calculate performance measures and to lay the foundation for new delivery system and payment models.

Unfortunately, only 30 percent of hospitals and 10 percent of ambulatory practices are participating in operational exchange efforts. In order to achieve information sharing, two things need to happen. First of all, those EHR systems need to be interoperable. I am pleased to say, as we move from Stage 1 to Stage 2, we have moved from a very small five data types to being able to transition fully to 23, so I think we are well-positioned with Stage 2 to move forward on interoperability.

But second, providers need to be able to and willing to share information. Unfortunately, as you mentioned, Senator, the primary barrier to information sharing is the lack of a business case for such sharing, given our primarily volume-based payment system. If there is one message that I can leave with you today, it is that we must prioritize electronic health information sharing moving forward, in terms of allocation of resources and focus of Federal agencies, as well as in the industry. We need to merge both the health care conversation and the health IT conversation.

So what is the government's role? First, do not delay the start of Stage 2. Second, align expectations for information sharing with payment, both inside and outside of meaningful use. Lead by example. Expand efforts to enable sharing of Medicare data to support new models of care. Assure public/private sector development of a long-term strategy for data and sharing that meets all health care priorities, not just those of meaningful use, and address the patient matching issue.

The third gap area is around effectively engaging patients. The world is changing. Since HITECH was passed, 85 percent of Americans use the Internet and 91 percent own a cell phone. We use electronic tools for everything else in our country, but not so in health care. Fortunately, I see change coming. Stage 2 takes a giant step forward in enabling providers to engage with patients electronically.

I will tell you, I have witnessed this firsthand. Just last month, my 16-year-old son had knee surgery, and we were up at Johns Hopkins in Baltimore. For the first time—they had just installed a system—we were able to see his test results online, review his prescribed medications, and even securely message with his physician on follow-up questions, without having to drive from Virginia to Baltimore to do so.

It is not just institutions like Hopkins, but also our pediatrician's office, which is in Northern Virginia—pretty small, unaffiliated with any large health care system—had installed within the last year both an EHR and a patient portal. So, much progress is being made with Stage 2.

One final point as I move to close. Since HITECH was passed in 2009, we have seen tremendous change in the health care system as well as the technology designed to support it. Health IT must evolve and change to support rapidly emerging changes in the health care system, so future stages of meaningful use should prioritize information sharing, number one, but also transition towards the achievement of outcomes, moving away from things such

as features and functions, and that will offer flexibility as we move ahead.

The Federal Government should also consider carefully, from a regulatory standpoint, the actions it takes as it relates to the development of a regulatory framework for health IT under FDASIA, the Food and Drug Administration Safety and Innovation Act. We hope that it will be risk-based, flexible, and one which promotes, not stifles, innovation, and we have done a lot of work in this area.

In closing, health IT is the necessary and critical foundation for higher quality, more cost-effective patient-centered care. We are at a critical juncture as we embark on the second stage of this journey, and we look forward to continuing to support your efforts as you consider policy in this area.

Thank you for your leadership, and thank you for the opportunity to share my insights today.

The CHAIRMAN. Thank you, Ms. Marchibroda.

[The prepared statement of Ms. Marchibroda appears in the appendix.]

The CHAIRMAN. Dr. Glaser, you are next.

STATEMENT OF JOHN P. GLASER, Ph.D., CHIEF EXECUTIVE OFFICER, HEALTH SERVICES, SIEMENS HEALTHCARE, MALVERN, PA

Dr. GLASER. Chairman Baucus, Ranking Member Hatch, and distinguished members of the committee, it is an honor to testify before you today.

As was mentioned, I am the chief executive officer of the health services' business of Siemens Healthcare, Siemens being a leading medical technology company with a portfolio comprised of medical imaging, laboratory diagnostics, and health care IT.

Health services develops enterprise-level health care IT solutions that help providers coordinate care in a variety of settings, including hospitals and physician practices. We are pioneers in the HIT industry, having served our customers for over 40 years. Before joining Siemens about 3 years ago, for 20 years I was a CIO in a large health care system in Boston on the implementation side of electronic health records, provider order entry, and interoperability, so I have lived those battles and those accomplishments.

I also spent a year working for David Blumenthal as a senior advisor involved in the early formation of the meaningful use Stage 1 criteria and the formation of the grant programs that led to health information exchanges, the regional extension centers, et cetera.

Now, Siemens applauds the committee for holding this hearing to highlight the importance of health care IT as a tool to improve the delivery of care. We also appreciate the work of Senators Roberts, Enzi, Thune, and Burr for their published report, "Reboot: Reexamining the Strategies Needed to Successfully Adopt Health IT."

Today's IT solutions, as you know and have heard from the panel and cited in your opening comments, have a wide variety of abilities to improve health care, reducing errors, improving the efficiency of the delivery of care, and overall elevating quality, such that the care that we deliver to citizens in this country has dramatically and materially improved.

We are fully committed to helping our customers achieve the objectives outlined in the EHR incentive program. The program was thoughtfully designed and has been quite effective in a number of different ways. We all can point to the significant increases in the number of hospitals and physicians that have attested to the program, and I am sure that Drs. Mostashari and Conway mentioned that and covered that in their commentary last week.

However, I think the program is reaching an inflection point, and these are some comments drawn from the multiple perspectives that I have had over my 30-odd years of career here. I think the requirements for Stage 2 are more stringent, and there are a number of complicating factors, such as delayed delivery of testing tools, confusion over criteria, and inconsistent auditing approaches. Optimizing EHR technology is a fundamental element, both in the episodic treatment of an individual, and also in the care delivered to them over time and over multiple venues.

Implementing an EHR is a massive undertaking, even for our most sophisticated of providers and health systems. For small, rural, and critical access hospitals that do not have adequate financial resources and staff resources, it may be on the edge of impossible. So we run the risk of creating and exacerbating a have and have-not series of systems and providers, those that are able to use the technology and those for which the technology is outside of their reach.

Further compounding this, in the next 15 months health care organizations, in addition to meaningful use Stage 2, are dealing with the mandatory, massive overhaul of their systems and operational processes that results from ICD–10,* and in addition to their own strategic and operational needs and challenges, must prepare themselves for payment reform, new care models, and other changes that will be coming in the years ahead.

We may be creating a perfect storm that has the potential to over-burden eligible hospitals and providers of all sizes. Hospitals and providers may choose to opt out of the program. There is evidence of this. As more hospitals and providers have indicated, they will not attest to Stage 2, and fewer rural and critical access hospitals participate at all.

We could arrive at a situation in which the participation rates that we have seen to date in the Medicare portion of meaningful use represent a plateau rather than a point along a greater journey of adoption, and we would not regard this a success if we actually have, at the end of this program, a minority, a significant minority, of participating institutions.

Moreover, many hospitals and providers are rushing into their implementations. They are trying to say, I have 15 months to get this, and I also have to do ICD–10, I have to do this, that, and the other, and I am going to get it in and get my check, and in the process of that they are short-changing a lot of the process, reengineering, and clinical engagement work that needs to occur.

The result can be that we will look back on the $19 billion or whatever we wind up spending on this program and say, what did

*The 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD), a medical classification list by the World Health Organization (WHO).

we get in terms of care improvement, and be quite disappointed with the results, because the time needed to change the health care system was not taken, because there was no time to go off and do that.

Similarly, we could wind up in unsafe conditions where, because of hurriedness, the workflow changes were not done as well as they should have been, nor was the training done as well as it should have been. Therefore, I propose a couple of recommendations.

The first is, I would give hospitals and providers the time needed to properly and effectively implement electronic health record systems. It is a complicated task that involves every aspect of care in every department in the hospital and in the outpatient setting. It takes a lot of work and a lot of reengineering.

I would recommend that you extend this Stage 2 deadline until October 1, 2015. Those who can take advantage of it in the time frame of 2014, fair enough. Those who need more time, give them the time to do it right. This would give them the time to accomplish what we want them to accomplish.

The second is, I would modify the program to be less proscriptive and more flexible by, for example, providing a menu of requirements with a minimal set that must be met rather than all of the current 16 requirements of Stage 2. The ones that I would keep would focus on interoperability and give more latitude regarding the remaining set. This would allow providers to select those requirements that reflect their own strategic and operational objectives in terms of improving their care, their quality, and the service that they provide to their community.

The third thing that I would do is have the Stage 3 meaningful use requirements support the transition to new care models and reimbursement by placing less emphasis on future function and more emphasis on our true goal, improving care outcomes.

Fourth, we should consider provisions for rural and critical access hospitals, such as grants, loans, and advanced payment of incentive monies, to enable them to better finance the undertaking of the journey that we would like them all to engage in.

Then last but not least, we should strengthen the program to focus with more vigor and more force on the interoperability, to achieve the development of standards and the enforcement of the standards. I realize, as mentioned by Janet, that a lot this involves the business case. That being said, we can be more aggressive and more effective at getting the standards in to the industry and ensuring that they are complied with.

I have run out of time. I have a brilliant closing, but I will not use that at this point. We will save that for the comments. [Laughter.]

Thank you.

The CHAIRMAN. Thank you, Dr. Glaser. We look forward to your brilliant closing. [Laughter.]

You have put a lot of pressure on yourself.

[The prepared statement of Dr. Glaser appears in the appendix.]

The CHAIRMAN. Mr. Fattig?

STATEMENT OF MARTY FATTIG, ADMINISTRATOR AND CHIEF EXECUTIVE OFFICER, NEMAHA COUNTY HOSPITAL, AUBURN, NE

Mr. FATTIG. Chairman Baucus, Ranking Member Hatch, members of the committee, thank you for holding this hearing and inviting me to testify.

My name is Marty Fattig, and I am the chief executive officer of Nemaha County Hospital, a 20-bed critical access hospital in Auburn, NE. In addition, I also serve as an appointed member of the Meaningful Use Workgroup of the HIT Policy Committee, and I am proud to represent small and rural hospitals on this group.

I would like to say at the outset that I believe policymakers will need to make changes to the meaningful use program to narrow the digital divide and ensure that small and rural hospitals are not left behind as we make transitions to Stage 2 of meaningful use, and as the positive incentives quickly turn to significant payment penalties.

Our hospital went live with our EHR in January of 2004. We have been recognized as one of the most wired hospitals in America 7 of the last 8 years. We are also one of 15 site visit hospitals for our HIT vendor, which means that they bring potential customers to our hospital to show them how their software works in the live environment.

As I look beyond my own experience to that of my rural colleagues, I see a strong commitment to provide the highest quality care to their communities, including the use of EHRs. Progress is being made, but the digital divide between urban and rural hospitals persists, and most rural hospitals have yet to meet Stage 1.

All the critical access hospitals in Nebraska have had a computer system for some time, but very few have had an EHR before 2009. Some are now discovering that the EHR provided by their current vendor will not meet their needs, so they are changing vendors. Another group of 33 hospitals in our State all use the same vendor, and they are extremely concerned that it will not be certified for Stage 2 by the time these hospitals need to be utilizing it.

Rural hospitals often find it more difficult to get timely attention from vendors. For instance, our vendor has over 600 hospitals that all need some software upgrade in order to meet the Stage 2 objectives. This is an extremely difficult task if there are no problems. If bugs are discovered in the software, it becomes impossible.

We purchased a piece of software from our vendor in May that we will need for Stage 2, and we were told that it would be 9 months before they would be able to complete the install because they are so busy. So, based on my experience and that of my colleagues, I do not believe HHS has provided sufficient time for the transition to Stage 2.

In 2014, all providers will have to install a new version of their EHRs, regardless of where they are. In addition, the 2-year cycle is too short for us to move beyond simply installing the required elements to improving patient care.

The 2014 time crunch also raises concerns about patient safety. One of the main reasons that we installed our EHR when we did was to improve patient safety, and it has done just that. Our closed-loop medication administration system has all but elimi-

nated medication errors in our hospital. However, these systems, especially when they are upgraded under severe time constraints, can, and unfortunately do, introduce risks that things can go wrong.

We installed a software upgrade some time ago, and all the allergies listed in our patient record disappeared. We were able to catch this problem before the patients were harmed, but this is the kind of thing that can happen. Combine this with a mandate to transition to ICD–10 by October 1st of 2014 and the changes created by the Affordable Care Act, and the challenge to maintain a safe patient environment becomes even more difficult.

I believe that the administration could, and should, take steps to provide more flexibility in the transition to Stage 2 and address the challenges faced by small and rural hospitals. If done correctly, the changes can alleviate the time crunch but still keep the program moving forward.

The establishment of a reliable mechanism for health information exchange is key to the future progress. In Nebraska, we have one health information exchange, and that is working quite well. My concerns are that I do not think we will be able to connect to the State to report the public health measures by the time the hospital is required to do so, and I am also worried about its financial sustainability.

When the grant money is exhausted, will they remain financially viable through subscription fees alone? It is my belief that we need to reassess the program in light of the reasons that Congress chose to support the adoption of electronic health records. The first goal was to have an electronic record, the second goal was to ensure that we could share data, and the last thing was to build on the system to make it more and more robust.

We are making great progress on the first two goals, but we have yet to fully achieve them. It is my opinion that we are trying to make the system more robust before the first two steps are anywhere near complete. We should re-focus our efforts on achieving widespread adoption and efficient information exchange before rushing ahead.

Thank you again for the opportunity to participate in today's hearing. I look forward to working with the committee and all who are committed to the shared goal of widespread adoption of EHRs, whether they live in the largest city in America or the smallest rural community. Together, we can achieve the triple aim of better health, better health care, and lower costs for all Americans. Thank you.

The CHAIRMAN. Thank you very much, Mr. Fattig. I appreciate that.

[The prepared statement of Mr. Fattig appears in the appendix.]

Dr. BANAS. I want it noted that I believe in technology so much that I am going to try to do this entirely without paper.

The CHAIRMAN. I hope it works! [Laughter.]

STATEMENT OF COLIN BANAS, M.D., M.S.H.A., CHIEF MEDICAL INFORMATION OFFICER AND ASSOCIATE PROFESSOR, VIRGINIA COMMONWEALTH UNIVERSITY, RICHMOND, VA

Dr. BANAS. Chairman Baucus, Ranking Member Hatch, and members of the committee, thank you for the opportunity to discuss our work at the Virginia Commonwealth University Medical Center in Richmond, VA related to our successes in the arena of health information technology.

I am the chief medical information officer for the VC Medical Center, an actively practicing internal medicine hospitalist, and an associate professor of medicine. In my career, I have been fortunate to experience the care of my patients using a multitude of health information systems, including paper-based, electronic vendor-based, hybrid, and even the federally created Veterans Administration system. To be clear, I would never go back to paper.

The VC Medical Center has a proud history of leveraging health information technology to improve patient care that spans decades. We benefit from near 100-percent computerized physician order entry or CPOE adoption in our hospital, and fully electronic clinical documentation for all providers, including nurses and physicians, in our outpatient and inpatient settings. We are proud to have successfully attested for almost 500 eligible providers, as well as our hospital, for the first year of meaningful use.

I would like to share a number of health IT success stories framed in three categories of next-order benefits: clinical decision support, handoffs, and innovations, all of which are made possible by the foundation of data ubiquity. These represent years of effort in improving people and process workflows. It was only after the processes had been refined that the application of technology became the secret sauce to improving outcomes.

In fact, I have also experienced the premature application of technology, causing very detrimental results which can harm and erode the trust of both patients and providers.

VCU employs a number of clinical decision support methodologies to support patient care. We have over 650 rules and alerts to help promote delivery of best practice. For example, in the arena of core measures, we have improved our compliance rate with the timely removal of urinary catheters to prevent hospital-acquired infections for our surgical patients. Our EMR now recognizes urinary catheters which are placed in the operating room and schedules their removal automatically in concert with physician guidance.

Years of education in process improvement could only yield compliance in the 80-percent range. It was the thoughtful and actionable integration of technology that finally pushed us above 98 percent. I cannot stress this enough. It is the triad of people, process, and then technology that proves to be the recipe for success.

VCU launched its patient portal in December of 2012, and, in just 7 months, we have already enrolled 11,000 patients who now have access to core elements of their electronic medical record. Inefficient phone tag has been replaced by an e-exchange between patients and providers, and we have only started to scratch the surface of this technology.

While the patient portal was always an institutional vision on our health IT planning road map, it was the meaningful use pro-

gram that gave it the much-needed activation energy and directional framework for success.

We have created innovative and custom dashboards to augment our patient population management strategy by repainting large sums of data into easy-to-consume graphical and interactive formats. We help our providers deal with the information overload that has become common as the data stored in the electronic medical record grows.

The most recent and exciting example of innovation is our homegrown medical early warning system dashboard. This gives our rapid-response team a real-time monitoring system that continuously measures patient acuity and severity. The dashboard has been adopted by the team as their compass to guide them to the bedside of our most sick patients.

The team no longer waits to get a call from a nurse or doctor with a patient in distress. Instead, they are accessing the dashboard on mobile devices and arriving at the bedside to assess and intervene, sometimes ahead of the primary team and nurse. Since launching this dashboard, our analysis has shown a 5-percent reduction in in-house mortality and a significant reduction in cardiopulmonary arrests outside of the intensive care unit.

The landscape and requirements for health IT are constantly and rapidly changing. We are drowning in a sea of competing priorities and clinical needs to ensure that the EMR remains usable and meaningful. The combined tsunami of the ICD–10 mandate collides precisely with our medical center's need to attest for the first year of meaningful use Stage 2.

The talent pool for this mountain of work that faces our industry has become sparse. For the first time, I am noticing a legitimate inability to onboard the talent requisite to make these initiatives successful. I believe there is a creative opportunity to be thoughtful about the timing of the meaningful use program, especially the impending penalties, while preserving the momentum we have worked so hard to achieve.

The examples offered here are emblematic of the power of health IT and data fluidity. VCU purposely pursued internal data ubiquity as a preliminary strategic goal. There were immediate and tangible results from simple data availability. Only once this was achieved were we then able to pursue the next order of benefits described here.

I believe the VCU experience is relatable to the true power of even the most basic health care data interoperability, a benefit that is echoed by many of my colleagues who recommend a higher focus for these measures within the meaningful use program.

I do wish to applaud the ONC and the meaningful use program for the successes to date. I credit the program with helping to provide our industry a shared vision and road map, as well as providing the activation energy to help accelerate the journey. A sincere "thank you" for their leadership is indeed warranted and offered here.

I am proud to be a part of the training of the next generation of care providers who do not know a non-digital health care world. There are students and residents who have never written an illegi-

ble paper prescription or scrawled onto paper the chicken scratch progress note.

The next generation has come to expect and demand a safer digital health care world and will prove to be a valuable asset in continuing to push the industry and our Nation forward into digital success.

Thank you for the opportunity to testify before you today. VCU Medical Center stands ready to serve as a resource and work with this committee and all members of Congress to improve the quality of health care in this Nation.

The CHAIRMAN. Thank you, Doctor.

[The prepared statement of Dr. Banas appears in the appendix.]

The CHAIRMAN. I would like to get your reaction, the four of you, on what we can do to give hospitals and providers the business incentives to provide the technology. My sense is that health is way behind, and has been. It is not new. Everybody knows it is way behind others in the private sector. Some private sector businesses know the value of technology and have pursued it almost ruthlessly, to be efficient, to help their bottom line, et cetera. In health, it has been very slow because the incentives are just not lined up.

So how can we help providers build a better business model to want to implement more HIT and more quickly? Any thoughts? Or on the other hand, CMS could require them to do it, with penalties if they do not. That seems like a backwards way. You would think that companies, the providers, would understand for their businesses, for themselves, this is a great thing to do, and they should do it. So what can we do to help make that happen? Anybody? Dr. Glaser, this is your chance to do your closing. [Laughter.]

Dr. GLASER. We will have a little session after for the brilliant closing. I think it is a fair question. You are right: when you see it happen in other industries, it is because the business incentives are quite strong, and they will make investments, the vendors will be supportive, et cetera.

I think there are three parts to this. One is that the payment method must change to reward quality and efficiency and safety in a material way. It does not have to be 100 percent of your payments, but it has to be more of a percent of your revenue than it currently is today. It does not have to be for all patients, because quality measures are harder in some areas than in others. It is harder to have quality measures in, for example, emergency care than it is in management of people with asthma. So I think that it is the continued movement, perhaps more aggressive movement, to changes in the payment system, that folks will respond to. They will respond with the IT needed to thrive in that environment, including the interoperability. So that is part A.

Part B is to realize that all markets have failures, and motivations that are purely economic will not work. So the contribution of data to public health will not necessarily work because of payment methods, and there may need to be a regulatory mechanism that says you have to contribute to the public health mechanisms of the world because we have a public interest here that occurs. So the regulation will be a critical counterpart to that.

The third part is, as we get smarter and industry gets better, that the energy required and the hurdles required to get to it are

lowered, such that it will still be work, it will be work on big organizations and small organizations, but we will help with that. Regional extension centers are an example of helping providers get choices of vendors, get implementations, et cetera. So the third part is to work on it with the industry, but also government, to say, are there things that we can do to make the path easier, knowing that it will not be trivial to accomplish this thing, but nonetheless to make it less daunting, less problematic, than it currently is.

The CHAIRMAN. Anyone else? Mr. Fattig?

Mr. FATTIG. Yes. I would certainly like to address this. First of all, I thank you for the question, because I think it is imperative that we get this right. First of all, I think we should consider that a health information exchange network can be very similar to our interstate highway system.

We need to do this at a national level; we need to have national standards. We need to be able to set something up so that all these highways connect, as they do in the interstate system. We need to do that digitally for health information technology.

The other things that I think are coming—I think there are some financial incentives that are in place that will help drive this, if in fact we get the network in place. As we move toward participating in community health initiatives where we are responsible for the health of our community and not just providing care when someone is sick, I think we will have a motivation to collect all that data from the clinics and the pharmacies, from public health, from the tertiary care providers, as well as from the critical access hospitals. Another thing that is coming in is, of course, what we call clinical care coordination, where we are going to be more responsible for the entire care of patients.

The CHAIRMAN. I would like to ask another question. My time is expiring.

Mr. FATTIG. Sure.

The CHAIRMAN. Last week, this committee met with government witnesses on this subject, and I asked them, I said, we are going to have a hearing the following week with a bunch of private folks. They are going to be vendors and so forth. What are they going to say, and what is your response to what they are going to say? They said, well, they are going to say slow down, too much, too fast. I have heard a lot of that today. Someone mentioned the potential perfect storm; someone else mentioned how you just cannot do it at all, and you have to do it right the first time, so slow down.

So my question then is, people tend to like to slow down sometimes, so what assurances are there that the slow-down is not just an excuse for not doing what needs to be done? First of all, how much should be slowed down, and second, how do you reassure everybody here that we are going to get this better and right in addition to just words?

Dr. BANAS. I think the assurance that we will get it right comes from the fact that there is still a stick at the end of this carrot. I think slowing down is prudent, simply because I think literature and experience have shown that these things take time. Nine women cannot have nine babies in one month, that sort of thing. That is the analogy that our CEO sometimes uses. I think that the

fact that there will be a stick at the end of this program provides the much-needed motivation that follows the carrot.

The CHAIRMAN. By asking the question, I do not mean to imply that we should slow down, but I do hear concerns. My time has expired, but I think it is a fundamental question that has to be addressed. That is, you guys want to slow down a little bit. I do not know if you all do. Maybe you do not, Ms. Marchibroda, but others seem to suggest that we should slow down slightly. It is a basic question that we are going to have to figure out an answer to.

Senator Hatch?

Senator HATCH. Well, I have appreciated your testimony here today. Accurate and efficient matching of individual patients to their health records across settings is a wonderful thing if we can do it right. Enabling a clinician to view a comprehensive picture of the patient does require accuracy and efficient matching.

Now, incorrectly matching a patient to a health record may have patient safety, privacy, and security implications, such as disclosing confidential information to the wrong patient or wrong doctor, even.

Dr. Banas, what do you think are the obstacles in solving this problem of patient matching? I might add, as a former medical liability defense lawyer, I can see all kinds of problems that might arise if this is not done right.

Dr. BANAS. Yes. I think it is difficult when we lack a single identifier. I know that is a hot topic. But there are intensive algorithms that are matching on a variety of data points to get it near a 100-percent success rate. So I think, in the balance between patient privacy in the form of a national identifier and these intensive algorithms, something has to give. I think if you can accept that it is a difficult thing to match without such a unique identifier, than you will understand the results that we are seeing thus far.

Senator HATCH. Dr. Glaser, let me just ask you this. In light of the current expectation that almost every eligible professional and hospital will need to upgrade in order to comply with Stage 2 requirements, is the vendor community adequately resourced to meet this unprecedented demand for assistance, and are smaller community hospitals and professionals, many of whom are located in rural communities, getting adequate attention from the vendor community?

Dr. GLASER. Yes. I think the industry overall is challenged to address the demands of Stage 1, 2, and 3, so the vendors are challenged with staff, as are a lot of the providers. One of the key elements initially of the grant program under HITECH was the workforce development to sort of create all the centers.

Particularly in the case of Stage 2, one of the challenges is the October 1, 2014 deadline—you have to have it done by then—and then the time required to actually solidify the requirements, to get the testing tools, took longer and longer, and all of a sudden there is a very compressed window in which a lot has to happen. The software has to be developed, the software has to be certified, the implementations have to occur, and whatever workflow changes are necessary have to occur.

So, in a way, there are resources, but at some point you cannot resource if the window gets too narrow. It is a challenge for the

vendors, but it is also a challenge for those who are providing care. Plus, they have ICD–10 to resource and a variety of other things. I think it is one of the fundamental reasons why—my concern anyway—the delay by a year is a critical thing to do because of the late start in being ready for Stage 2.

I think, increasingly, organizations of the vendors are addressing the smaller community hospitals. There is still a little ways to go. I think we are being helped as a vendor community by the advent of cloud technology, which means that you can deliver software services to organizations and not require a computer room on their part, or IT staff on their part.

The vendors are increasingly getting better at implementation methods that are shorter, less intense, and hence do not require this amazing consumption of the resources that are often scarce in the community hospitals.

So we, for example, at Siemens have customers who have 17 beds, 25 beds, 43 beds, and we are not alone in terms of the vendor community getting better there. There is still a ways to go to where we can deliver it efficiently, but also deliver it over distances that recognize this dispersal of caregivers across the country.

Senator HATCH. All right. Thank you.

Ms. Marchibroda, you advocate, it seems to me, a risk-based regulatory approach in the area of mobile medical devices in particular. Which agency or governmental entity should be charged with doing this type of work?

Ms. MARCHIBRODA. Senator, back in February we released recommendations for the principles of how this oversight framework would be developed. We recommended that it leverage existing patient safety and quality organizations where we have accreditation today, so that it reflects shared responsibility.

We did say that the current medical device regulation as it exists today is not appropriate for a majority of health IT; however, we did not state which agency—we did not gain agreement on your question, but laid out a set of principles.

Senator HATCH. You will let us know as soon as you get some sort of consensus on that?

Ms. MARCHIBRODA. Certainly.

Senator HATCH. We would just like to know a little bit more about it.

Ms. MARCHIBRODA. Thank you.

Senator HATCH. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator.

Senator Enzi?

Senator ENZI. Thank you, Mr. Chairman. Thank you for holding this hearing.

Last week, I noted that more than 10,000 providers that participated in 2011 did not do so in 2012, and the government witnesses last week considered that a small number.

Mr. Fattig, in your testimony you wrote that policymakers will need to make changes to the meaningful use program to ensure that small and rural hospitals are not left behind. I am from Wyoming. We have small and rural hospitals.

So can you please explain in more detail why these providers are being left behind by the current program and what changes could

be made to immediately improve the program, and does that have anything to do with the 10,000 dropping out?

Mr. FATTIG. It may have something to do with the 10,000 dropping out. In my understanding, in working with small and rural hospitals across the Nation, a number of things come into play. One of the reasons they are left behind is a pure lack of resources, financial resources, to begin with. It costs a lot of money to install an electronic health record. The last figure I heard was about $67,000 a bed. That is a lot of money, regardless the size of your hospital.

The second thing is the lack of human resources. For instance, our health care informaticist in our hospital serves in that position 2 days a week, and she serves as a staff nurse the other 3 days of the week, so we have limited time that this person can actually do this.

The other thing is, of course, the vendor supply. There are a lot more small hospitals than there are large hospitals, but there are less small vendors that market to small hospitals than there are those that market to large hospitals. So you have a large number of hospitals with a small number of vendors, and you end up with this backup of capacity. It is not the vendor's fault, it is not the hospital's fault, it is just the way things are. We need more time.

Senator ENZI. Thank you.

Dr. Glaser, you noted in your testimony that the administration should offer providers greater flexibility in adopting the requirements, and you suggested a delay of some of Stage 2's requirements. Why, in your opinion, were these problems not anticipated by the administration at the start of the program, and what can Congress and the administration do better to ensure a smoother roll-out?

Dr. GLASER. I think we should recognize—and I am sure that you do—a number of things here. One is, the individuals who are working on the meaningful use program, both at ONC and CMS, and the wide variety of volunteers who support that—my colleague being one of those—are smart and working hard to get this thing right. But this is an undertaking which has certainly no parallel in the health care IT industry, in which you are trying to aggressively move a broad swatch, a very complex industry, into the 21st century with IT.

So I think we are going to get some things right and some things wrong as we go along here, and the prudent thing to do is understand that, as smart as one is and as inclusive as one is and as transparent as one is, we need to have conversations like this from time to time, to let us take a look and see where we are, what needs tuning, what needs correcting, et cetera.

So I think, going back to at least the time when I was there in the summer of 2009, I do not know that anybody really knew where we would be on the adoption. There was a lot of estimating about where that would be or what the barriers would be at that point in time.

Some were anticipated, hence regional extension centers, hence state health information exchange grants, but a lot of things were not. So these kinds of committee conversations, other conversations, that let us step back, take stock, keep the program moving

but tune where we need to tune, are the right thing to do as we go forward.

I do think one of the things that I would advise my government colleagues on is that the Stage 2 requirements ought to sort of migrate from being a feature/function prescription to saying, let us move to the outcomes. That is why we are here. We are not here for meaningful use per se; we are here to improve care.

So let us move into more centricity on the outcome, that which we are after, and move into more focus on the interoperability, and worry less about whether this feature is present or that function is present, where we are in this sort of inertia of over-engineering the electronic health record and in a way forgetting why we are here, which is to improve care.

So relaxation of requirements is intended partly to shift into the outcomes orientation, partly to give those who are making decisions about whether to participate or not, and to participate effectively, greater flexibility in bringing these technologies in. And all of this is a recognition that, collectively as a country and as a industry, we are learning as we go forward about what is working, what is not, and what needs to be tuned.

Senator ENZI. I know that the outcome that we had envisioned—speaking of the committee and under Senator Baucus's leadership when we were working on health care reform—was to eventually have some kind of a card that everybody could carry that would have their entire medical history on it, so, if they are from Wyoming, and they come out here and they get in an accident and they break their leg, they can just put in a code and release all of the information to their doctor so it would be possible to treat them. I think that is where we wanted to go. So the interoperability question is a really important one, and I will be submitting that in writing for each of you because I think that is the real key to it.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator, very much.

Senator Casey?

Senator CASEY. Mr. Chairman, thank you very much. I want to thank our panel for being with us today. I apologize I was not here earlier for your testimony. If you would permit me a home State courtesy, Doctor, I probably will focus a question on you first, and I will try to get to your colleagues, but I have to be Pennsylvania-focused for this question. I know you do not mind that.

Dr. GLASER. Not at all. I look forward to that.

Senator CASEY. And I know some of what I will ask about might be by way of reiteration or repetition, but around here it is important to repeat ourselves, so it will not hurt.

We have had, under the chairman's leadership, a number of health care hearings this year about implementation, and a repeat visitor has been Jonathan Blum from CMS. He has said on a number of occasions that if we can continue what I think is already a strategy that has been implemented to reduce hospital-acquired infections and reduce readmissions, we can save, by his estimate, according to his testimony, 65,000 lives.

I know in your testimony, on page 2, you talk about the Chester County Hospital in Westchester in our home State, and you say that this Chester County Hospital "has used our solutions and our

clinical workflow technology to reduce hospital-acquired MRSA by 60 percent," and then you go on to say MRSA infections are identified by CMS as a preventable "never event."

I know you have already probably addressed this, but, in addition to what is happening right now, what additional steps can we take to ensure that there are more hospitals like that or more examples like that across the country? You also mentioned the MedCentral Health System in Mansfield, OH. So, if you could expand upon that.

Dr. GLASER. Certainly, Senator. I appreciate the home field nod. I think there are a couple of things. Those are examples, and there are lots of those, of both the people who buy the technology from us, but also buy from others. Certainly when I was a CIO years ago, I saw those often in the organization that I served.

So I think there are a couple of things. You say you would like to see that broadly. So what do we do to make sure that that is a common occurrence and not particularly noteworthy? Everybody ought to be doing that, and it should not be an exception. I think there are a number of things, some of which we are doing.

One is to continue the programs that encourage the adoption, so we just have to get the fundamental systems in place and used effectively. A number of folks, and certainly I do, believe that we ought to give them a little more time, but we have to lay the foundation that has to occur here.

We also ought to encourage, although they will do a lot of this on their own, that those who deliver care talk to their colleagues and say, how did you do that? So there should be colleagues talking to colleagues, often supported by associations, such as the American Hospital Association, to encourage this discussion so people learn from each other.

The third part would be, as mentioned in a couple of the comments, the continued movement of the payment system, such as the payment system reward, so that Chester County sees a revenue increase, and, hence, whatever costs were incurred in making that happen, they have a means to recover, because they still have a margin target that they need to fulfill in order to continue to deliver on the mission that they are obligated to deliver to their community.

So I think it is a variety of things. It is to make sure we lay the foundation effectively, encourage the natural conversations between colleagues where they teach each other, and continue to work on a payment system, as complicated as that is, that continues to incent and reward those kinds of behaviors and outcomes across the board.

None of those is necessarily easy, and none of those is necessarily accomplished in a very brief period of time. They will take time across the board. So, in a way, it sounds very simple. Those are the three things that we have to do, but, as we all know, those are complicated things to do and not easy to carry out.

Senator CASEY. I want to invite anyone else on the panel, if you want to comment on this particular question about this strategy. Anyone else?

Dr. BANAS. I think the VCU experience is very similar, in that we spent many years laying the foundation before we could start

to really enjoy a lot of the successes that I displayed in my testimony.

I would echo the importance of sharing and organizations like the AHA or AMDIS, the Association of Medical Directors of Information Systems. Those collegial relationships that are formed in those venues have proved vital to sharing successes and strategies. As our vendors mature, they are starting to pick up on best practices and hopefully starting to apply them from the top down so that we all do not have to reinvent the wheel 15 different times.

Senator CASEY. Thanks very much. My time is up.

The CHAIRMAN. Thank you, Senator.

Senator Thune?

Senator THUNE. Thank you, Mr. Chairman. Welcome, panel. Nice to have you here. Thanks for your answers to our questions. I want to direct this to Mr. Glaser and Mr. Fattig. I want to mention your testimonies, that you had talked about the need for extending Stage 2. I think last week we had an IT hearing with the administration where I asked them about extending Stage 2 to give more time to address some of the very issues that you raise in your testimonies.

The administration would not commit to it at the time, and I am concerned that they do not have a realistic view of the problems that are facing this program, particularly in rural areas. So my question is, do you think there is a way to design such an extension to give some providers and hospitals additional time in Stage 2 while allowing more advanced providers and hospitals to be able to move on to Stage 3?

Dr. GLASER. When I was a chief information officer, in my 22 years of being a chief information officer, I implemented provider order entry 11 times and did the inventory record for 4,000-plus physicians across the board. That has taught me to have an extraordinarily healthy respect for the challenges of implementing these systems.

These are hard; these are difficult. You have to be careful with them. You have to bring the medical staff along and be thoughtful about the workflow, have a healthy respect. So, Senator Baucus, back to one of your comments, I think I would hold feet to the fire. I might give them more time, but we have to recognize this is really difficult to do, and we want them to do it right in lots of ways.

So what I would do is say, if you want the additional year, take the additional year, but that is it. It is not 5 additional years, it is 1 additional year. If you are ready and on course and things are going well and this, that, and the other, terrific. Go ahead and meet the deadline and carry forward and move on to Stage 3. But for those who need the extra time, let us give it to them, respecting the magnitude of the challenge that they have and the criticality of getting it right in a lot of ways here.

I think my colleagues are right, there is going to be a special set of considerations for the rural, the critical access hospitals, and, in addition to time, they might need some resource help. It is not just a question of time, it is a question of whether it is people, or money, or whatever. So, even with the extra year, they can stay on course and make the care improvements that have been cited a couple of times during our comments today.

Senator THUNE. All right.

Mr. FATTIG. Thank you for the question. I think it is critical that, first of all, we stretch out the time-line to 3 years at each stage regardless of which stage it is, because all hospitals and all the vendors need at least 3 years at each stage so that we can do this right.

I do not believe we just need an extension at Stage 2, I think we need an extension at Stage 1 so that those hospitals that have not met Stage 1 objectives can meet them. Sixty-five of the hospitals in Nebraska are critical access hospitals.

If we are going to have an electronic record that includes all the data on these patients, we have to move the vast majority of those 65 critical access hospitals forward and not leave them behind with this digital divide. Stretching out Stage 1 so that those hospitals that have attested in 2012 have an additional year to get Stage 1 right before they move on to Stage 2, I think would be very, very helpful.

Also, maybe we need a grant program or a loan program for these programs, something so hospitals have the resources to get the initial investment so that they can move forward and help increase the compatibility of all these records across the Nation.

Senator THUNE. A lot of those critical access hospitals in Nebraska are like the ones in South Dakota that I am thinking of when asking this question. This, I would direct to anybody who would like to take a shot at it. But Stage 1 of meaningful use required that there was no actual cross-platform exchange of information. Stage 2 requires only one instance of information sharing, and that can be with a dummy server set up by the government.

Do you think the administration puts sufficient pressure on vendors through the certification process to advance cross-platform exchange of data? A follow-up to that would be, what else could the administration be doing to encourage vendors to exchange data?

Dr. GLASER. I think there should be more pressure on the vendors to do this, and I count myself as one, to show that we can meet the standards, comply with the standards, and are certified relative to the standards. So I think that is part A.

We should realize that that, in and of itself, is not sufficient. What also should be occurring across the board is continued movement of the payment model which will incent, not only the fact that you can technically do it, but that you can clinically do it, so there is motive to go off and to do those kinds of things, et cetera. So I think there is continued movement on the reform efforts broadly speaking, to change the payment mechanisms to reward quality and efficiency.

Third, and I realize this can be tricky, is to give ONC and CMS more authority to move on the standards. At times they are stuck in a consensus process. I would give them more clout to call it a day, because sometimes they have to stop short of full, definite standards and leave too much ambiguity, or are unable to call it and say, you need to do this.

So I would think there are three points: first, pressure on us as vendors; second, working with the payment model so that there are reasons for the organizations to comply—and it is not just connecting things, there is workflow that has to be changed, and who

does it, who deals with the data, how do they do this, and how do they do that, et cetera; and third, giving my colleagues at ONC and CMS more authority to further the standards development and codification process.

Senator THUNE. Do you think that there is a sufficient business case for continued progress on interoperability and exchange of data between unaffiliated providers? I mean, is there something else that can be done to ensure that there is, from a hospital standpoint and from a provider standpoint, a sufficient business case to do this? I mean, apart from the government incentives. Do you know what I am saying?

Mr. FATTIG. I believe there is. I believe there is, especially with the changes that are coming down with the Affordable Care Act. When we form our ACOs or value-based purchasing groups or our clinical collaboration, we are going to have to be able to share data in order to meet those models. So the business sense is growing as we speak.

Senator THUNE. Ms. Marchibroda?

Ms. MARCHIBRODA. I would agree. I think the private sector is already moving forward considerably on these new accountable care arrangements, and they are already needing to share information. So aligning those information sharing conversations and methods with what we are seeing here in meaningful use would be very important.

Even as we wait for those to take broader hold, hopefully through the Medicare program, through all of the performance measures that are being used today, I think there are opportunities to improve the use of electronic data that comes from electronic health records in order to populate those. So, there are other ways to incentivize this in the system.

Dr. GLASER. Yes. I think you do see it now, so I might say, as a health provider, I want to work with you two to form a clinical affiliation to deliver cancer care, or whatever it might happen to be, and with your two separate organizations in my community, and we need to set up an exchange in order to manage this population. So you will see that clinical affiliations and relationships will lead to this.

You see health systems that say, I need to fill my beds, and so I am going to have connections out to this doctor and that doctor to facilitate the admission process, and I want them to use my lab and radiology department, so I am going to get results back out there. So clearly there is an exchange going on, and in fact the health information exchange market, if you just look at sales of these things, is really growing quite rapidly.

The problem with it is that it is idiosyncratic, it is patchwork. So I have worked with you two, but I have not dealt with you guys because I do not have a clinical relationship with you, and one of your patients might arrive here. It beats me what went on there.

The CHAIRMAN. So what do you do about that?

Dr. GLASER. Well, I think right now it is about the motives. It goes back to the motivational structure. So I think part of what you do is you say, listen, I am going to change payment, whether it is accountable care, et cetera, so it covers all of this stuff. It is not just this cancer arrangement, it is the broad coverage of care and

accountability for care that occurs. So I would move market incentives that increase the broader value to adoption and bringing people in here.

The CHAIRMAN. And what would those incentives be?

Dr. GLASER. Well, I think it is like a lot of what is being experienced. It is accountable care, and I am going to hold you accountable for the population. Even if they go there, there, and there, you are still accountable for the quality, you are still accountable for the costs, and that will motivate you to do the exchange in addition to whatever you might do for a targeted cancer arrangement.

The CHAIRMAN. Go ahead, John, if you have more questions.

Senator THUNE. No, I am done. Thank you, Mr. Chairman.

The CHAIRMAN. It dawned on me during this hearing today the degree to which, besides going to Stage 1, 2, and 3, you start at 3, trying to figure out what you want the outcomes to be and how to measure the outcomes, and then go back to 2 and 1. You mentioned, Dr. Glaser, that you might want to push 3 into 2 or something like that, if I understood you correctly.

But to your point about how we are not just doing this for the sake of technology, we are doing this for the sake of patients, are we giving enough emphasis on what 3 is, that is, outcomes? Maybe it is ACOs, maybe it is sharing, maybe it is patient-centered care. But as we go back and work on Stage 1 and Stage 2, I am just curious if you have any reaction to that off-the-wall observation.

Dr. GLASER. I do not think it is off-the-wall. Even if I did, I would not say it publicly. [Laughter.]

But nonetheless, I think it is a fair part of it, and ONC and the policy committees are working on that. I think it is appropriate to have a philosophy regarding Stage 3, which is to say it ought to be outcomes-oriented, it ought to be focused on interoperability, less focused on future function. So those are guidelines about how to frame it that need to occur here.

So I think it is important to begin to really crystallize for the industry, what is 3? One is that it makes sure that we are continuing along the journey that we would like to continue, and the other is that both vendors and those whom they serve want some level of road map so they can say, we see where we are heading. Even if Stage 3 is 2015, 2016, whatever the timing is, at least I have a game plan and a road map. So I think that that conversation is a very important one, an important one for you all on this committee to have, to make sure you understand it and are contributing to and guiding it.

The CHAIRMAN. Do you feel comfortable that we know how to measure outcomes in Stage 3, and if not, what do we have to do?

Mr. FATTIG. I believe we do. I am the eternal optimist and the idealist and joust with windmills all the time, so I do believe that we do know what the outcomes should look like. I also believe that it would be vital for all of us to engage the private sector in this, because I think big business is going to drive this as much as government as we move forward. They are going to demand better outcomes from us, and we are going to have to have the data to show them that we are doing the right thing. So I think it is there.

The CHAIRMAN. There is a little bit of a sense among three panelists maybe to slow down a little bit, maybe at the rural level,

maybe at Stage 2. But, Ms. Marchibroda, do you agree or disagree with that?

Ms. MARCHIBRODA. So this is the thing. Stage 2, as we have discussed, advances considerably engagement of patients and electronic information sharing. You do not see that much of it in Stage 1. It is hardly there. The information sharing is the primary driver of reduction in costs that we will see through investments in health IT, and we recognize and have reported about how difficult it is to move this forward.

So we need to find a way—and I think John described a way—to let those, particularly the many, many organizations that are coordinating care and moving forward on these accountable care arrangements, be able to have the interoperable systems that Stage 2 provides as a foundation for interoperability and sharing, while perhaps providing more room for those that need it. But I would hate to see us not benefit from those important patient engagement and information sharing requirements in Stage 2 as soon as we can.

The CHAIRMAN. There might be some hospitals and providers that might see a real advantage in being aggressive in their business model with their patients, et cetera. For the four of you, very, very briefly, drilling down a little bit, where can we urge the administration to speed up a little bit, where not, where are we going about the right speed, and where maybe should we slow down a little bit? I mean, more separately instead of just generally.

Dr. BANAS. In terms of the meaningful use program?

The CHAIRMAN. Yes.

Dr. BANAS. I think everyone is echoing that the interoperability patient engagement piece is by far the most important piece contained in Stage 2, and it is a piece I can get behind, and it is a piece that I can comfortably implement and advance in my organization. The pieces that become more difficult are de novo new technologies that I have to put in, such as bar code meta-administration for a hospital. That could take us 1 to 2 years to do and might miss the time-line.

Full order entry in the outpatient clinics—we do very well with e-prescribing. There is a great benefit to reducing adverse drug events from e-prescribing, but now we are having to throw on laboratory and radiology testing, which gets into an entire spaghetti of scheduling and future orders and things of that nature.

So patient engagement, interoperability, as I testified, we have a portal. I would love to be able to focus even more energies into that portal to the benefit of our patients and as a by-product to our community.

The CHAIRMAN. Anyone else?

Mr. FATTIG. I would encourage speeding up and redoubling our efforts on interoperability, but I still think it is very, very important that we bring the late bloomers, those small rural hospitals that have not implemented a complete EHR and attested to Stage 1, to bring them along so that we do not leave them in the dust.

The CHAIRMAN. And I think Dr. Glaser suggested we bring them along by giving them a little more time and more resources.

Mr. FATTIG. Yes, more time and resources.

The CHAIRMAN. Yes.

Dr. Glaser?

Dr. GLASER. Just one other comment, if I may. I would go back to one of the points you made, which is that I would like to see more movement on how it is we are going to move from the current Stage 1 and 2 to the outcomes. So tell me what that path looks like. It is not just the definition in the form of Stage 3, it is, if I need to help these folks, how long will that go on and in what form? So what does that pathway look like? We need to get some clarity to make sure it is taking us in the direction that we would all like it to take us.

The CHAIRMAN. Ms. Marchibroda?

Ms. MARCHIBRODA. I would concur. As noted in our testimony, that focus on interoperability and patient engagement is critical and needs to maintain its current pace with Stage 2, and it ties in with your question about outcomes and do we know what they are.

I think a couple of weeks ago, 3 weeks ago, you had a hearing on quality. We have a number of outcomes. One of the problems is that there are so many different measures. I think beginning to move these things together and aligning them with health IT will be important as well.

The CHAIRMAN. All right. Thank you all very much.

Senator Carper has joined us. He and I are due at the same location very soon.

Senator CARPER. Maybe we should just have lunch here; what do you think?

The CHAIRMAN. We should.

Senator CARPER. We could eat, they could talk.

The CHAIRMAN. Exactly.

Senator CARPER. Thanks very much. Each of us serves, as you know, on several different committees. I have been trying to do the other part of my day job, and I appreciate you all being here and the chance, Mr. Chairman, to ask a question or two.

One of our main objectives, really one of my main objectives in the Affordable Care Act, was to try to reorient our Nation's health care system so that we would reward quality over just quantity and try to improve health care outcomes while trying to get better outcomes for less money.

With Accountable Care Organizations, with medical homes, and penalties for unnecessary hospital readmissions, we are, I think, moving in a direction of paying hospitals and doctors based, hopefully, more on performance instead of the number of procedures that are performed.

But I would like to say we cannot manage what we cannot measure. For 4 years after we created this incentive-based program for increasing the use of health IT, I am concerned that we still do not have the right public health indicators and quality measures in our health IT systems to evaluate the performance of our health care system.

So, with that as a prelude, let me just ask a question. This could be for the whole panel, but do existing quality indicators and reporting requirements have credibility with doctors and health care providers on your staffs? A follow-up to that would be, do health IT systems in your hospitals capture quality measures and public

health indicators, such as obesity and smoking rates, accurately and in a meaningful way? Those two questions.

Dr. BANAS. So, to your first question, I think the quality measures that have been chosen are certainly clinically valid. Where I lose buy-in from my physician and clinician population is that they are not easily capturable in the current state of workflow for our clinicians. So, the EMR vendors need to catch up with what I like to term "usability," to make it sort of seamless in how I do my job.

A lot of these clinical quality indicators result in me creating more check-the-box phenomena in order to capture this data somehow. That is where I lose my physicians. That is where they start to turn on the EMR, if you will: wow, you are making me check another box.

So I think the quality measures that have been chosen to date are very aggressive, and there are a lot of them, and there are a lot of different quality programs that do not necessarily align, which also causes a little confusion. I think there are steps being made to rectify that, but clinical quality measurement is one of the things that also has me worried simply for the phenomenon I have just described.

Senator CARPER. All right. Thank you.

Mr. Fattig, please. Do you agree with anything he said?

Mr. FATTIG. I do. I agree with everything he said.

Senator CARPER. All right.

Mr. FATTIG. Imagine that!

Our sizes are entirely different, our scopes are entirely different, but the problems are the same. The clinical quality measures that are there have been collected for years, and our physicians agree with them. They are mostly process measures; they are not outcome measures, but we have determined that these processes give you better outcomes.

The problem is that we have for years extracted this data manually, and now we are into an electronic extraction, and that creates a whole different set of problems about where the data is entered, and does it pull directly to the numerator and denominator of the calculation to make sure that these measures are accurate now and that we are getting credit for what we are actually doing.

Senator CARPER. All right. Thanks. Dr. Glaser?

Dr. GLASER. In addition to Janet's earlier comment about the plethora of measures—and there is a need to rationalize those—I think the challenge is that the standards, while good, and measures, while good and important and critical in lots of ways, impose a cost to collect. Who bears that cost? Sometimes you turn it over to the doctors.

They enter four or five more things and say, geez, you are killing me. You are adding time, I am already busy, et cetera. Sometimes we say, oh, we are not going to do that, we are going to pay some army to go extract it, either from the chart or from the records. So there is an organization that bears the cost to collect those things.

So I think the basic point is, if we are going to capture additional data, there is a cost somehow, and how do you distribute that, through the doctors, or this, that, or the other. We can make things faster, more usable, but I do not think we can finesse the issue and make it a non-existent cost.

Senator CARPER. Thank you.

Last word, Ms. Marchibroda.

Ms. MARCHIBRODA. Yes. The Bipartisan Policy Center released a report back in April and referenced quality measures in that report, sort of echoing—there are a number of them. They are creating a lot of burden. They are not derived from where care is delivered. So getting agreement or alignment across States, even Federal agency programs and the private sector, is important.

In terms of, does health IT support these measures, I think actually this is an area that needs significant review and improvement. I think as we make this journey—and I think about the comments made earlier about the value of health IT—clinicians and providers would like nothing better than to be able to generate these measures coming out of the systems, but we are just not there yet. Specifications are developed very quickly. They need to be tested before being implemented, so that is a great area of review in the coming months.

Senator CARPER. All right.

Ms. MARCHIBRODA. And it will help to create the business case.

Senator CARPER. Good. Thank you all.

Mr. Chairman, I would just say in closing that, in Delaware, one of the last things we did in my second term as Governor was, we stood up and we said, why don't we create a Delaware health information network?

The idea was to create a health information exchange that doctors' offices, hospitals, nursing homes, medical labs, and so forth, would provide information to and then from which information could be drawn to provide a continuum here and a collaborative delivery of health care in our State. In a little State like Delaware, it is actually working.

When I was in the National Governors Association, we had a clearinghouse for good ideas within the National Governors Association, and this was just one of those good ideas. We are hopeful that other people will take heart and maybe take a look to see what we have done, and maybe do it even better going forward.

Thank you so much. Thanks, Mr. Chairman.

The CHAIRMAN. Thank you for that good idea. I appreciate that.

Thanks, everybody, very much. The good news here is, we all tend to agree on the goal. The question is just the execution, how do we do it right. But thanks very much. You have been very helpful.

The hearing is adjourned.

[Whereupon, at 11:55 a.m., the hearing was concluded.]

APPENDIX

ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD

Senate Finance Committee Hearing

Health Information Technology: Using it to Improve Care

July 24, 2013

Colin Banas, M.D. , M.S.H.A

Chief Medical Information Officer

Virginia Commonwealth University Medical Center

Chairman Baucus, Ranking Member Hatch, and Members of the Committee, thank you for the opportunity to discuss our work at the Virginia Commonwealth University Medical Center (VCU) in Richmond, Virginia, related to our successes in the arena of health information technology (HIT).

My name is Dr. Colin Banas and I am the Chief Medical Information Officer (CMIO) for the VCU Medical Center. VCU Health System and the health sciences schools of Virginia Commonwealth University comprise the VCU Medical Center, one of the nation's leading academic medical centers. As the region's Level 1 Trauma Center, VCU Medical Center has 865 patient beds, more than 600 physicians in 200 specialties, the area's only National Cancer Institute designated cancer center, the VCU Massey Cancer Center, and a full-service children's hospital, Children's Hospital of Richmond at VCU. U.S. News and World Report has ranked VCU Medical Center a number one hospital in Virginia and the Richmond metropolitan area for the second year in a row, reflecting two programs, nephrology and orthopedics, in the national top 50. Virginia Commonwealth University is a major, urban public research university with national and international rankings in sponsored research. Located in downtown Richmond, VCU enrolls more than 31,000 students in 223 degree and certificate programs in the arts, sciences and humanities. Sixty-eight of the programs are unique in Virginia, many of them crossing the disciplines of VCU's 13 schools and one college.

I have been with VCU since 2002 and am proud to have received my Internal Medicine residency training there as well as my Master of Science in Health Administration just a few years following. I am an actively practicing Internal Medicine Hospitalist and Associate Professor of Medicine in addition to overseeing our informatics team and electronic medical record (EMR) in my collaborative role as CMIO of the medical center. In my short career I have been fortunate to experience (or suffer through) the care of patients using a multitude of health information systems, including paper based, vendor based, and even the federally created Veteran's Administration system.

The VCU Medical Center has a singular vision and goal statement for improving health care quality, simply put, "To be America's safest health system with zero events of preventable harm to patients, employees, and visitors." The Medical Center has a proud history of leveraging health information technology (HIT) to improve patient care and outcomes, having used

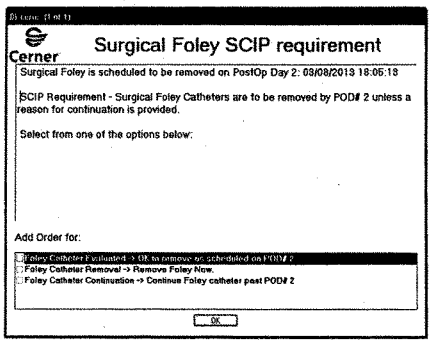
computerized physician order entry (CPOE) for over 25 years on a legacy system before making the health system-wide conversion to a modern electronic medical record platform in 2004. In our unrelenting journey to improve patient safety, VCU has made great strides towards total digitization. We benefit from near 100% CPOE adoption in the inpatient setting and fully electronic clinical documentation for all providers, including both nurses and physicians, in our inpatient and outpatient settings. Our system supports over 90,000 chart opens per day and facilitates 10,000 medication orders, 14,000 laboratory orders from over 5,000 unique users. This framework has now set the stage for realizing next order benefits for improving the lives of our patients, specifically in the form of clinical decision support at the point of care.

If I may, I'd like to share a number of VCU HIT success stories, framed in three core categories of next order benefits: Clinical Decision Support, Handoffs, and Innovations, all of which are made possible by the foundation of data ubiquity and fluidity and of course a very talented team. These successes are the byproduct of the tireless commitment of VCU leadership and staff and were augmented by applied information technology. Most of these represent years of effort in improving people and process workflows. It is only after the processes had been refined that the application of technology became the secret sauce to improving outcomes. In fact the premature application of technology can have very detrimental results which can harm our patients and erode the trust of our patients and providers. These success stories can be directly linked to improvements in patient outcomes, cost reduction, and improved efficiency of care.

Clinical Decision Support

VCU employs a number of clinical decision support methodologies in the support of patient care. In the traditional sense, we have over 650 customized rules and alerts to help guide appropriate care plans, avoid adverse drug events, and promote delivery of best clinical practices. In the arena of Core Measures we have improved our compliance rate with deep venous thrombosis prophylaxis protocols to near 100 percent through automated and actionable prompts, order-set integration, and dashboards, with a corresponding reduction of in hospital embolic events of 67 percent. This represents a process improvement that has literally been years in the making and highlights the need for multi-faceted interventions. We enjoy similar success in the arena of removing urinary catheters in a more timely manner to prevent hospital acquired infections in surgical patients. We are now at a point where the EMR recognizes urinary

catheters placed in the operating room and automatically schedules its safe removal while also prompting clinicians in real time to consider appropriate earlier removal or to document justification for the ongoing catheter need. Years of education and process improvement yielded compliance in the 80 percent range for these Core Measures. It was the thoughtful integration of technology laid upon a robust infrastructure that finally pushed VCU to the 98 to 99 percent compliance level. I cannot stress this enough: it is the triad of people, process, and then technology that proves to be the recipe for success.



Earlier this month we deployed a rule to detect the inappropriate usage of intravenous, and comparatively expensive, acetaminophen (Tylenol). The rule will offer the clinician appropriate, alternative, and less expensive oral forms of the drug within the alert. We have projected that this single rule will save the health system over $170,000 in annual drug cost, and this is but a single example of what robust analytics and decision support can offer in terms of cost savings and promoting best practices. VCU Medical Center has numerous others.

Using our EMR's clinical data repository, we are now able to identify and provide influenza vaccination to over 99% of our elderly and other high-risk patients through the automated detection of appropriate populations and generation of vaccination orders. We have achieved similar success through our electronic process to improve the reconciliation of medications at time of discharge transition from our hospital, which now occurs for 100 percent of our patients.

For our patients with congestive heart failure, VCU struggled in years past to ensure appropriate patient education and transition instructions as well as appropriate pharmacotherapy. Again, despite intense training efforts and manual, real-time audits we were unable to exceed 70 to 80 percent compliance with these Core Measures. It was only through the additional leveraging of our HIT platform that we were subsequently able to hardwire these practices directly into the clinical workflow in such a way that we were providing highly accurate and highly actionable information to our teams. We now achieve 99 to 100 percent compliance with appropriate patient education and heart remodeling drug therapy for our congestive heart failure population.

Handoffs and Data Fluidity

VCU launched its patient portal in December of 2012 and in just 7 months we have already enrolled over 11,000 patients who now have access to core elements of their electronic medical record including medication and problem lists, educational materials, and most importantly, a means to asynchronously communicate in a bidirectional manner with their providers. An interesting phenomenon has occurred in our outpatient practice sites; the phones in the nursing pods have gone nearly silent. Inefficient phone tag has been replaced by an "e-exchange" between patients and providers, and we've just started to scratch the surface using this tool. While the patient portal was always an institutional vision on our HIT planning roadmap, it was the Meaningful Use program that gave it the much needed activation energy and directional framework for success.

Integrated into our EMR is direct access to the Surescripts database as part of our electronic-prescribing functionality. This tool allows our providers to view all medications prescribed by any clinician and filled at almost all retail pharmacies in the United States. Thus, providers can more accurately reconcile and manage patients' prescriptions regardless of who prescribed them. It also allows monitoring of medication compliance by allowing providers to view the refill history for a patient's medications. As a result, our clinicians have been able to identify non-adherent patients and engage them in meaningful discussions about their care. We have also been able to identify patients who see multiple providers and who have received prescriptions from multiple providers for controlled medications. This has helped to cut down on fraud and abuse and augments such vital efforts as the Virginia Prescription Monitoring

Program. Thus, by integrating external data repositories into our EMR, we have made patient data more fluid and placed important clinical information at the fingertips of providers that previously was not available in any venue.

Earlier in 2012 we also launched our own referring provider portal, VCUHSConnect.org. Here we offer our community providers online and intuitive web based access to our electronic medical record. This was our first step to answer a commonly heard complaint from our community providers, namely "we refer our patients to you and they come out on the other side of the VCU expertise machine, but we can't tell what went on!" To date we have over 1,000 community accounts created with our heaviest users accessing the system hundreds of times per month. An unintended, but much appreciated, benefit has been a real reduction in record requests that our Health Information Management department must fulfill. In the near future, we look forward to partnering with the Commonwealth's health information exchange, ConnectVirginia, to seamlessly share our data with all enrolled providers throughout the state and beyond.

Innovations

Our substantial and robust investment in HIT provides VCU the opportunity and flexibility to innovate to benefit our patients. Three such success stories center on our ability to create *custom linkages* and real time *dashboards* to better manage patient populations at the level of the clinical team, the inpatient unit, and the hospital service. The value of custom linkages and dashboards to clinical providers lies in their ability to provide rapid access to patient information and to aggregate and re-present large amounts of data in an easy to consume graphical, icon based, and interactive manner. As a result, custom linkages and dashboards help our providers deal with the "information overload" that is increasingly common as the data stored in electronic medical records grows. Presenting the right data to clinicians at the right time in a useful format reduces distractions and improves provider focus and ability to identify important indicators or trends in their patients' health status.

VCU has a fully deployed radiology PACS (picture archiving and communication system) allowing clinicians access to digital films from anywhere, even from offsite. This system, which pre-dates and is separate from our core EMR, previously required providers to

minimize their EMR session, launch the PACS module and log in, and enter the patient information to pull up needed images. In concert with our interface team, we were able to craft a "quicklink" from within our core EMR system that allows the user to go directly to the patient's images in our PACS system without exiting or additional login. While it sounds so simple, this single custom linkage has saved our frontline clinicians an estimated 9,000 hours per year simply by introducing a process efficiency made possible through technology. That's 9,000 hours we are able to give back to patient care. Similar "quicklinks" have been developed to allow rapid access to view patient electrocardiograms and scanned documents, and perform other clinical functions such as paging colleagues and even reporting safety events through our patient safety event reporting tool.

A second example of innovation to improve patient care is the VCU Safety Dashboard, first deployed in 2010 and now in its third iteration. In nearly a decade of laying the aforementioned EMR foundation, we found ourselves awash in a sea of data from multiple sources including lab values, orders, pharmacy data, vital signs as well as documents from nurses, physicians, therapists, and other clinical providers. The new challenge was to tease out key pieces of information from this mountain of data to tell the patient's story, and merge it with best practice standards to deliver more consistent, higher quality care. Enter the VCU Safety Dashboard, displaying on a single screen for all patients on a nursing unit, key indicators of a patient's care and health status such as fall risk, need for physical restraints, orders for appropriate prophylaxis (or lack thereof), presence of intravenous lines, urinary catheters, and surgical drains (all of which increase the risk of infection) and any overdue tasks, orders, and vaccinations; all face-up and contained within a single view. The dashboard has capability to interact and if desired, drill into additional detail without exiting the screen. Clinicians, especially nurses, flocked to this tool and quickly incorporated it into their scheduled safety huddles and handoffs, using the information to initiate appropriate interventions. The dashboard is accessed over 300 times per day and the core indicators that are displayed therein have shown measurable improvement. For example, we have shown a 50 percent reduction in patient falls with injury as well as a 50 percent reduction in the use of physical restraints. The dashboard also contributes to system wide successes previously mentioned in the areas of deep venous thrombosis prophylaxis, inpatient vaccination, and pressure ulcer reduction. The problems we tackle in healthcare are complex and require complex, multi-pronged solutions. Again, our

approach at VCU has been to selectively integrate health information technology with excellent personnel committed to delivering quality care using solid process design.

Safety Dashboard

IP-Medicine-Team 1

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Show/Hide Columns

RM/BED	FULL NAME	DOB	MRN	SERVICE	EWS	CODE	AIRWAY	L/T/D	PRECAUTIONS FLAGS	PAIN SCORE	LAST WEIGHT	SKIN RISK	RE-STRAINT	MED CHANGE	VAX	MED REC	OVERDUE TASKS	DVT	DIET
032/B	[illegible]	03/08/80	1556622	Medicine-Team 1	0	FULL		F FMS	35/0 +1	0	2 days					✓	1	✓	
036/A	[illegible]	08/29/18	8517034	Medicine-Team 1	0	DNR		F CVC	35/2 +2	6 [illegible]	0 days					X	9	✓	
037/B	[illegible]	05/08/43	7070057	Medicine-Team 1	2	FULL				?	0 days			△		✓	3	✓	
039/A	[illegible]	12/15/47	1259669	Medicine-Team 1	0	FULL		F CVC	35/1 +2	4 [illegible]	1 days			△		✓		X	
068/A	[illegible]	08/17/69	6364881	Medicine-Team 1	2	FULL			45/1 +2	7	1 days					✓	1	✓	
076/A	[illegible]	09/09/39	5031214	Medicine-Team 1	0	FULL			45/0 +2	0	2 days					✓	8	✓	
108/A	[illegible]	03/04/48	4140798	Medicine-Team 1	1	FULL			55/1 +2	0 [illegible]	2 days					✓	1	✓	
155/A	[illegible]	02/18/40	6668676	Medicine-Team 1	0	FULL		CVC	35/0 +4	0	0 days					✓	2		
230/A	[illegible]	07/15/41	5135899	Medicine-Team 1	0	FULL		F CVC	60/0 +2	0	2 days					✓	9	✓	
238/A	[illegible]	07/22/38	5723817	Medicine-Team 1	0	DNR			35/0 +1	0	0 days					✓	7	✓	

The third and perhaps most exciting example of the effective leveraging of IT to improve care is our homegrown dashboard, the Medical Early Warning System and Pediatric Early Warning System (MEWS/PEWS). Inspired by one of our own critically ill pediatric patients, we recognized a need to give our front-line clinicians and rapid response team (RRT) a real-time monitoring system that continuously measures patient acuity and severity. We crafted MEWS/PEWS to identify our most ill and trending ill patients and then use that information to provide interventions before their decline. The results in just one year of use have been remarkable; the dashboard is accessed over 100 times per day and has been adopted by our RRT as their "compass" to guide them to the bedside of our sickest patients. The RRT no longer waits to get the call from a nurse or doctor with a patient in distress. Instead, they are accessing the dashboard on mobile devices and arriving at the bedside to assess and intervene, sometimes ahead of the primary team and nurse. Since launching these tools, our analysis has shown a 5 percent reduction in in-house mortality and a significant reduction in cardiopulmonary arrests outside of the intensive care unit.

Concerns

The landscape and requirements for HIT are constantly and rapidly changing. We are drowning in a sea of competing priorities and clinical needs to ensure that the EMR remains usable and meaningful. The combined tsunami of the ICD-10 mandate collides precisely with our medical center's need to attest for the first year of Meaningful Use Stage 2. The talent pool for the mountain of work that faces our industry has become sparse. For the first time in my short career I am noticing a legitimate inability to onboard the talent requisite to make these initiatives successful. Literature and personal experience has shown that implementations must be thoughtfully planned and executed rather than just "slammed in" to ensure adoption and usability. What's more is that these mandates are exclusive of some of the truly needed innovations and optimization efforts that have been described here. For example, the clinical quality measures (CQMs), requirement embedded in the Meaningful Use program is a good direction; however, a thoughtful, clinician-driven approach needs to be applied to the selection of measures that are meaningful and measurable given the current state of EMR maturity, as well as to the merging of Meaningful Use quality measure requirements with other existing quality measurement programs.

What's more, I think there is opportunity to reduce some of the potentially unnecessary administrative burden forced upon providers and leadership related to measurement and attestation for the Meaningful Use program. Finally, I would be remiss if I did not share concerns over the costs for this level of technology. These systems are expensive to implement but even more expensive to maintain and sustain. Thankfully the Office of the National Coordinator (ONC) remains receptive to feedback such as this and continues to make needed and thoughtful changes as we progress in this journey together.

Closing

My message in sharing these success stories is that they take time, sometimes years of constant and iterative refinement. In the example of our congestive heart failure patients there was a need to improve and capture key data elements (such as the heart's relative strength as measured by the ejection fraction) that did not previously exist in our EMR. While we are a proud user of a vendor platform that is employed medical center wide, best of breed ancillary systems (such as the PACS system described above) still exist either from legacy or because they

succeed in fulfilling a highly specialized niche that the larger vendors have not yet tackled. Thus, thoughtfully bringing necessary data together, even within our own four walls, is often a daunting task.

I do wish to applaud the ONC and the Meaningful Use program for the successes to date, there is a real and tangible excitement in our field as we are starting to see levels of EMR adoption explode at an exponential rate. I credit the program with helping to provide our industry a shared vision and roadmap as well as providing the activation energy to help accelerate the journey. A sincere thank you for their leadership is indeed warranted and offered here.

There is good news, I am proud to be a part of the training of the next generation of care providers who do not know a non-digital healthcare world. There are students and residents who have never written an illegible paper prescription or scrawled onto paper the "chicken-scratch" progress note. This next generation has come to expect and demand a safer digital healthcare world and will prove to be a valuable asset in continuing to push the industry and our nation forward into digital success.

We are standing on the shoulders of giants. The forefathers of informatics started on this journey over five decades ago. The iterative successes they have enjoyed and subsequently shared and contributed to the realm of informatics also help to illustrate my point and the VCU Medical Center experience. This is a journey, a long one, and quite honestly it will never be "done." As my CEO John Duval likes to state regarding the VCU Medical Center journey towards high reliability and patient safety, "We are halfway there, and in 5 years we will be halfway there." It is thoughtful nod toward the need to constantly raise the bar and never rest on past successes.

Thank you for the opportunity to testify before you today. Virginia Commonwealth University Medical Center stands ready to serve as a resource and work with this Committee and all Members of Congress to improve the quality of healthcare in this nation. Thank you for your leadership on this critical issue.

COMMITTEE ON FINANCE
NEWS RELEASE

Max Baucus (D-Mont.)
http://finance.senate.gov

Hearing Statement of Senator Max Baucus (D-Mont.)
Regarding Health Care Providers Improving Care with Information Technology
As prepared for delivery

Thomas Edison said that, "Vision without execution is hallucination."

When it comes to health information technology, or health I.T., no one knows Edison's lesson to be true more than providers.

Doctor Jonathan Griffin from Helena, Montana summed it up best by saying, "If health care is a car, health I.T. is the navigation system."

"It tells you where you have been, where you are now, and where you need to go. It also helps prevent wrong turns and avoid road blocks."

We all agree that health I.T. is a critical lynchpin to improving health care and reducing costs.

Last week, administration leaders shared their views. They said we have made progress; Medicare and Medicaid financial incentives are encouraging providers to use health I.T.

But more work must be done. That work should be focused in particular on ensuring that all of the various computer systems seamlessly share information.

Today we will hear from the vendors who build the technology and the providers who use it. No one knows better than doctors how important it is that the technology works well.

Technology can alert doctors of dangerous drug interactions. It can help them avoid duplicating tests. And most importantly, it can help doctors deliver the right care at the right time to their patients.

Health I.T. is revolutionizing the way Dr. Jay Erickson, a family medicine doctor in Whitefish, Montana, treats patients who take blood-thinning drugs, like Coumadin.

These drugs prevent life-threatening blood clots, but the doctor needs to constantly monitor a patient's dose to get it right. Simple things like the amount of spinach a patient eats can throw off the dose. The dose must be high enough to prevent clots, but not so high that it could cause a stroke.

Achieving the right level requires several blood tests a week. Before his practice started using health I.T., Dr. Erickson often had to wait a full day for the lab to fax the blood test results.

Then he would call the pharmacy with the prescription, or give a hand-written script to his patient. The entire process could be repeated up to a dozen times to find a stable level of medication.

Now, thanks to I.T., the lab results are sent to Dr. Erickson instantly. He can quickly send prescriptions to the pharmacy electronically. The process is faster and safer.

Dr. Erickson is glad he can use this technology, but it has required hard work and a major financial investment to get to this point.

He and the nine colleagues in his practice spent significant resources for their system and hired two full-time employees to maintain it.

Under a 2009 law called the HITECH Act, Dr. Erickson received incentive payments from Medicare and Medicaid for his use of the technology, but the incentive payments don't cover his costs.

His system still can't talk to the hospital's system, so when one of his patients is hospitalized, Dr. Erickson needs to send charts and tests back and forth by fax.

I've also heard from critical access hospitals in Montana who face unique challenges. They have more trouble than other hospitals getting the up-front capital necessary to install health I.T. They can't afford I.T. staff, and these small rural hospitals have trouble getting I.T. vendors to come to them.

Hospital-based rural health clinics are also ineligible for incentive payments. Critical access hospitals manage these clinics. Rural health clinics are important partners but they can't get funding for installing the technology they need due to their size and location. We must correct this error.

As we discussed at last week's hearing, just implementing technology is not the goal. Technology must be used to actually improve health care.

Vendors need to create the right software so that when doctors run quality reports, they get accurate results. If the software isn't written correctly, it may not recognize drug allergies or dangerous interactions.

Vendors must also create systems that talk to each other, even when those systems are not part of the same network.

Medicare and Medicaid can play a role. Their payment policies can create the right incentives for providers to use health I.T. and for vendors to improve quality.

When it comes to I.T., the vision is there. But as our witnesses today know, it's the execution that matters. So let us ensure that our health I.T. vision is being executed in a way that lowers costs and improves care for all Americans.

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NEMAHA COUNTY
HOSPITAL

Health Information Technology: Using IT To Improve Care
Finance Committee
United States Senate, July 24, 2013

Testimony of Marty Fattig, CEO, Nemaha County Hospital, Auburn, Nebraska

My name is Marty Fattig, and I am the Chief Executive Officer of Nemaha County Hospital, a 20 bed critical access hospital in Auburn, Nebraska. Auburn is located in southeastern Nebraska approximately 65 miles south of Omaha and 65 miles southeast of Lincoln. Nemaha County has a population of 7,500 people and is considered to be our primary service area.

In addition to my work as a critical access hospital CEO, I also serve as an appointed member of the Meaningful Use Work Group of the Health Information Technology Policy Committee (HITPC). The HITPC was created by the American Recovery and Reinvestment Act to advise the National Coordinator for Health Information Technology, currently Dr. Farzad Mostashari, with respect to the implementation of a nationwide health information technology infrastructure that permits the electronic exchange and use of health information. I am proud to represent small and rural hospitals on this work group.

I want to thank Chairman Baucus and other members of the Committee for holding this hearing and inviting me to testify. This is a critical time in health care, not only with respect to the adoption of electronic health records (EHRs), but also as we pursue the improvement of care coordination, patient engagement, and quality improvement, while at the same time finding new ways to control health care costs. I will focus my remarks on the unique challenges faced by rural hospitals and providers as they transition to using health information technology (HIT), with a focus on the meaningful use program. After speaking to my own experience, I will outline the unique factors I see affecting rural hospitals. **I would like to say at the outset that I believe policymakers will need to make changes to the meaningful use program to ensure small and rural hospitals are not left behind as we make the transition to Stage 2 of meaningful use.**

The Nemaha County Hospital's Experience with EHRs and Meaningful Use

I came to the meaningful use program with a better background for adoption of EHRs than most rural hospital CEOs. My background is in laboratory medicine and one of the positions that I held was laboratory information systems manager. It was while working with this system that I saw the value of having clinical data in an electronic format. When I came to Nemaha County Hospital in 2002, the financial computer system that we had needed to be replaced. I took this as an opportunity to install an integrated

2022 13th Street Auburn, NE 68305 Phone: 402-274-4366 Fax: 402-274-4399 www.nchnet.org

system with applications for every department in the hospital, including an electronic health record. We went live with everything but the EHR in September of 2003 and with the EHR in January of 2004. We immediately realized improvements in the quality and safety of the care we were able to provide to our patients because the system could check for such things as adverse reactions between prescribed medication and through the use of the medication verification system. We have continued to add modules to improve our system since that time and today we have a paperless medical record.

We have been recognized as one the "Most Wired" hospitals in America seven of the last eight years. We were first recognized in the "Most Improved" category, then as "Most Wired Small and Rural, and for the last four years we have been recognized in the group of hospitals of all sizes. We are also one of fifteen "site visit" hospitals for our HIT vendor, which means that they bring potential customers to our hospital to show them how their software works in the live environment.

Even with an above average vendor relationship and being recognized nationally as an early adopter, implementing the Stage 1 meaningful use requirements was more difficult than we anticipated. And, given the way that the Centers for Medicare and Medicaid Services calculates payments for critical access hospitals as only for a limited set of capital expenditures, our incentive payments have been very small, and did not cover the bulk of our expenses.

Looking forward to Stage 2, our hospital expects to be prepared to attest in mid to late 2014. I recently checked the ONC website and fortunately, our vendor is one of only six listed that is certified for the "2014 Edition" to support Stage 2. We will be required to purchase some new software and incorporate it into our workflow. We are concerned about the functionality and security of the patient portal as well as the interface with our state department of public health to report the required public health measures.

The Digital Divide in EHR Adoption

As I look beyond my own experience to that of my rural colleagues, I see strong commitment to providing the highest quality care to their communities, including the use of EHRs. Progress is being made in adoption of EHRs in rural areas, but the digital divide between urban and rural hospitals persists.

All of the critical assess hospitals in Nebraska have had a computer system in place for some time to complete their financial requirements, but very few had an EHR before 2009. Some are now discovering that the EHR provided by their current vendor will not meet their needs so they must change vendors. This delays their journey toward meaningful use while also consuming considerable resources. Another group of thirty-three hospitals in our state all use the same vendor and they are extremely concerned that that vendor will not be certified for Stage 2 by the time the hospitals need to be utilizing the system.

According to data from a recent article in *Health Affairs*, co-authored by academics, Dr. Mostashari and others from ONC, and a team from the American Hospital Association (AHA), "large urban hospitals continue to outpace rural and nonteaching hospitals in adopting EHR systems," with 44 percent of all hospitals -- but only one-third of rural hospitals -- having "at least a basic" EHR.

The same study found that while 42 percent of all hospitals could meet a proxy for Stage 1 meaningful use, only 5 percent could meet a proxy for Stage 2, with larger and urban hospitals ahead of their smaller and rural counterparts. The study concludes that policymakers should "*focus on hospitals that are still trailing behind, especially small and rural institutions. This will be especially important as stage 2 meaningful-use criteria become the rule, and positive incentives are replaced by penalties.... As the penalty phase draws nearer, efforts to assist these hospitals will become even more important because the decrease in their revenue could further exacerbate barriers to their adoption of EHR systems.*"
(DesRoches, et. al., Health Affairs 32:8; available at
http://content.healthaffairs.org/content/early/2013/06/27/hlthaff.2013.0323)

The Challenge for Rural Hospitals

Feedback from my rural hospital colleagues confirms the academic studies. They are committed to adopting EHRs and using them to improve care. They are making considerable progress, but still have some distance to travel. Most rural hospitals have yet to meet the exceedingly complex requirements for Stage 1 of meaningful use. And they worry that time is running out, as the positive incentives quickly turn to penalties.

On the Medicare incentive side, CAHs must have met meaningful use in FY 2012 to receive the full four years of payment. This is one year sooner than PPS hospitals. We know from the earlier data that the majority of CAHs did not meet this deadline and will not benefit fully from the program. Hospitals paid under the inpatient prospective payment system must meet the meaningful use requirements by July 1, 2014 to avoid significant financial penalties. For critical access hospitals, the last possible date to avoid penalties is September 30, 2015.

Some hospitals may meet the eligibility requirements for an incentive payment under the Medicaid program, as well. Under the Medicaid program, hospitals do not have to meet the meaningful use criteria in their first year of participation; but they do need to make a demonstrated financial committed to adopt, implement, or upgrade an EHR. Thus, the Medicaid program provides at least some much needed up-front capital to those who are eligible. In general, however, rural areas have fewer patients covered by Medicaid, and may therefore be less likely to meet the eligibility requirement. Our hospital did meet the Medicaid eligibility requirements but only will receive a relatively small payment compared to costs due to our low Medicaid volume.

Two defining attributes of rural hospitals make implementation of electronic health records (EHRs) more challenging for them than for other types of hospitals: smaller size and volume, and geographic isolation. These factors lead to challenges such as:

- **Financial constraints.** Lower patient volume at small and rural hospitals complicates long-range financial forecasting and contingency planning, limits the ability to maintain adequate cash flow, and constrains capacity to commit to large, long-term capital projects like adoption of EHRs. Implementing EHRs also increases operating costs for maintenance, IT personnel, training, etc.

- **Workforce issues**. Rural hospitals have a difficult time attracting and retaining highly skilled personnel, including both clinical informaticists and technical IT staff. Many of them are actually losing their health IT-skilled personnel to vendors, who can afford to pay double, or even triple, the salary that small and rural hospitals can. In addition, in a small hospital, the skill set for hospital IT staff is often bigger – they must do all tasks, not specialize in hardware, software, networking, or security.

- **Vendor readiness.** Given their size and geographic location, there are a limited number of vendors that work with small and rural hospitals. Rural hospitals often find it more difficult to get timely attention from vendors. For instance, our vendor has over 600 hospitals that all need to have software upgrades in order to meet the Stage 2 objectives. This is an extremely difficult task even if there are no problems. If bugs are discovered the task becomes impossible. We purchased a piece of software from our vendor in May that we will need for Stage 2 and were told that it would be nine months before they could complete the install because they are so busy. Because the overall cost of IT projects is lower than at larger hospitals, small or rural hospitals can be less appealing to some health IT vendors, who are focusing first on larger and more established hospital projects. In addition, hospitals already working with a vendor have limited negotiating power given the federal mandate to buy a certified EHR.

I believe that changes to federal policies and continued technical assistance are needed to support adoption of EHRs in all communities across the country and ensure that we narrow the digital divide between rural and urban areas. The complexity of meaningful use and the aggressive timelines for the program pose a real challenge for small and rural providers that limit their ability to benefit from the program. During the development of the Stage 2 rules, I raised concerns over the unique challenges facing rural hospitals with the meaningful use work group of the HITPC. I am, however, the only voice for rural health care providers on that group. While my fellow committee members are clearly motivated to create positive change, I am concerned that the unique circumstances of rural providers are not being adequately considered in the policy making process as well in the regulations.

The Office of the National Coordinator for Health Information Technology (ONC) has given important technical assistance to rural providers through the Regional Extension Centers and other programs. However, the support for rural hospitals, as opposed to primary care physicians, was quite limited, at $18,000 per facility. While very helpful,

this kind of technical assistance cannot address all of the challenges rural hospitals face, such as financing, workforce, and vendor readiness issues.

The 2014 Time Crunch

The continued aggressive timelines for meaningful use could, unfortunately, increase the digital divide. The rules are very complex. However, they boil down to a regulatory requirement that all health care providers -- hospitals and physicians – install or upgrade to the "2014 Edition" certified EHR, regardless of where they are in meeting meaningful use. This means that vendors will need to support over 500,000 physicians and hospitals in a single year. For hospitals and physicians, many will be upgrading systems that they just installed this year. As I talk with my small and rural hospital colleagues, they have significant concerns about whether the vendor community has the ability to support all of those upgrades in such a short period of time, and are mindful that they are often at the end of the vendor queue due to their smaller revenue streams and remote locations.

This 2014 time crunch also raises concerns about patient safety. We implement EHRs to improve the quality and safety of health care. Patient safety is the first item on the agenda of every board meeting at our hospital so you can see we are very concerned about this issue. In fact, one of the main reasons we installed our EHR when we did was to improve patient safety. And it has done just that. Our closed loop medication administration system has all but eliminated medication errors in our hospital. However, these systems, especially when they are upgraded under sever time constraints, can, and unfortunately do, introduce risk when things go wrong. We installed a software upgrade some time ago and all of the allergies listed in the patient record disappeared. We were able to catch this problem before patients were harmed, and restored the allergies to the record, but this is the kind of thing that can happen.

Finally, hospitals must incorporate the adoption of EHRs in with all of the other regulatory requirements and strategic decisions they face. Adoption of EHRs is not the only mandate from HHS. The most challenging competing priority is the transition to ICD-10 by October 1, 2014. However, hospitals must also manage the other changes to payment and delivery systems created by the Affordable Care Act, such as value-based purchasing, medical homes, and accountable care organizations.

I believe that the Administration could, and should, take steps to provide more flexibility in the transition to Stage 2 and address the challenges faced by small and rural hospitals. If done correctly, the changes could alleviate the time crunch, but still keep the program moving forward.

- One important step would be to allow providers that are at Stage 1 to continue to use their existing certified EHR – the 2011 Edition – if they want to, rather than taking a mandatory upgrade to the 2014 Edition. Those just entering program at Stage 1 should also be able to choose either the 2011 or 2014 Edition.

- HHS could also allow more flexibility in the Stage 2 requirements, which set a very high bar and adopt an "all or nothing" approach, where failure to meet one part of an objective, or missing a threshold by only a small amount means a provider does not meet meaningful use, and will, starting with 2014, be subject to future payment penalties.

- Finally, HHS could extend the length of each stage of meaningful use to be 3 years for all providers. The current two-year cycle is simply too short for vendors to develop safe, useable products that providers can then deploy in safe, efficient ways that really help them better coordinate care, engage patients, and control health care costs. The cultural changes that are needed to fully realize the promise of EHRs requires more time than the current year-over-year changes in meaningful use allow.

The Interoperability Challenge

The establishment of an efficient and reliable mechanism for health information exchange is, to my thinking, the key to future progress. It is also critical to success at Stage 2, since many of the objectives, such as those for public health and transitions of care, assume a level of interoperability and information exchange infrastructure that is still maturing in some areas, and not yet available in others. Holding providers accountable to share information when the infrastructure to exchange is immature essentially puts the cart before the horse.

However, once we have mechanisms in place to share data electronically as easily as we can make a phone call, other incentives will lead providers to share data to support clinical care. For example, the Medicare payment penalties for high readmission rates provide an incentive for hospitals to share data and better coordinate care with physicians and nursing homes after a patient leaves the hospital.

In Nebraska we have one health information exchange (HIE) and it is working quite well. Various hospitals and physicians are signing up to use it. It is my belief that they are somewhat ahead of most state HIEs, but I still have some concerns. I don't think they will be at a point where they can connect with the state to report the public health measures at the time hospitals are required to do so, meaning that we will have to pay our vendor to develop an interface with the state to meet the meaningful use Stage 2 requirements. Additionally, I am worried about the financial sustainability of the HIE. When the grant money is exhausted I am not sure they can remain financially viable through subscription fees alone.

To make all of this work, we need an infrastructure for health information exchange based on national standards that require all HIEs to communicate with each other and that include such things as provider directories and support for providers to learn how to use the standards to share data. Efforts so far are encouraging, but they are not at the level we need. I would like to see policymakers re-double efforts in this area, starting

with a clear strategic plan that lays out a realistic timeline and accounts for the resources and supports needed by providers to be part of exchanges.

It is my belief that we need to reassess the program in light the reasons that the Congress chose to support the adoption of electronic health records. The first goal was to ensure that all healthcare providers could implement an electronic health record in their facility. The second goal was to have all of the individual electronic records be able to communicate with each other so that healthcare providers could view all of the patient's information in one place. The last goal was to build on the system put in place over time, to make it more and more robust. We are making progress on the first two goals, but have yet to fully achieve them. It is my opinion that we are trying to make the system more robust before the first two steps are anywhere near complete. To address the needs of all communities, we should re-focus our efforts on achieving widespread adoption and efficient information exchange. Rural hospitals need to share patient data in a timely manner because so many of our patients are transferred on to a higher level of care. We also need to be able to receive accurate, timely patient data when these same patients return to our facility for follow-up care. Widespread adoption and efficient information exchange will allow us to do this, which will exponentially improve the quality of care we are able to provide.

Thank you again for the opportunity to participate in today's hearing. I look forward to working with the Committee and all who are committed to the shared goal of widespread adoption of EHRs so that all Americans can benefit from the quality, safety, and efficiency gains they allow, whether they live in the largest city or the smallest rural community. Together we can achieve the triple aim of better health, better health care and lower costs for all Americans.

SIEMENS Healthcare

Testimony of John P. Glaser, Ph.D., CEO, Health Services, Siemens Healthcare

United States Senate Committee on Finance Hearing
"Health Information Technology: Using it to Improve Care"
July 24, 2013

Chairman Baucus, Ranking Member Hatch, and distinguished members of the Committee. It is an honor to testify before you today. I am the CEO of the Health Services business of Siemens Healthcare. Siemens Healthcare is a leading medical technology company with a portfolio comprising medical imaging, laboratory diagnostics, and healthcare IT. We deliver sustainable healthcare technologies that enable improved patient outcomes and reduced costs. At Health Services, we develop enterprise-level healthcare IT solutions that help providers coordinate care in a variety of settings including hospitals and ambulatory practices. Before joining Siemens, I spent fifteen years as the CIO for a large healthcare system in Boston and I previously served as an advisor to the Office of the National Coordinator for Health IT.

Siemens applauds the Committee for holding this hearing to highlight the importance of healthcare IT as a tool to improve the delivery of care. We also appreciate the work of Senators Roberts, Enzi, Thune, and Burr in focusing attention on the Medicare and Medicaid electronic health record (EHR) Incentive Program (the Program) and seeking improvements in the Program, where appropriate, as described in their recently published report: "REBOOT: Re-Examining the Strategies Needed to Successfully Adopt Health IT."

Health Services, Siemens Healthcare's HIT business, is headquartered in Malvern, PA, and employs approximately 5,000 individuals worldwide. We have been a leader in the healthcare IT industry for more than 40 years. In that time, our customers have demonstrated impressive outcomes that highlight the ability of healthcare IT to help providers increase the quality, safety and efficiency of care delivery – which can support the ability to deliver that care at a lower cost.

Today, IT solutions enable care givers to expedite diagnosis and improve care delivery. This is achieved by eliminating duplicative or unnecessary testing; generating data that can be used in efforts to evaluate care practices; creating better access to a patient's medical history – anytime, anywhere;

Siemens Medical Solutions USA, Inc.
51 Valley Stream Parkway,
Malvern, PA 19355
USA
Tel.: +1-888-826-9702
www.usa.siemens.com/healthcare

and by reducing instances of things that as a society we have deemed should not happen: medical errors, patient falls, hospital-acquired conditions, and preventable hospital readmissions.

For instance, The Chester County Hospital, in West Chester, Pa., has used our solutions and our clinical workflow technology to reduce hospital-acquired MRSA (methicillin-resistant Staphylococcus aureus) infections by 60%. MRSA infections are identified by the Centers for Medicare & Medicaid Services (CMS) as a preventable "never event." MedCentral Health System, in Mansfield, Ohio, used the same technology to reduce inpatient pressure ulcers, another "never event," by 90%.[1]

To reach, and exceed, these objectives EHR technology must be well implemented and it must be used as a fundamental element both in each care encounter and in the long-term management of a patient.

Siemens is fully committed to helping our customers achieve the objectives outlined in the EHR Incentive Program which was authorized under the Health Information Technology for Economic and Clinical Health (HITECH) Act of the American Recovery and Reinvestment Act (ARRA). Since the HITECH Act was passed in 2009, quantifiable and broad evidence has been gathered that supports the fact that the use of electronic health record systems has a measurable impact on patient care. The Meaningful Use Program was thoughtfully designed and it has been effective. We can also point to year-over-year increases in the number of hospitals and physicians that have attested to the Medicare EHR Incentive Program. A recently published report states that, as of 2012, 44% of hospitals reported having a basic EHR system, triple that of 2010[2].

However, we are at a critical moment in the Program. While impressive gains have occurred in EHR adoption, we should recognize that a minority of hospital and eligible providers have achieved attestation under Stage 1 of the Medicare EHR Incentive Program. Moreover, there are material differences in the adoption rates between large, teaching hospitals and small, rural and non-teaching

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[1] The outcomes achieved by the Siemens customers described herein were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption), there can be no guarantee that others will achieve the same results.

[2] Health Information Technology in the United States: Better Information Systems for Better Care, 2013. July 2013 Robert Wood Johnson Foundation.

hospitals. A report in the publication *Health Affairs* looked at data from 2011 and found nearly a 22% difference in EHR adoption between these types of organizations – a gap that was widening when compared with similar data from 2010. [3]

Implementing EHR technology is a complicated and demanding undertaking. For those organizations and providers that have achieved Stage 1 the path ahead in 2014 will be exceptionally challenging. They will need to:

- **Continue EHR implementation of 2014 Edition certified technology**
  As organizations now prepare for Meaningful Use Stage 2, the effort is becoming increasingly complex. In its current state, Meaningful Use Stage 2 is more stringent in its requirements and this is compounded by the delayed delivery of fully usable testing tools. Additionally, there is a lack of clarity in criteria and inconsistency in auditing approaches which compounds the ability for some hospitals and eligible providers to comply.

- **Convert to ICD-10**
  The mandatory conversion from the current ICD-9 procedure coding system to the vastly more complex ICD-10 coding system requires a complete overhaul that affects system capabilities, clinical documentation, coding, and billing.

- **Adjust operations for payment reform**
  As healthcare reform, driven by both the public and private sectors, continues to roll out new payment approaches and improved accessibility, hospitals and clinicians will deal with a number of operational and other changes in 2014, including Medicaid expansion, state health exchanges, new payer regulations, and increasing numbers of insured. These efforts will involve further investments in IT.

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[3] DesRoches CM, Worzala C, Joshi MS, Kralovec PD, and Jha AK. Small, Nonteaching, And Rural Hospitals Continue To Be Slow In Adopting Electronic Health Record Systems. *Health Affairs*. 2012. Accessed online: http://content.healthaffairs.org/content/early/2012/04/19/hlthaff.2012.0153

There are two significant outcomes of the above IT demands over the next 18 months – providers and organizations may simply opt out of the Program or they may rush the implementation.

First, many providers may opt out of further participation in the Program. Program participation may be viewed as less important than compliance with ICD-10 and the IT initiatives that are driven by an organization's strategic and operational goals. The attestation percentages cited above may plateau – falling well short of our collective ambitions for the Program.

Moreover, hospitals and eligible providers that have not achieved Meaningful Use Stage 1 by October 1, 2014, will face Medicare reimbursement cuts. With penalties taking effect, we could create an environment in which the gap grows between the "haves" (achieving Meaningful Use) vs. "have nots." Many smaller hospitals and physician practices could become the "have-nots" because many of these organizations do not have the financial and staff resources required to invest in and implement an EHR system. Although there are provisions for small, rural and critical access hospitals, incentive monies are paid only when an organization demonstrates use and these organizations often cannot finance the purchase of a system.

Second, the goal of achieving the improvements in care that can result from advanced EHR capabilities could be jeopardized by a rush to collect incentive payments and avoid penalties. From the vendor perspective (and my experience as a CIO), I recognize the substantial and multi-faceted effort required to implement healthcare IT systems in an approach that optimizes the technology and its capabilities. HIT technology does not exist in isolation but rather supports the clinical work of physicians, nurses and other healthcare professionals in nearly all hospital departments and patient settings. Therefore, process redesign is a critical component to ensure optimum use of any system. This redesign is part of what we broadly consider to be the "implementation."

Implementation goes beyond installing software and servers and entails active participation by clinicians, administrators, and IT staff – it is a months-long intensive project. "Rushing" an implementation can dilute the opportunity to maximize the technology, jeopardizes the ability to achieve the desired Program outcomes of care improvement and could, ultimately, have a negative effect on patient safety.

I would also like to comment on interoperability standards because increasing the exchange of important patient data between providers is a critical objective of the Program. To date, the level of exchange across the country is well below our collective aspirations.

I believe that payment reform is the major stimulus to increased levels of exchange. Payment arrangements that reward high-quality and cost-effective management of a patient's care over time and across various care venues will incent providers to invest more deeply in health information exchange. However, as payment changes take hold we need to facilitate that exchange with our efforts to improve EHR interoperability.

The 2014 Edition on Standards and Certification Criteria to be used in Meaningful Use Stage 2 clearly increased the requirements for cross-provider interoperability. However, a number of standard implementation guides are effectively described as being in a "draft stage" by the very standards organizations that manage them. Yet these new standards are being instituted for widespread use. Numerous clarifications and errata continue to be identified while preparations for Meaningful Use Stage 2 have to effectively conclude by October 1, 2013.

ONC has defined a sound framework to focus and advance the development and deployment of standard implementation guides that support cross-provider interoperability. While there is room for improving upon these processes, we are rushing through the steps without adequate time to ensure the resulting standard implementation guides actually work. We do not have time to determine if they are mature enough to be mandated across the industry. Mature standard implementation guides are essential to ensure we can communicate consistently and unambiguously across providers.

Recommendations

Hospitals and eligible providers are committed to improving the care they deliver to their patients. And they recognize the critical role that interoperable electronic health records play in those efforts. We must recognize, as they do, that the effective implementation of these systems takes time, significant resources, and a concerted organizational focus on re-engineering care practices using the technology. We need to give those who deliver care the time to do it right. We need to take some of

the time pressure off Program participation while continuing to implement the Program. Our recommendations are to:

Extend Stage 2 deadlines to October 1, 2015

We support an extension of the Stage 2 deadlines until October 1, 2015 and to change the timing so that each stage is separated by three years; giving ample time for organizations to prepare, implement, and gain tangible outcomes. By adding an additional third year to Stage 2 and extending Stage 3 and subsequent (if any) stages, providers can provide adequate attention to the important work of implementation and care workflow improvements.

Make the Program less prescriptive and promote flexibility

We also recommend adjustments to the Stage 2 objectives in order to better achieve the Program goals. If one of the goals of the program is to increase the use of EHR technology, then the objectives should be structured in order to help hospitals and eligible providers of all types and sizes. While all of these care givers desire to improve the care that they deliver to their patients, they do have differences in priorities, reflecting their assessment of their areas of needed improvement. We recommend that the Program should be less prescriptive and become more flexible. Flexibility could be added to Stage 2, for instance, by expanding the menu selection of requirements, rather than having to meet all of the 16 requirements currently mandated.

Moreover, as the country transitions from a phase of achieving meaningful use of EHRs to care improvement resulting from EHR use, the objectives should shift from defining specific features and capabilities of EHRs to ensuring that care delivery meets desired levels of quality, safety and efficiency. We need clinicians and provider leadership to focus on care outcomes rather than whether the have installed a certified EHR.

This critical shift in focus would lead to fewer EHR objectives and more care outcome goals. This relative de-emphasis on EHR features and functions would provide greater flexibility to care givers and their EHR suppliers in how to approach our collective goal of a high performance healthcare system.

Extending deadlines, timeframes, and incorporating a flexible approach has the potential to increase participation because it will allow providers to meet the goals of the Program while doing so without over-burdening their increasingly resource-constrained organizations. This has the potential to also enable rural and other smaller organizations to participate more fully in a program that may have been considered to be too restrictive and resource-consuming initially.

Create a special grant program for rural and critical access hospitals

We further recommend creation of new program elements that will encourage and enable adoption by rural and critical access hospitals and physician practices. Currently, these organizations are often without the financial and personnel resources required to undertake such an implementation and there is a real risk of a two-tier healthcare "have" and "have-not" system. We propose evaluation and development of alternate funding sources, such as grants or pre-payment of incentive monies to enable these organizations to implement EHR systems. We cannot claim success until the adoption rates improve among these institutions which typically care for our underserved and vulnerable populations.

Increased focus on interoperability

Finally, the Program has consistently and diligently focused on strengthening interoperability. While recognizing that provider exchange of health information will fundamentally be driven by payment reform, there are steps that can be taken to improve the effectiveness of interoperability and standards implementation efforts.

The recommendations I outlined above provide needed time for additional standards development, coding, testing, piloting, publishing, and roll-out of interoperability standards. The Program could use this time to address several interoperability challenges and issues, such as:

- incomplete quality measure definitions;
- ambiguous or incorrect interoperability implementation guides; and
- incorrect testing tools for interoperability and quality measures that were deployed without sufficient testing.

Conclusion

We appreciate the leadership of this committee in examining the effectiveness of the Medicare and Medicaid EHR incentive program. Over time, we believe that these investments will make a difference in improving care delivery. Let's have the patience to reaffirm that we are doing the right thing in how we encourage the adoption of, implementation of, and use of this critical technology to improve the care provided in our nation. After all, each of us is, one day, a patient.

I thank you for the opportunity to testify to this committee and I look forward to answering your questions.

STATEMENT OF HON. ORRIN G. HATCH, RANKING MEMBER U.S. SENATE COMMITTEE ON FINANCE HEARING OF JULY 24, 2013 HEALTH INFORMATION TECHNOLOGY: USING IT TO IMPROVE CARE

WASHINGTON – U.S. Senator Orrin Hatch (R-Utah), Ranking Member of the Senate Finance Committee, delivered the following opening statement at a committee hearing examining ways health information technology (IT) improves the quality of health care in America:

Thank you, Chairman Baucus, for holding this hearing today on health information technology, or health IT.

The hearing that we held in the Finance Committee last week was a good start to this conversation. I think we are all better informed of the complexity of this issue.

As I mentioned last week, I have heard from many providers and vendors – both large and small – about some of the challenges in becoming "meaningful users," as defined by the Office of the National Coordinator, or ONC.

I am hopeful that leaders at ONC and CMS are paying attention to our hearing this morning, and that they will consider the thoughtful comments made by our witnesses.

All too often, Congress creates programs that, despite our good intentions, have unintended consequences for those it seeks to help. In this case, Congress passed a law which provided billions of dollars in incentive money for providers to purchase health information technology with the hope that it will help transform care, increase quality, and lower costs.

These are all the rights goals. So the question becomes: Are the incentives well placed and are they making a difference? And, if not, why not?

We know that, unless you provide people with compelling reasons to make changes, changes will not occur.

For example, there has to be a compelling reason for hospitals to want to share information among non-affiliated providers.

Likewise, there has to be a compelling reason for vendors to want to create technologies that work across various systems.

It would seem to me that those reasons do not currently exist. If they did, we might not struggle with achieving interoperability. This seems to be the elusive holy grail of health IT. Everyone is talking about it, and yet it always seems to be out of reach.

I am most interested in hearing the thoughts of today's witnesses about the timing of the various stages of Meaningful Use, and the requirements involved. Let me be clear, I think we need to hold people's feet to the fire so that we continue to make strides in delivering high quality care.

If that means making requirements more stringent, then let's have that conversation. However, as I said to our witnesses last week, we have to give organizations enough time to acquire certified technologies and appropriately train staff to use them.

Ignoring the question of whether providers have the ability to keep up will only hurt the cause.

This transformation won't happen overnight. But, having the right timelines in place is nothing short of a necessity for success.

Providers cannot afford to waste resources on systems that quickly become out of date as CMS and ONC change requirements over time. And vendors should be afforded very clear instructions as to what is expected as part of a certified system.

Indeed, when we are talking about spending millions of dollars on health IT, certainty is a must.

Mr. Chairman, thank you once again for holding this hearing and I look forward to hearing from our panel of witnesses.

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STATEMENT OF JANET M. MARCHIBRODA
DIRECTOR, HEALTH INNOVATION INITIATIVE, BIPARTISAN POLICY CENTER
BEFORE THE
THE UNITED STATES SENATE COMMITTEE ON FINANCE
JULY 24, 2013

Chairman Baucus, Ranking Member Hatch, and members of the Committee, thank you for the opportunity to join you today to discuss using health information technology to improve care. My name is Janet Marchibroda and I currently serve as the Director of the Health Innovation Initiative at the Bipartisan Policy Center (BPC).

Founded by former Senate Majority Leaders Howard Baker, Tom Daschle, Bob Dole, and George Mitchell, BPC is a non-profit organization that drives principled solutions through rigorous analysis, reasoned negotiation, and respectful dialogue, focusing on numerous issue areas, such as economic policy, energy, housing, immigration, and health care.

BPC's Health Innovation Initiative conducts research and gains input from experts and stakeholders across every sector of health care to develop recommendations that promote improvements in the cost, quality, and patient experience of care through the use of innovative strategies and health information technology (IT).

In addition to my current role at BPC, over the years I have had the privilege of serving in a number of capacities at the intersection of health care quality, innovation, and information technology, including my roles as the chief operating officer of the National Committee for Quality Assurance, the chief health care officer of IBM Global Business Services, the executive director of Connecting for Health, and the founding chief executive officer of the multi-stakeholder, non-profit eHealth Initiative.

Over the last two years, BPC's Health Innovation Initiative has released several findings and recommendations related to the health IT capabilities needed to support higher quality, lower cost, patient-centered care as well as new delivery system and payment reforms, to inform public policy and private sector investments regarding the most effective allocation of health IT resources.

BPC's first major report in this area, Transforming Health Care: The Role of Health IT, identifies the common attributes of high-performance and new models of care, assesses the health IT capabilities needed to achieve these attributes, and makes recommendations for actions needed to close the gaps in such capabilities. Grounded in a review of the literature and interviews with 40 high-performing organizations, this report was developed under the guidance of BPC's Task Force on Delivery System Reform and Health IT, which was led by former Senate Majority Leaders and BPC Health Project Co-Chairs Tom Daschle (D-SD) and Bill Frist (R-TN) and included several nationally respected experts and leaders from many sectors of health care.

BPC's Health Innovation Initiative subsequently released several additional reports which examined more closely issues identified by the initial report, including the electronic information needs of clinicians for transitions of care, engagement of individuals in their health and health care through the use of electronic tools, accelerating electronic health information sharing to improve quality and reduce costs in health care, and recommendations for an oversight framework for health IT that both protects patient safety and promotes innovation.

I have drawn upon these BPC's findings and recommendations in preparing today's testimony.

Health IT's Role in Improving Health and Health Care

Health IT plays a significant role in improving the quality, cost-effectiveness, and patient experience of care. One comprehensive review of the literature showed that 92 percent of recent peer-reviewed articles on the effects of health IT used in clinical practice reached a positive conclusion overall, addressing such areas as efficiency of care, effectiveness of care, provider satisfaction, and patient safety.[1]

Health IT also plays a critical and foundational role in high-performing health care organizations and new models of care delivery and payment. Fueled by concerns over rising health care costs and uneven quality, new delivery system and payment models that promote higher quality, lower cost, and more patient-centered care are rapidly emerging, with support from the federal government, the private sector, and states. Through the Center for Medicare and Medicaid Innovation, the federal government is investing considerably in new models of delivery and payment, including accountable care organizations (ACOs), advanced primary care, the patient-centered medical home, home-based care, and bundled payments.[2] The private sector and states are also launching accountable care and patient-centered medical home arrangements that are designed to improve health care and lower costs. A recent study identified 227 provider organizations that had established ACO contracts with Medicare, Medicaid, private payers, or some combination thereof.[3] A majority of states are now advancing medical home or other accountable or coordinated care arrangements through their Medicaid or Children's Health Insurance Programs.[4]

In a report issued last year, BPC identified the common attributes of high performance and new models of care, and defined the health IT capabilities needed to support achievement of such attributes. A summary of those findings is provided below.

Common Attributes of High-Performing Organizations and New Models of Care[5]	Role of Health Information Technology[6]
Informed clinicians and care teams at the point of care and in between visits	▪ Provides ready access to clinical decision support tools and information about the patient, to inform clinical decision-making at the point of care and between visits, through the use of electronic health records (EHRs) and health information exchange
Coordinated care delivery across settings	▪ Enables electronic access for all members of the care team to information about the patient—from across the multiple settings in which care and services are delivered—through electronic information sharing or health information exchange
Engagement of individuals in their health and health care; focus on prevention and wellness	▪ Provides patients access to information contained in their EHRs ▪ Educates, engages, and supports individuals through the use of online, electronic, and mobile consumer e-health tools
Providing timely access to care	▪ Enable "virtual" visits or online consultations, secure email communications between clinicians and patients, and online health care transactions, through consumer e-health tools
Alignment of payment incentives with quality, cost, and patient experience outcomes	▪ Aggregates and analyzes clinical, administrative, and patient-generated data through analytics, to conduct the following: - Measure outcomes in cost, quality, and patient experience of care - Identify gaps and duplications in care to inform clinical decision-making - Identify and predict areas requiring intervention and improvement
Organizational and clinical leadership	▪ Aggregates and analyzes clinical, administrative, community, and patient-generated data through analytics to set goals, monitor progress, and improve performance

As indicated above, the health IT capabilities that support higher quality, more cost-effective, patient-centered care fall into four primary categories: electronic health records or EHRs, health information exchange, consumer e-health tools, and analytical tools.

A more detailed description of each of these health IT categories, benefits, rates of adoption, and barriers to more widespread adoption, are summarized below.

Where We are Today: Current Status of Health IT

Electronic Health Records

EHRs enable clinicians to have ready access to reminders, alerts, and other clinical decision support tools, as well as important information about the patient, to inform clinical decision-making at the point of care and in between visits, help eliminate medical errors, and promote evidence-based care. Examples of information that can be included are medications that have been prescribed; allergies; laboratory, imaging, or other diagnostic tests that have previously been performed and the results of those tests; previous diagnoses and hospitalizations; and demographic information about the patient, along with his or her preferences.

The level of adoption of EHRs among physicians and hospitals has increased significantly over the last few years. Adoption of at least a basic EHR system among office-based physicians increased from 17 percent in 2008 to 40 percent in 2012.[7] The share of hospitals that have adopted at least a basic EHR system increased from 9 percent in 2008 to 44 percent in 2012.[8]

Research indicates that there are disparities in the levels of adoption among different groups. EHR adoption among physicians varies by specialty status, physician age, and practice size. Primary care physicians are more likely to adopt EHRs than non-primary care specialists and physicians in small practices are less likely to adopt than those who deliver care in larger practices.[9] Small, non-teaching, and rural hospitals tend to adopt EHRs more slowly than other hospitals.[10]

Commonly cited barriers to EHR adoption among physicians include lack of access to capital to support purchase of systems; concerns about the ongoing costs of maintaining and upgrading systems; uncertainty about the return on investment; lack of capacity to evaluate, select and install such systems; concerns about the lack of productivity during transition and the changes in work flow that will follow; worries about privacy and security; and lack of trained staff with the technical expertise needed for both implementation and ongoing management.[11,12,13]

Barriers to adoption among all hospitals are similar to those cited for physicians and are generally more pronounced in smaller or rural systems. They include lack of capital for upfront costs; concerns about the ongoing costs of maintaining and upgrading systems; physician resistance; and lack of trained technical staff.[14]

A majority of the investment in health IT brought about by the Health Information Technology for Economic and Clinical Health (HITECH) Act—$15.5 billion of the $17.5 billion spent to date—has been used to provide incentives to eligible health care professionals and

hospitals for their adoption and "meaningful use" of EHR technology. As of June 30, 2013, approximately $15.5 billion had been expended under the Centers for Medicare and Medicaid Services (CMS) Medicare and Medicaid EHR Incentive Programs (informally referred to as "Meaningful Use"), $6.3 billion of which was paid to eligible professionals and $9.2 billion of which was paid to hospitals.[15]

Many of the EHR capabilities needed to support high quality, cost-effective care have been included in Stage 1 and Stage 2 requirements for Meaningful Use.

Health Information Exchange

Because much of the information about a patient's health and health care resides in multiple locations across the health care system, including the offices of primary care physicians and specialists, hospitals, laboratories, and pharmacies, as well as with patients themselves, in order for a clinician to provide well-informed, coordinated care, information sharing across the settings in which care and services are delivered for an individual patient, is required. Traditionally this information has been shared using mail, phone, or fax and in many cases, this information has not been shared at all, resulting in the repeat of tests—which can be costly and sometimes harmful—or less than optimal care.

The electronic sharing of information—or health information exchange—brings information about the patient—regardless of where care or services are delivered—to the clinician or care team caring for an individual patient, which enables better care coordination, avoidance of gaps and duplications in care, and more informed decision-making—all of which drives higher quality, more-cost effective care.[16,17]

Electronic health information sharing also enables the more accurate, efficient aggregation of data to support the calculation of performance measures, which are required by a multitude of federal, state, and private sector programs.

Recent surveys of clinicians indicate that a majority believe that the electronic exchange of health information across care settings will have a positive impact on the quality of patient care, the ability to coordinate care, and the ability to reduce costs.[18,19] A majority of clinicians believe that health information exchange will help them meet the demands of new care models—such as the patient-centered medical home and those related to accountable care—and also participate in third-party reporting and incentive programs.[20]

While the electronic exchange of information plays a critical role in supporting higher quality, cost-effective care, the level of health information exchange across the U.S. today is low. In a recent study, only 30 percent of hospitals and 10 percent of ambulatory practices were found to be participating in operational health information exchange efforts.[21]

In order to achieve electronic information sharing, electronic health record and other clinical systems must be interoperable (have the capability to exchange information across disparate systems) and those providing care and services—such as clinicians, hospitals,

laboratories, pharmacies, etc.—must be willing to share that information. It is important to note that many of the studies that forecast significant cost savings from the use of EHRs presume that such systems are indeed interoperable and that health information sharing is occurring, which largely does not represent the current state today.

The most significant barrier to exchange is the lack of a business case for information sharing. Because the predominant method of payment in the U.S. health care system today provides reimbursement for volume—or the number of visits, tests or procedures performed—as opposed to rewarding outcomes or value, there are limited financial incentives for providers to access or share information across care settings to reduce duplicative tests or procedures, or otherwise improve the quality or cost of care.[22,23]

Other barriers to electronic information sharing include the lack of standards adoption and interoperability of systems, lack of access to infrastructure to support exchange, the cost of exchange, concerns about privacy and security, and concerns about liability.[24,25,26]

The lack of agreement on methods for accurately linking a patient's data from across the health care system also serves as a barrier to electronic information sharing.[27]

Stage 2 of Meaningful Use, along with the 2014 Edition of Standards, Implementation Specifications, and Certification Criteria, contain more robust requirements for interoperability and exchange, particularly as it relates to transitions of care.

While Stage 1 made the provision of a summary of care record for 50 percent of care transitions and referrals optional, Stage 2 now requires it. Stage 2 also adds requirements associated with the *electronic* transmission of a summary of care record 10 percent of the time and requires at least one test of successful exchange with a recipient that uses a system designed by a different EHR vendor (with the goal of advancing interoperability across vendor systems). Finally, Stage 2 standards and certification criteria are more robust, requiring certified EHR technology to receive, display, and transmit many more types of data—using standards. Stage 2 standards specify requirements for data transport. The lack of such standards in Stage 1 has been identified by many as a barrier to more widespread exchange.[28,29,30,31]

An analysis of the differences in electronic health information-sharing requirements between Stage 1 and Stage 2 of Meaningful Use and related standards and certification criteria is provided below.

Stage 1 Requirements	Stage 2 Requirements
Meaningful Use Requirements[32,33]	
Hospitals and eligible professionals (EPs) are required to provide a summary of care record for more than 50 percent of transitions of care or referrals (which need not be transmitted electronically) (optional)	Hospitals and EPs are required to provide a summary of care record for more than 50 percent of transitions of care or referrals (which need not be transmitted electronically)
	Hospitals and EPs are required to electronically transmit a summary of care record for more than 10 percent of transitions of care and referrals.
	Hospitals and EPs must also send at least one summary of care record electronically to a recipient that uses a different EHR vendor or a CMS-designated test EHR
Summary of care document has no required elements	Summary of care document must include the following: ▪ Current problem list ▪ Current medication list ▪ Current medication allergy list

Stage 1 Requirements	Stage 2 Requirements
Standards and Certification Requirements[34,35]	
Certified EHR technology must be able to electronically receive, display, create, and transmit a summary record that includes the following: ▪ Diagnostic test results (laboratory test results must use standards*) ▪ Medication allergies ▪ Medications* ▪ Problems* ▪ Procedures* *Must use standards	Certified EHR technology must be able to receive, display, create, and transmit a summary of care record that includes the following: ▪ Care plan fields ▪ Care team members ▪ Cognitive status (create and transmit only) ▪ Date of birth ▪ Discharge instructions (create and transmit only, inpatient setting only) ▪ Encounter diagnoses* (create and transmit only) ▪ Ethnicity* ▪ Functional status (create and transmit only) ▪ Immunizations* (create and transmit only) ▪ Laboratory tests* ▪ Laboratory test values/results ▪ Medication allergies* (must also be able to incorporate in EHR) ▪ Medications* (must also be able to incorporate in EHR) ▪ Patient name ▪ Preferred Language* ▪ Problems* (must also be able to incorporate in EHR) ▪ Procedures* ▪ Race* ▪ Reason for referral (create and transmit only, ambulatory only) ▪ Referring or transitioning provider's name and contact information (create and transmit, ambulatory only) ▪ Sex ▪ Smoking status* ▪ Vital signs *Must use standards

Stage 2 Meaningful Use requirements also offer another option that facilitates information sharing to support care transitions and coordination of care. At least 5 percent of patients of both eligible professionals and hospitals are required to have the ability to "view online, download, and transmit to a third party" their health information from the certified EHR after their visit or upon discharge from the hospital.[36]

Information that must be made available for online viewing, downloading, or transmission to a third party—summarized below—largely aligns with the information that must be transferred from provider to provider for a transition of care or referral, including specified standards.[37]

1. Admit and discharge date and location (hospital only)
2. Care plan field(s) including goals and instructions
3. Care team
4. Current and past problem list
5. Demographics (sex, race, ethnicity, date of birth, preferred language)
6. Discharge instructions (hospital only)
7. Laboratory test results
8. Medication allergy list and history
9. Medication list and history
10. Patient name
11. Problem lists
12. Procedures performed
13. Provider's name and office contact information (EP only)
14. Reason for hospitalization (hospital only)
15. Smoking status
16. Summary of care record for transitions of care or referrals
17. Vital signs

As a result, many patients who receive care from either a hospital or a health care professional that implements the "view, download, and transmit to a third party" functions required by Stage 2 Meaningful Use, will be able to either (1) download their health information described above and take it with them to their next visit or (2) have their provider "transmit" the same information from the certified EHR to the provider they are seeing on their next visit, using the same standards that are required for provider to provider exchange.

Consumer e-Health Tools

Health IT—in the form of electronic tools that support individuals (often referred to as consumer e-health tools)—also provides significant benefits. There is a growing body of evidence that shows that patients who are more activated and engaged in their care have better health care outcomes and experiences.[38,39,40] There is also some evidence that indicates that more activated or engaged patients are associated with lower health care costs. [41,42,43]

Americans are increasingly online. Eighty-five percent of American adults use the Internet.[44] Ninety one percent of Americans own a cell phone and 56 percent own a smartphone.[45] Thirty-four percent of Americans own a tablet computer.[46]

The use of online, electronic, and mobile tools—which plays such a predominant role in all other aspects of American life—has the potential to accelerate and enhance consumer engagement strategies employed by a broad range of health care organizations, including clinicians, employers, health plans, hospitals, and other providers. Consumer-facing electronic tools fall primarily into two categories: those that support consumer education and self-care and those that support individuals as they interact with the health care system.

Electronic tools that support consumer education and self-care include online educational resources, interactive tools that assist with self-monitoring and tracking, online communities that enable individuals to share experiences and gain advice from others, and patient-maintained health records (often referred to as personal health records).

Electronic tools that help individuals interact with the health system include those that enable patients to access and download information from their EHRs, securely communicate with their providers using email, engage in "virtual" visits or online care—often referred to as telemedicine, and manage their health care transactions online.

Research shows that patients who are educated about their health status or conditions feel more activated and are more prepared for visits with their clinicians.[47] Those who use tracking tools say that they have changed their approaches to maintaining their health and their treatment of illness.[48] Many consumers find that information found via social media affects how they cope with their chronic conditions, whether they should seek a second opinion, or their approach to diet and exercise.[49]

Patient access to information from their EHRs supports more informed interactions with their clinicians, enables the identification of errors or incomplete information in their records, and improves care coordination among the various providers that provide care for an individual patient.

Secure, electronic communication between patients and their care providers provides timely, convenient, and less costly interactions between office visits—when a face to face encounter is not necessary or feasible. One study showed that the use of secure patient-

physician email was associated with improvements in health outcomes, including cholesterol levels, and blood pressure screening and control.[50] Enabling the management of various health care transactions online, such as renewing prescriptions, reviewing lab test results, and scheduling appointments, saves time for both patients and clinicians, and has been shown to improve patient satisfaction and retention.[51]

A summary of adoption rates for consumer-facing electronic tools is provided below.

Electronic Tools That Support Consumers and Patients	**Adoption Rates**
Electronic educational resources	72 percent of internet users have looked online for health information.[52] 31% of cell phone owners, and 52% of smartphone owners have used their phone to look up health or medical information[53]
Interactive electronic tools	69 percent of U.S. adults have tracked a health indicator like weight, diet, exercise routine, or symptom. Of those, 21 percent used some form of technology to track their health data.[54]
Online communities	Among online health information seekers, 16 percent have tried to find others who might share the same health concerns.[55]
Personal health records	Ten percent of Americans currently maintain an electronic personal health record.[56]
Consumer access to information contained in their electronic health records	While 65 percent of patients believe that having online access to their health information (e.g., doctor visits, prescriptions, test results, and history) is important or very important, only 17 percent report having such access.[57]
Electronic communication between individuals and their clinicians or care teams	While 53 percent of patients believe that being able to email their doctors is important or very important, only 12 percent say that their doctors provide these capabilities.[58]
Ability to conduct health care transactions online	While about half of patients believe that being able to make appointments online or receiving billing and making payments online is important or very important, only about ten percent say that their doctors offer these services. [59]

Commonly cited barriers to consumer use of electronic tools to support their health and health care include lack of awareness about the availability of tools, limited or no Internet access, concerns about usability and benefit, lack of computer skills, low health literacy, and unmet technical- or information-support needs.[60,61] Some consumers have concerns about the privacy and security of their online health information.[62]

The significant increase in the number of individuals who use mobile or smart phones is bringing down barriers to access to the Internet, creating new opportunities to expand the use of online health information tools across all patient populations. As noted previously, 91 percent of Americans own a cell phone and 56 percent own a smartphone.[63]

Another barrier to consumer adoption of electronic tools that support interaction with the health care system is the lack of availability of such tools, given—as noted in the chart above—low levels of adoption among providers. Barriers to the adoption of consumer-facing applications among clinicians include concerns about privacy and security, concerns about receiving an unmanageable number of messages from patients and the impact on workflow, and the lack of reimbursement for time spent.[64,65] Communication with patients outside the traditional office visit is generally not reimbursed in fee-for-service payment models, so providing advice or care via secure electronic means is largely uncompensated.

Stage 2 of Meaningful Use—which goes into effect on October 1, 2013, for hospitals and January 1, 2014, for eligible professionals—has robust requirements for patient engagement, which are outlined in more detail below:

Types of Electronic Tools	**Stage 1 Requirement**[66]	**Stage 2 Requirement**[67]
Electronic educational resources	Identify and provide patient-specific education resources to more than 10 percent of unique patients (eligible professionals or EPs and Hospitals—"Menu" or Optional).	Identify and provide patient-specific education resources to more than 10 percent of unique patients (EPs and Hospitals—"Core" or Required).

Types of Electronic Tools	Stage 1 Requirement[68]	Stage 2 Requirement[69]
Access to health information included in the EHR	Provide an electronic copy of health information within three business days to more than 50 percent of patients who request such information (Hospitals—Core).	Make information about the hospital admission available online within 36 hours of discharge to more than 50 percent of patients discharged from the hospital (Hospitals—Core).
	Provide an electronic copy of discharge instructions within three business days to more than 50 percent of patients who are discharged from a hospital and request such information (Hospitals—Core).	More than 5 percent of patients discharged from the hospital must view online, download, or transmit to a third party information about a hospital admission (Hospitals—Core).
	Provide an electronic copy of health information within three business days to more than 50 percent of patients who request such information (EPs—Core).	Provide timely (within four business days) online access to their health information to more than 50 percent of all unique patients seen by the EP (EPs—Core).
	Provide at least 10 percent of all patients seen by the EP with timely electronic access to their health information within four business days of the information being available to the EP (EPs—Menu).	More than 5 percent of all unique patients seen by the EP either view, download, or transmit to a third party their health information (EPs—Core).
	Provide clinical summaries to patients for more than 50 percent of all office visits within three business days (EPs—Core).	Provide clinical summaries to patients for more than 50 percent of all office visits within one business day (EPs—Core).

Types of Electronic Tools	Stage 1 Requirement[70]	Stage 2 Requirement[71]
Electronic tools that enable secure communication between providers and patients	Send reminders for preventive and follow-up care to more than 20 percent of all patients 65 years or older or five years old and younger (EPs—Menu).	Send reminders for preventive and follow-up care to more than 10 percent of all unique patients who have had two or more office visits (EPs—Core).
	n/a	A secure message was sent using the electronic messaging function of certified EHR technology by more than 5 percent of unique patients (or their authorized representatives) (EPs—Core).

Analytical Tools

Another area in which health IT plays a critical role in improving the quality, safety and cost-effectiveness of care, is that which relates to the analysis of electronic data to support improvements in the health of populations.

Health IT enables health care organizations to access and analyze large sets of electronic health information—often referred to as "big data"—to monitor performance, identify opportunities for improvement, predict where issues in cost and quality are likely to emerge, and identify interventions that are likely to improve outcomes and patient satisfaction.

In addition to supporting care improvement, the analysis of large electronic data sets through analytics also supports other population health goals, such as clinical research to support the assessment of new and existing treatments on outcomes, the application of personalized medicine, safety surveillance of medical products, and the monitoring and prediction of emerging public health threats.

Barriers to the effective aggregation and analysis of large data sets to improve population health include limited access to data, the lack of standardization of data, the absence of a national strategy for accurately linking information associated with a particular patient across disparate data sets, and lack of clarity in rules associated with privacy.

Where Do We Need to Go From Here? Key Imperatives

In order to fully benefit from the use of health IT to improve the quality, cost-effectiveness, and patient experience of care, the following key imperatives should be considered, which draw upon BPC findings and recommendations over the last two years:

1. **Prioritize Electronic Sharing of Health Information in Federal Programs**

   The electronic sharing of health information across the many settings in which care and services are delivered for any individual patient is a central and necessary component of efforts to improve care coordination, promote accountability, and improve the quality, cost-effectiveness, and patient experience of care. The federal government can take several actions to promote electronic information sharing:

   - Continue to advance expectations associated with electronic information sharing and data standards adoption among clinicians, hospitals, laboratories, and other health care organizations through federal health care programs, including but not limited to payment and incentive programs, such as the CMS Medicare and Medicaid EHR Incentive Program.
   - Continue to advance requirements for standards adoption within electronic systems in health care through the Office of the National Coordinator for Health Information Technology's Standards and Certification Program.
   - Collaborate with the private sector in the development and implementation of both a national strategy and long-term plan for data standards to support a broad set of health care priorities, which extend beyond the needs of Meaningful Use.
   - Collaborate with the private sector to raise awareness of the benefits of information sharing for patients and highlight both leadership and opportunities for improvement in electronic information sharing among individual providers and vendors.
   - Identify areas of the U.S. where there are no available options for electronic information sharing to facilitate action designed to close gaps in supporting infrastructure.
   - Support the development and implementation of a national strategy to improve methods for and accuracy of matching patients to their health information across settings.

2. Promote Innovation to Support the Needs of New Models of Care and a Rapidly Changing Health Care System

Since HITECH was passed and signed into law in 2009, there has been significant change in both the health care system and the technology designed to support it. Health IT must continuously evolve to support rapidly emerging changes in the health care system.

Innovations designed to drive improvements in the quality, cost, and patient experience of care are emerging at a rapid pace. Increasingly, clinicians, hospitals, health plans, and employers are forging new collaborations to facilitate better coordination of care, more seamless and patient-centered care, and achieve better outcomes in cost and quality. Health care innovators are augmenting traditional forms of care delivery by engaging patients in their homes and in between visits, to keep them healthy and more effectively manage chronic conditions.

Technology is also changing. Nearly every American is now online—whether through a computer, digital tablet, or mobile phone. Applications that support EHRs used for care delivery, electronic health information sharing, engagement of consumers, and application of analytics are increasingly being offered in several ways, ranging from stand-alone systems installed within an individual organization to web-based applications that operate in the "cloud". The lines between these different types of applications are beginning to blur. Users are accessing these applications from a wide range of platforms, including traditional desk-top computers, laptops, digital tablets, and increasingly, mobile phones.

The amount of change in health care and the IT that supports it is expected to both continue and accelerate. This has implications for any federal programs designed to provide incentives for or otherwise regulate electronic tools used in health care.

The federal government should consider the following to assure that it continues to derive value from its investments and accommodates and promotes innovation in health care and health IT:

- Future federal requirements for Meaningful Use incentives—such as those to be developed for Stage 3—should transition towards rewarding standards-based information sharing and measurement and achievement of outcomes. Over time, requirements should transition away from features and functions that will need to evolve rapidly to support the needs of a changing health care system, and can be supported by market forces.
- As the federal government develops a risk-based regulatory framework related to health IT, including mobile medical applications, in response to the Food and Drug Administration Safety and Innovation Act of 2012 (FDASIA), it should take into consideration the following:

- First and foremost, any oversight framework for health IT should recognize and support the important role that health IT plays in improving the quality, safety, and cost-effectiveness of care, as well as the patient's experience of care;
- Any framework for patient safety in health IT should be risk-based, flexible, and promote innovation;
- Assuring patient safety is a shared responsibility that must involve the entire health care system;
- Existing health care safety and quality-related processes, systems, and standards should be leveraged for patient safety in health IT; and
- Reporting of patient safety events related to health IT is essential; a non-punitive environment should be established to encourage reporting, learning, and improvement.

3. Provide Support to Those Who May Need Assistance in Making the Transition

As noted previously, EHR adoption among physicians and hospitals varies. Among those eligible for Meaningful Use incentives, adoption rates for small practices continue to lag behind those for larger practices.[72] Large urban hospitals continue to outpace rural and nonteaching hospitals in adopting EHR systems.[73]

Adoption rates also continue to lag for those providers who are not eligible for CMS Medicare and Medicaid EHR Incentives, including home health and long-term care organizations, some specialties, and behavioral health care providers. Participation of such providers is critical to efforts designed to promote coordinated, accountable care.

EHR adoption is a foundational component of the health IT needed to increase the coordination of care and improve the quality, cost-effectiveness, and patient experience of care.

The federal government should consider the following to support adoption of EHRs among all providers:

- Create incentives for and advance education, training, and implementation support for providers that continue to lag in EHR adoption, including small physician practices, rural hospitals, and those who do not qualify for incentives under the CMS Medicare and Medicaid EHR Incentive Programs.
- Explore other opportunities for supporting adoption among providers that do not qualify for incentives under the CMS Medicare and Medicaid EHR Incentive Programs, including home health and long-term care providers and behavioral health care providers.

4. **Improve Medicare Care Delivery and Payment Systems to Promote Coordinated, Information-Driven Care**

   The prevalent fee-for-service reimbursement model in traditional Medicare is a major barrier to improvements in cost and quality and is increasingly an impediment to private-sector efforts at payment reform.

   In its recently released report, A Bipartisan Rx for Patient-Centered Care and System-Wide Cost Containment, BPC calls for the acceleration of the transition to value-based payment models that would help providers work together to improve care coordination, improve care for patients, and take responsibility for cost and quality.

   Models which facilitate payment for high-value, coordinated care offer the most compelling "business case" for electronic information sharing and engagement of individuals using electronic tools—the primary gaps in health IT that are in place today.

Conclusion

The U.S. health care system is undergoing significant change, brought about by concerns related to rising health care costs, uneven quality, and eroding coverage. Delivery system and payment reforms which promise to improve both the quality and cost-effectiveness of care are rapidly emerging with leadership by the federal government, states, and the private sector. Such reforms cannot be successful without a strong health information foundation which health IT provides.

Key capabilities needed for these new models of care, including electronic information sharing across the many settings in which care and services are delivered, more effective engagement of patients using electronic tools, and more effective linking and analysis of data to support measurement and improvement, are currently not widely adopted.

Stage 2 of the CMS Medicare and Medicaid EHR Incentive Programs provides a strong foundation for engagement of individuals in their health and health care, and the adoption of standards for interoperability of EHR systems.

The initial phase of investments in health IT has focused on moving EHRs into physician practices and hospitals. Over the coming years, the U.S. health care system must leverage and expand upon these investments to address the need for information-sharing capabilities across settings, more effective engagement of individuals in their health and health care, and standardization and linking of electronic data sets to more effectively predict, manage, and improve health care outcomes.

Health IT in and of itself is not the "silver bullet" that will improve health and health care in the U.S. However, it is the necessary and critical foundation for the delivery and payment

changes, as well as the increased focus on prevention and wellness, that are needed to transform the U.S. health care system into one which is less fragmented and more coordinated, accountable, and transparent; one which puts the patient in the center; and one which delivers higher quality, more cost-effective care for all Americans.

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COMMUNICATIONS

American Hospital Association

Liberty Place, Suite 700
325 Seventh Street, NW
Washington, DC 20004-2802
(202) 638-1100 Phone
www.aha.org

Statement

of the

American Hospital Association

before the

United States Senate Committee on Finance

"Health Information Technology: Using it to Improve Care"

July 24, 2013

On behalf of our nearly 5,000 member hospitals, health systems and other health care organizations, and our 43,000 individual members, the American Hospital Association (AHA) appreciates the opportunity to comment for the record as part of the Committee's look at the use of information technology (IT) to improve health care. Our statement is offered in support of a safe, orderly transition to widespread use of health IT that supports hospitals' efforts to improve the safety and quality of care, better engage patients and reduce unnecessary hospital expenditures.

In the *American Recovery and Reinvestment Act* (ARRA), Congress provided much-needed financial support for the adoption of electronic health records (EHRs), followed by penalties for those who fail to meet requirements, through the Medicare and Medicare EHR Incentive Programs. The AHA believes that Congress established these programs in large measure to realize the quality benefits of health IT and allow for more efficient generation and reporting of quality measures for use in improvement efforts and payment policies. The incentives also were meant to ensure that all providers had the resources needed to adopt EHRs, regardless of their size or location.

We believe that the EHR incentive programs will have the best outcome if current regulations are realigned to ensure a safe, orderly transition to the next phase of the program that leaves no one behind. Hospitals are working hard to adopt EHRs, and many of them have been able to benefit from the incentives. However, the majority of hospitals have yet to meet the exceedingly complex federal requirements for "meaningful use" of EHRs. If they cannot, the needed incentives will quickly turn into financial penalties. In particular, small and rural hospitals lag behind their larger and urban counterparts. Nevertheless, the Department of Health and Human Services (HHS) is maintaining an aggressive timeline and will increase requirements on providers on October 1, when the program moves from Stage 1 to Stage 2. **The AHA believes that HHS can and should take steps to expand the meaningful use timelines and introduce more flexibility into the program. Our recommendations would still allow Stage 2 to start in 2014,** but the transition would be more safe and orderly.

USING HEALTH IT TO IMPROVE CARE

America's hospitals share the goals of Congress to realize the promise of health IT. They are making tremendous investments in purchasing and implementing EHRs and other IT systems, hiring new staff to guide IT deployment, and creating new structures for care delivery that leverage health IT.

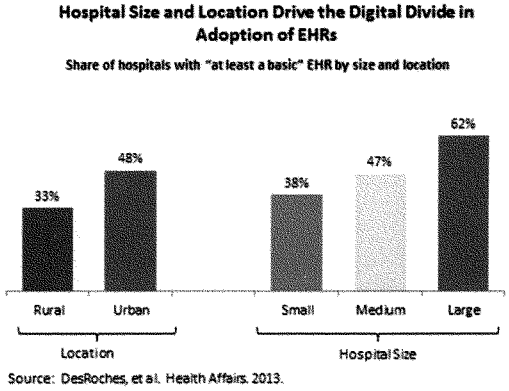
EHRs can improve health care by making the right information available to the right person at the right time. For example, order-entry systems that include clinical decision support tools alert clinicians to potential adverse drug interactions, thereby preventing patient harm. The electronic sharing of a patient's hospital record with a primary care physician can help guide a patient's recovery from an acute event and avoid an unnecessary return to the hospital. Through a concerted focus on quality improvement, we have seen significant gains, including a marked reduction in readmissions in recent years. Widespread deployment of health IT can help build on those gains.

Hospitals have begun to use EHRs and other health IT to support their quality improvement, patient engagement, and community care goals, and want to continue on that path. However, they must have reliable systems that are available around the clock, every day of the year. The practical realities of implementing complicated technology inside complex organizations, demand a considered approach with patient safety as the top priority.

UNEVEN PROGRESS ON ADOPTION OF EHRS

The nation's hospitals are working hard to adopt EHRs. For example, data from the Health IT supplement to the AHA Annual Survey indicate that the share of hospitals that have at least a "basic EHR" increased from about 9 percent in 2008 to 44 percent in 2012. That impressive progress was made possible by the significant investment and sustained effort of the technical staff and clinicians working in hospitals.

Despite these gains, the digital divide remains a significant issue. Implementation challenges remain for many hospitals, particularly small and rural hospitals. These groups also have made progress and should not be penalized for not being further along. According to a recent article in the journal *Health Affairs* (co-authored by a team from the Office of the National Coordinator for Health IT, or ONC, the AHA and academia), "large urban hospitals continue to outpace rural and nonteaching hospitals in adopting EHR systems," with only 44 percent of all hospitals – but only one-third of rural hospitals – having "at least a basic" EHR. The trend by size of hospital is also notable, with large hospitals much further ahead in EHR adoption (62 percent) than small and medium-sized hospitals (46 and 38 percent, respectively).



The study authors conclude that policymakers should "focus on hospitals that are still trailing behind, especially small and rural institutions. This will be especially important as stage 2 meaningful-use criteria become the rule, and positive incentives are replaced by penalties ... As the penalty phase draws nearer, efforts to assist these hospitals will become even more important because the decrease in their revenue could further exacerbate barriers to their adoption of EHR systems" (DesRoches, et. al., Health Affairs 32:8; available at http://content.healthaffairs.org/content/early/2013/06/27/hlthaff.2013.0323).

Congress established the Regional Extension Center (REC) program to help primary care physicians and rural hospitals adopt EHRs and meet the meaningful use requirements of the EHR incentive programs. Through the RECs, ONC has provided technical assistance, but generally chose to focus available resources on physicians over hospitals (funding is limited to $18,000 per hospital). These efforts are helpful, but may not be sufficient to overcome the barriers. A May 2013 report commissioned by ONC indicates that while 72 percent of critical access hospitals (CAHs) have signed up to work with a REC, only 18 percent of them have demonstrated meaningful use. Among the other small rural hospitals signed up with a REC, 27 percent have demonstrated meaningful use, according to the ONC study (NORC at the University of Chicago. Understanding the Impact of Health IT in Underserved Communities and Those with Health Disparities, available at www.healthit.gov/sites/default/files/hit_disparities_report_050713.pdf).

THE MEDICARE AND MEDICAID EHR INCENTIVE PROGRAMS

The Medicare and Medicaid incentive payments offer much-needed financial support to health care providers. However, to receive incentives, providers must meet the requirements of meaningful use established by HHS. These requirements increase over time, beginning with Stage 1 and quickly moving to Stage 2.

The AHA believes that the EHR incentive programs will have the best outcome if current regulations are realigned to ensure a safe, orderly transition to Stage 2 that leaves no one behind. We are concerned that the proscriptive requirements of meaningful use and rushed regulatory timelines pose significant challenges that detract from quality improvement goals by focusing attention on meeting complicated regulatory metrics. We also are concerned that these policies could widen, rather than narrow, the existing digital divide, affecting not only the hospitals in underserved communities, but also their patients.

Progress to date. The vast majority of hospitals are participating in the incentive programs. Most hospitals, however, are still working to meet the exceedingly complex requirements for Stage 1 of meaningful use. According to an AHA analysis of hospital-specific data from the Centers for Medicare & Medicaid Services (CMS), only 37 percent of all hospitals met Stage 1 meaningful use and received incentive payments under the Medicare EHR Incentive Program for fiscal year (FY) 2012 – the second year of the program. As with the data on adoption of EHRs, smaller and rural hospitals are further behind in successfully meeting meaningful use and receiving Medicare EHR incentive payments. A greater share of hospitals has received a first year payment under Medicaid, which supports adoption, implementation and upgrading of EHRs, but does not require meeting meaningful use. Meeting meaningful use is challenging and is becoming significantly more so.

Regulatory requirements make 2014 a very challenging year. HHS has laid out a set of regulatory policies that will put tremendous strain on EHR vendors and health care providers in the coming year, without clear benefit for care improvement:

- **Vendors must support a nation-wide switch of EHRs.** At this time, we are less than three months away from the start of meaningful use Stage 2. For hospitals, Stage 2 begins on Oct. 1,

2013, the first day of federal FY 2014. For physicians, the start is Jan. 1, 2014, the beginning of the calendar year (CY). Current policy requires all hospitals and physicians to upgrade to the 2014 Edition EHR during FY/CY 2014, whether they are beginning participation in the EHR incentive program in 2014 or are among the trailblazers who entered the program when it first began three years ago. Even a hospital or physician who just installed a certified EHR in 2013 will need to replace it in 2014. This means that the EHR vendors will need to support every single eligible hospital and physician to install or replace their EHRs – that represents more than 500,000 hospitals and physicians, as well as millions of other clinicians and staff that work with them.

- **Providers face "double-jeopardy" with meaningful use**. Hospitals that have not successfully met all of the Stage 1 meaningful use requirements by July 1, 2014 will not only miss out on most of the incentives, they will be subject to financial penalties the next year (CAHs have until 2015 to meet meaningful use and avoid a penalty). Similarly, hospitals that have met Stage 1 will miss incentives and be subject to future penalties if they cannot successfully meet either a higher bar for Stage 1 requirements or the new Stage 2 requirements. Any provider who cannot successfully upgrade to the 2014 Edition EHR will face the same double-jeopardy, even if the cause is limited vendor capacity.

- **Vendors and providers also must manage the switch to ICD-10.** The deadline for transition to ICD-10 is Oct. 1, 2014. Thus, at the same time vendors are supporting a nation-wide switch of EHRs and providers are working to meet meaningful use, all parties will also be upgrading their IT systems to accommodate ICD-10. A recent AHA survey found that the vast majority of hospitals are on track for the transition to ICD-10, but see meaningful use as the single most challenging competing priority (cited by 52 percent as the top competing priority, and by 92 percent as one of the top three).

Vendors may not be ready for 2014 changes. The mandate to use a certified EHR means that health care providers are dependent on their vendors. The mandate to simultaneously upgrade or bring on over 500,000 providers to the 2014 Edition certified EHR unnecessarily creates market pressures that will stretch vendor technical and workforce resources and drive up technology and consulting prices.

As of July 17, the official federal list of certified vendor products showed only nine complete 2014 Edition certified EHRs for the inpatient setting, produced by only six vendors. By comparison, the list shows 313 complete 2011 Edition certified inpatient EHRs. Most vendors are still in the process of certifying their 2014 Edition EHRs only two months before hospitals are meant to be using them.

AHA members report that their vendors are delaying the delivery of scheduled updates and engaging in aggressive pricing, such as unbundling needed software to sell separately. Some have learned that their vendor will not be upgrading their currently certified EHRs to meet the "2014 Edition" criteria. In addition, our members are concerned that the new capabilities in the 2014 Edition EHRs, such as patient portals and transition of care documents, have not been extensively tested, and may well be immature. Providers who have not yet installed an EHR – mostly small and rural hospitals – will be at the end of the vendor queues and may not receive delivery for another 12 to 18 months. Of course, receiving an upgrade is only the first step in making the transition to the 2014 Edition EHR and meeting the meaningful use requirements. It is reasonable to expect that a provider will need up to a year after receiving a technology upgrade to make all of the necessary changes to meet the program requirements.

The compressed timeline also puts providers in a position of rushing to implement, creating conditions that prevent them from optimizing use of the systems and possibly introducing risks to patient safety. Providers' use of EHRs is hampered by the shortage of trained health IT workers. Furthermore, some

providers are reporting significant challenges with the usability of their current certified EHRs, a situation that could well be exacerbated as vendors channel their efforts to managing a nation-wide transition to the 2014 Edition. Poor usability can negatively affect use of EHRs and patient care. If the transition is too compressed and costly, hospitals may be forced to drop out of the meaningful use program, even though they want to use their EHRs to improve quality.

Hospitals believe Stage 2 will be extremely challenging and costly. For those that have already met Stage 1, Stage 2 begins on Oct. 1, 2014 and raises the bar considerably. Peer-reviewed literature shows that **only 5.1 percent of all hospitals, and only 1 percent of rural hospitals, can currently meet a proxy for Stage 2** (DesRoches, et al 2013).

The Stage 2 rules are tremendously complex and include entirely new requirements – such as sending summary of care documents – and expand on requirements that were a significant challenge in Stage 1 – such as public health reporting or reporting electronic quality measures. Many of the objectives make provider performance contingent on the actions of others (such as health information exchanges, patients and public health departments), and assume a level of interoperability and information exchange infrastructure that is still in its infancy. Moreover, Stage 2 requires the adoption and use of many new and unfamiliar data standards, such as the codes for entering patient problems (SNOMED). Finally, many of the objectives bundle together multiple requirements, such as using order-entry systems for three types of orders – medications, laboratory tests and radiology tests.

A recent AHA survey of about 900 hospitals asked those who had already achieved Stage 1 to rate the difficulty of achieving each Stage 2 objective. The majority of the responding hospitals considered half of the core measures in Stage 2 to be difficult to not possible to achieve. The objectives that most hospitals considered to be difficult were establishing a patient portal that met federal requirements (86 percent of hospitals), sending summary of care documents (72 percent), submitting clinical quality measures (66 percent), and meeting the three public health reporting requirements (50 to 55 percent). More than half of hospitals also expect Stage 2 to be more expensive than Stage 1.

All-or-nothing approach is unfair. On top of this complexity, HHS has established an "all-or-nothing approach" in which failure to meet any individual part of an objective, or missing a threshold by a small amount, leads to overall failure in meeting meaningful use. For example, a provider that successfully meets the thresholds for order-entry of medications and laboratory tests, but misses the threshold for radiology tests by one percentage point will not meet meaningful use. In a complex program with a high level of difficulty, the "all-or-nothing" approach seems overly burdensome and unfair, particularly when any provider failing to successfully transition to Stage 2 will not only miss an incentive payment but also incur a future payment penalty.

Using EHRs to report quality measures. A major positive benefit of the movement toward adoption of EHRs should be greater ease in calculating and reporting quality of care measures for hospitals to use in their performance improvement efforts, report to federal and other payment programs, and share with consumers. Hospitals are eager for this transition and for real-time access to information from their EHRs to support quality improvements. Unfortunately, for Stage 1 of meaningful use, a rushed policy process and immature technology led to time-consuming efforts by hospitals to generate quality data in compliance with the instructions they were given, but in the end, they were unable to use the technology to generate accurate data. The AHA commissioned a case study of the Stage 1 experience in four hospitals with advanced EHRs (data brief attached). In summary, their experience took away from other strategic priorities and reduced clinicians' support for using EHRs to generate quality data. Capturing the measure data significantly added to clinicians' workload with no perceived benefit to patient care. The authors recommended that policymakers "slow the pace of the transition to electronic quality reporting with fewer, but better-tested measures, starting with Stage 2."

Information exchange. The establishment of an efficient and reliable mechanism for health information exchange will allow relevant data to follow across patient care settings (including home) to support the best possible care. It also will support providers in meeting many of the meaningful use objectives, such as those for public health and transitions of care. Unfortunately, the level of interoperability in EHRs is still evolving, while the existing information exchange networks are still maturing in some areas, and not yet available in others.

The nation still needs the infrastructure to support health information exchange that is based on national standards and includes such things as provider directories, efficient and mature exchange networks, and support for providers to learn how to use the standards to share data. Efforts so far are encouraging, but they are not sufficient. Additional work is needed in this area, starting with a clear strategic plan that lays out a realistic timeline and accounts for the resources and supports needed by providers to share data and be part of exchanges.

Once all providers have access to networks that allow them to efficiently share data electronically, as a streamlined part of the care process, other incentives will lead them to share data to support clinical care. New care structures, such as accountable care organizations, create a need for data sharing if providers want to meet their performance goals. Existing Medicare payment policies such as payment penalties for high readmission rates give an incentive for hospitals to share data and better coordinate care with physicians and nursing homes after a patient leaves the hospital.

HHS HAS AUTHORITY TO EXPAND THE MEANINGFUL USE TIMELINES AND CREATE MORE FLEXIBILITY

When Congress established the Medicare and Medicaid EHR Incentive Programs, it delegated to the HHS Secretary responsibility for setting the specific requirements, including the pace of the program, as well as the scope and complexity of the requirements.

HHS can and should modify its regulatory timelines and allow more flexibility in the Stage 2 requirements. The Secretary could take specific, common-sense steps to alleviate the pressures noted above. If done correctly, these changes could keep the program moving forward on a more reasonable pathway, and allow all providers to participate. Stage 2 would still start in 2014, but the transition would be more orderly. For example, the Secretary could:

1. **Allow providers at Stage 1 to meet the requirements using either the 2011 certified Edition EHR, or the 2014 certified Edition EHR.** This change would allow more time for vendors to complete their upgrades, thereby allowing advanced providers to move ahead to Stage 2, while holding harmless those remaining or entering the program at Stage 1. It also would avoid asking providers that have just implemented an EHR to replace it in the next year, giving them more time to optimize use and focus on quality goals.

2. **Extend each stage of meaningful use to no less than three years for all providers.** HHS gave the first wave of hospitals and physicians to enter the program in 2011 three years at Stage 1. We believe all providers should have at least that much time at each stage (rather than the current two years). This change would recognize that vendors need time to develop usable and safe upgrades, and that providers need time to safely implement systems and optimize their use before undertaking yet another upgrade. It would set the program on a more realistic timeline.

3. **Establish a 90-day reporting period for the first year of each new stage of meaningful use for all providers.** This change would allow upgrades to be spread out over time, rather than being clustered on certain dates.

4. **Offer greater flexibility to providers in meeting Stage 2**, such as allowing providers to build up to full Stage 2 compliance over the three years and simplifying complex measures. This change would ameliorate the "all-or-nothing" problem, and recognize that the level of change in Stage 2 will take time to accomplish.

5. **Redirect the electronic clinical quality reporting requirements to focus on a small set of well-tested measures supported by a mature policy infrastructure that can guide valid and feasible measure development, testing and implementation.** These changes would allow hospitals to efficiently generate electronic measures that are accurate. The end goal is good data to support quality improvement efforts and payment programs.

These changes would position the program for greater success and also begin to address the digital divide. In addition, HHS should review the meaningful use requirements to ensure that they are all relevant to care provided in rural hospitals, and particularly CAHs. Additional policies may be needed to help small and rural hospitals, such as targeted technical assistance, help with managing workforce shortages, and additional financial support through grant and loan programs.

CONCLUSION

As we look across the health care goals the nation seeks to achieve – such as improving the safety and quality of care, decreasing disparities in care, and slowing the growth in spending – health IT can be an important tool. Unfortunately, the current regulatory structure for the Medicare EHR Incentive Program may distract health care providers from those bigger goals by requiring them to rush implementations of immature EHR technology and focus on meaningful use metrics, rather than care improvements. It also may have the unintended consequence of further exacerbating the digital divide by subjecting small and rural providers to penalties, rather than providing them with support to successfully adopt EHRs and bring the benefits of health IT adoption to their patients and communities.

The HHS Secretary has the ability to extend the meaningful use timelines and introduce more flexibility in the program. Doing so would go a long way toward ensuring that we collectively achieve a safe, orderly transition to Stage 2 that leaves no one behind.

American Hospital Association

Hospitals Face Challenges Using Electronic Health Records to Generate Clinical Quality Measures

America's hospitals have adopted electronic health records (EHRs) to improve clinical care and patient health outcomes, believing the technology would support automated clinical quality reporting, empower clinicians to continuously improve the efficiency and effectiveness of care, and assist their local quality improvement initiatives. Based on the experience of four hospitals in a case study commissioned by the American Hospital Association, automated quality reporting does not yet deliver on the promise of feasibly generating valid and reliable measures or reducing the reporting burden placed on hospitals. This study describes the experience and impact of electronic clinical quality measure (eCQM) implementation in four hospitals. Each has significant experience with EHRs that predates the meaningful use program, and each uses a different EHR vendor. Specifically, the report identifies challenges hospitals face in four areas:

- **Program Design:** The timeline for implementing eCQMs is unrealistic, emphasizing regulatory requirements in advance of adequate development, vetting and testing of eCQM specifications for feasibility and clinical validity.
- **Technology:** eCQM tools were difficult to implement, did not work as expected, could not draw relevant data from other systems and could not efficiently generate accurate measure results.
- **Clinical:** eCQM implementation added to clinician workload without perceived benefit to patient care due to poor alignment with clinical workflow, and extensive validation efforts that were not successful.
- **Strategic:** Hospitals expended excessive effort on the eCQMs that negatively affected other strategic priorities.

Specific policy changes are needed to redirect the electronic clinical quality reporting requirements to focus on a small set of well-tested measures supported by a mature policy infrastructure that can guide valid and feasible measure development, testing and implementation:

1. Slow the pace of the transition to electronic quality reporting with fewer, but better-tested measures, starting with Stage 2 meaningful use.
2. Make EHRs and eCQM reporting tools more flexible so that data capture can be aligned with workflow.
3. Improve health information technology (IT) standards for EHRs and eCQM reporting tools to address usability and data management to achieve meaningful use program expectations.
4. Carefully test eCQMs for reliability and validity before adopting them in national programs. Implement eCQMs within hospitals as part of testing to ensure information flow is accurate and there is no adverse impact on quality and patient safety.
5. Provide clear guidance and tested tools to support successful hospital transition to increased electronic quality reporting requirements.

Program Design Challenges	Hospital Experience	Policy Recommendations
eCQMs were introduced before robust testing for validity, accuracy and feasibility.	■ Modifications led to multiple iterations of tools and associated workflow redesign. ■ Measure results were frequently inaccurate. ■ Costs to implement were much higher than expected.	■ Reduce pace of rollout with fewer, but more well-tested measures.
Specifications were hard to find, lengthy and frequently modified to correct errors.	■ Hospitals spent excessive time searching for correct versions or used specifications for chart-abstract measures. ■ These problems contributed to inaccurate measure results.	■ Provide clear guidance and a consistent, reliable process for eCQM development, availability, updating and implementation.
Meaningful use eCQMs require unfamiliar vocabularies for data elements (such as LOINC®, SNOMED-CT).	■ Hospitals struggled with unfamiliar vocabularies. ■ Hospitals relied on eCQM reporting tools to manage the crosswalks between new vocabularies in the eCQMs and the terms used locally or purchased another vendor's service to support new vocabularies. ■ Hospitals incurred additional costs. ■ Hospitals voiced concerns about potential errors in coding or billing and associated risks of subsequent audits.	■ Support the development of an accurate, complete and validated crosswalk from SNOMED-CT to ICD-10-CM and ICD-10-PCS. ■ Provide for adequate training and education.
Sub-regulatory guidance to ignore data accuracy conflicts with hospital goals for both quality improvement and other program policy to report accurate quality data.	■ Hospitals and clinicians saw no benefit from generating inaccurate data. ■ Hospitals were worried that reporting data that they did not consider to be accurate would create a compliance issue.	■ Create an eCQM development, testing, and certification program that supports accurate measurement.
Technology Challenges	**Hospital Experience**	**Policy Recommendations**
EHRs are not designed to capture and enable re-use of information captured during the course of care for later eCQM reporting.	■ Hospital clinical staff enter information multiple places in EHRs to ensure data availability for eCQM reporting. ■ Staff time devoted to manual re-entry of information that already exists elsewhere in the EHR reverses efficiencies gained from the use of EHRs and undermines the presumed value of automation for quality reporting and improvement.	■ Improve heath IT standards for EHRs and eCQM reporting tools to address usability and data management. ■ Improve vendor tools to include workflow design flexibility.
EHRs are not designed to capture information from other department information systems at the level of detail needed for eCQM reporting.	■ Quality or other staff abstract information from other department information systems and enter it into the fields in the EHR required to report the eCQMs.	■ Improve EHRs and reporting tools to support intra-hospital interoperability.
EHR vendors update and separately deliver individual EHR components for Meaningful Use.	■ Hospitals conducted multiple updates and iterative testing.	■ Establish a predictable update process and schedule for eCQMs with easy access and notification of updates. ■ Require vendors to support the latest update on a specified schedule.

Clinical Challenges	Hospital Experience	Policy Recommendations
EHRs and certification requirements are not designed to support effective and efficient patient care workflows or draw data from them.	■ Hospitals modified workflows solely to support adequate data capture, working iteratively with their vendors. ■ Ultimately, hospitals substantively altered clinical workflow solely to accommodate the data needed for the eCQMs, with no benefit for patient care.	■ Give vendors more time to develop useful and accurate tools that support logical workflows and leverage data already in the EHR.
Hospitals were unable to validate the eCQM results.	■ Hospitals either reported the results of eCQMs as inaccurate, but a work in progress, or did not report the eCQM results directly to physicians and nurses. ■ Inaccurate results from the eCQM reporting tool combined with increased workflow requirements led to clinicians mistrusting the data and not using it for care improvement.	■ Create an eCQM development, testing, and certification program that supports accurate measurement.
Meaningful use Stage 1 eCQM specifications are out-of-date and sometimes inconsistent with current care recommendations.	Physicians who use up-to-date sets of orders may cause the hospital to have poorer performance as measured by the eCQMs.	■ Create a mechanism to update eCQMs to reflect new state of the art clinical practice and to match updates to corresponding chart abstracted measures.
Strategic Challenges	**Hospital Experience**	**Policy Recommendations**
Time and personnel requirements to implement eCQMs were far beyond expectations and excessive.	■ Hospitals added tasks to existing IT and/or quality management staff responsibilities and delayed projects. ■ Clinical staff expended considerable time documenting for eCQMs, with no perceived value for patient care. ■ Excessive staff time spent on eCQMs delayed focus on other priorities such as reducing readmissions, improving patient safety or advancing care coordination.	■ Consider the effort required in future policy for eCQMs.
Combination of time and effort involved and inability to validate results meant hospitals saw no return on investment.	■ Results damaged credibility of hospital leadership and meaningful use program as a whole.	■ Reduce pace of rollout with fewer, but more well-tested measures that can be generated by tools that support logical workflows and leverage data already in EHRs.

American Hospital Association®
325 Seventh Street, NW
Suite 700
Washington, DC 20004-2802
202.638.1100
www.aha.org

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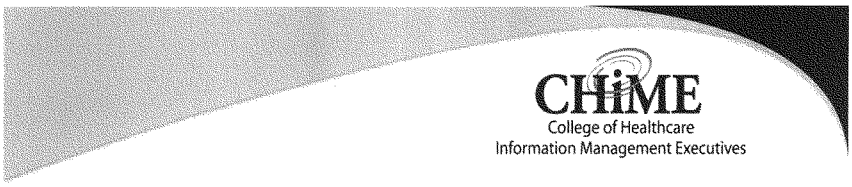

July 31, 2013

The Honorable Max Baucus
Chairman
Committee on Finance
United States Senate
219 Dirksen Senate Office Building
Washington, D.C. 20510

The Honorable Orrin G. Hatch
Ranking Member
Committee on Finance
United States Senate
219 Dirksen Senate Office Building
Washington, D.C. 20510

Re: CHIME Comments for the Record Regarding "Health Information Technology: Using IT to Improve Care," July 24, 2013

Chairman Baucus, Ranking Member Hatch and esteemed Members of the Senate Finance Committee:

The College of Healthcare Information Management Executives (CHIME) appreciates the opportunity to submit comments for the Committee's hearing "Health Information Technology: Using IT to Improve Care." This hearing occurred July 24, 2013.

CHIME has more than 1,400 members, representing chief information officers (CIOs) and other top information technology executives at hospitals and clinics across the nation. CHIME members have frontline experience in implementing the kinds of clinical and business IT systems needed to realize healthcare transformation. Healthcare CIOs share the vision of an e-enabled healthcare system as described by the many efforts resulting from the HITECH Act.

The EHR Medicare and Medicaid Incentive program has played a major role in advancing the adoption of health information technology in the US. As of May 2013, CMS has spent over $15.1B, incentivizing doctors and hospitals to adopt EHRs and more than 50 percent of eligible hospitals (EHs) (2513) and over 30 percent of eligible professionals (EPs) (162,888) have met Stage 1 Meaningful Use (MU).[1] Yet this success – combined with the structure of the program – may have unintended, even dangerous, consequences.

[1] Medicare & Medicaid EHR Incentive Programs, HIT Policy Committee July 9, 2013, Centers for Medicare & Medicaid Services, http://www.healthit.gov/sites/default/files/hitpc_july2013nn.pdf

College of Healthcare Information Management Executives, Public Policy Office
4300 Wilson Blvd., Suite 250 · Arlington, VA 22203
Phone: (734) 665-0000 · Fax: (734) 665-4922 · staff@cio-chime.org · www.cio-chime.org

In 2014, over 500,000 hospitals and physicians must adopt the 2014 Edition of Certified Electronic Health Record Technology (CEHRT) and attest before the end of the year to receive incentive payments and avoid penalties. Yet only a small fraction of current EHRs have been certified to this new designation.[2]

This dynamic will cause several providers to either abandon the possibility of meeting Meaningful Use criteria in 2014 or they may be forced to implement a system much more rapidly than would otherwise be the case. Both of these scenarios lead to suboptimal outcomes. For those doctors and hospitals who chose to forego Meaningful Use in 2014, the decision could mean a further division between more advanced and less advanced providers; it could seriously compromise progress made towards interoperability; and if the decision to forego Meaningful Use in 2014 is wide-spread, it could jeopardize nearly $30 billion in taxpayer investments to modernize the nation's healthcare infrastructure.

If providers move forward, as dictated by the current policy, there is a risk that the technology is implemented in a rushed fashion. Such a hurried implementation may forego necessary process and care delivery changes as providers rush to meet new objectives using new technology. Implementing any major IT system should be accompanied by thoughtful reengineering of processes and workflows to ensure that the investment generates as much organizational gain as possible.

In either scenario, the promise of material improvements in the efficiency, quality and safety of care delivery that should have resulted from the meaningful use of EHRs is compromised.

In order to maximize the opportunity of program success CHIME favors an approach that accomplishes three things:

1. Maintains MU momentum by keeping the start of Stage 2 at 2014
2. Relieves pressure in 2014 by allowing additional time for EPs and EHs to meet their required Stage measures and objectives
3. Enables informed policymaking before setting criteria for Stage 3 Meaningful Use

CHIME is a strong proponent of health IT and its ability to enable improvements in health care quality, increase affordability, and improve health care outcomes. However, we believe that in order to accomplish these goals, HHS should amend existing timelines for 2014, thus promoting a safe, orderly transition to Stage 2 that leaves no one behind.

CHIME has conveyed these sentiments to federal officials and we would welcome the support of Senate Finance Committee Members who have jurisdictional and constituent interest in seeing the Meaningful Use program succeed. We urge Members of the Committee to join CHIME in

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[2] Certified Health IT Product List, Office of the National Coordinator for Health Information Technology, US Department of Health & Human Services http://oncchpl.force.com/ehrcert/

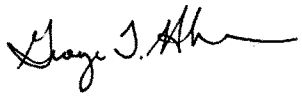
recommending HHS reevaluate 2014 timelines to achieve the gains of an e-enabled US healthcare system.

We believe these changes are vitally important to ensure that U.S. hospitals and physicians continue their journey into the 21st Century. By giving providers additional time, HHS is demonstrating needed flexibility to maximize program participation, without compromising momentum towards interoperability and care coordination supported by health IT.

We hope these comments are helpful. If there are any questions about our comments or more information is needed, please contact Sharon Canner at scanner@cio-chime.org or (703) 562-8834. CHIME looks forward to a continuing dialogue with Members of the Senate Finance Committee and other Members of Congress on this and other important matters.

Sincerely,

Russell P. Branzell
President & CEO
CHIME



George T. Hickman
CHIME Board Chair
Executive VP & CIO
Albany Medical Center

HEALTH INFORMATION TECHNOLOGY:
USING IT TO IMPROVE CARE
JULY 24. 2013
BEFORE THE SENATE FINANCE COMMITTEE

WRITTEN TESTIMONY

FOOD MARKETING INSTITUTE
2345 CRYSTAL DRIVE – SUITE 800
ARLINGTON, VIRGINIA 22202

INTRODUCTION

The Food Marketing Institute (FMI) respectfully submits the following testimony for inclusion in the record with respect to the Senate Finance Committee's hearing on Health Information Technology: Using It to Improve Care. FMI's statement expresses our industry's interests and concerns that FMI raised jointly with the National Association of Chain Drug Stores (NACDS) in a letter dated May 3, 2013 to the Department of Health and Human Services (HHS) with respect to HIPPA/HITECH Privacy Rule – Clarification Sought Regarding Sponsored Refill Reminder Programs.

BACKGROUND

The Food Marketing Institute (FMI) conducts programs in public affairs, food safety, research, education and industry relations on behalf of its nearly 1,250 food retail and wholesale member companies in the United States and around the world. FMI's U.S. members operate more than 25,000 retail food stores and almost 22,000 pharmacies with a combined annual sales volume of nearly $650 billion. FMI's retail membership is composed of large multi-store chains, regional firms and independent operators. Its international membership includes 126 companies from more than 65 countries. FMI's nearly 330 associate members include the supplier partners of its retail and wholesale members.

This FMI statement addresses sponsored prescription refill reminder programs. These programs are intended to improve patient adherence and compliance with prescription drug therapy, with their attendant public health benefits. The importance of improving adherence and compliance with prescription drug therapy is well-recognized by the Office of Civil Rights, OCR's sister agencies in HHS. HHS's Agency for Healthcare Research and Quality participates in efforts to educate the public about the importance of prescription drug adherence and compliance. HHS's Centers for Medicare and Medicaid Services has used its authority to broaden beneficiary eligibility for the Medicare Part D adherence-focused Medication Therapy Management Programs. HHS's Food and Drug Administration has recognized that "[p]atient

noncompliance with prescribed drug regimens can be directly related to therapeutic failure." 60 Fed. Reg. 44,182, 44,186 (Aug. 24, 1995). Moreover, as the Congressional Budget Office (CBO) recently concluded, even a small (1%) increase in prescription refills would result in millions of dollars in savings in overall Medicare costs. *See* CBO, OFFSETTING EFFECTS OF PRESCRIPTION DRUG USE ON MEDICARE'S SPENDING FOR MEDICAL SERVICES (Nov. 2012)), *available at* http://www.cbo.gov/sites/default/files/cbofiles/attachments/43741-MedicalOffsets-11-29-12.pdf.

Sponsored prescription refill reminder programs are an extremely effective tool for improving patient compliance and persistence, thereby enhancing patient health and reducing health care costs.

CLARIFICATIONS SOUGHT

FMI and NACDS have asked HHS that OCR clarify (such as in a guidance or FAQ) three aspects of the preamble to its January 25, 2013 final rule (78 Fed. Reg. 5566) related to sponsored refill reminder programs. Specifically, we respectfully request that OCR address the following points, as discussed separately below:

- OCR should clarify that it intends the permitted scope of refill reminder communications to be interpreted broadly. OCR should recognize in its promised guidance that communications about new formulations of the prescribed drug and communications regarding recently lapsed prescriptions can qualify as sponsored refill reminder programs that can be conducted without patient authorization. We also ask OCR to give careful consideration to including "ask your doctor" communications about specific adjunctive drugs related to the currently prescribed drug.

- OCR should clarify that the "reasonable" compensation limit for sponsored refill reminders that can be conducted without patient authorization is intended to be interpreted broadly, so as to more accurately reflect and not improperly hinder, the Congressional intent behind the special statutory exception from authorization for these programs. OCR's rulemaking preamble contains language that is capable of being misinterpreted to permit only a narrow, restrictive interpretation of reasonable costs, which runs contrary to both Congressional intent and sound public health considerations. OCR should not allow that to happen.

- Finally, OCR should clarify that a pharmacy can utilize the services of an independent third-party business associate to help implement sponsored refill reminder programs without automatically triggering a need for patient authorization, which would be consistent with the subcontractor business associate model. Absent such clarification, the preamble is capable of being misinterpreted, which could have the effect of bringing such programs to an end as well as resulting in a final Privacy Rule that is inconsistent internally and with the Security Rule.

Both FMI and NACDS are seriously concerned that preamble language, not required by the HITECH Act or the new regulations, will be interpreted to inhibit sponsored compliance and persistence programs without in any way promoting patient privacy.[1]

OCR Should Clarify That It Will Interpret the Permitted Scope of Refill Reminder Communications Broadly

In its rulemaking preamble, OCR stated that it would issue future guidance on the types of communications that qualify for the refill reminder exception from authorization. 78 Fed. Reg. at 5596. As a threshold matter, we appreciate OCR's recognition in the rulemaking preamble that "communications about the generic equivalent of a drug being prescribed to an individual as well as adherence communications encouraging individuals to take their prescribed medication as directed fall within the scope of this exception," as well as recognition that "where an individual is prescribed a self-administered drug or biologic, communications regarding all aspects of a drug delivery system, including, for example, an insulin pump, fall under this exception." 78 Fed. Reg. at 5596. We urge OCR to go further in its promised guidance.

OCR should issue guidance that interprets the scope of the refill reminder exception from authorization broadly. In the introduction to the proposed rule, OCR expressly sought comment on whether "new formulations" of the prescribed drug should be within the scope of this exception. 75 Fed. Reg. 40,868, 40,885 (July 14, 2010). We ask OCR to expressly recognize that communications about an improved version of the prescribed drug (for example, a "new" drug product with the same active ingredient indicated for the same conditions of use that offers a more convenient dosing schedule than the currently prescribed drug) are within the scope of the refill reminder exception. Typically, these "new formulations" improve patient adherence and compliance by offering distinct advantages, such as greater ease of swallowing, a more convenient dosing schedule, or a similar desirable attribute.

FMI and NACDS encourage OCR to recognize that the refill reminder exception includes communications about a chronic use prescription drug where the most recent prescription has lapsed. If that prescription is no longer valid under applicable state pharmacy law, under a very technical interpretation of state pharmacy law, the drug is arguably not a "currently prescribed drug," as required by the HITECH Act, 42 U.S.C. § 17936(a)(2)(A)(i). Nevertheless, in most cases the intent of the prescriber is that the patient continue to take the drug, as previously prescribed and dispensed. Thus, allowing refill reminders about a recently lapsed prescription is consistent with the intent of the refill reminder exception from authorization. The ability to send a refill reminder without patient authorization in this situation serves a definite public health purpose in improving patent adherence and compliance with prescription drug therapy.

We ask OCR to give careful consideration to including "ask your doctor" communications about a specific prescription drug that relates that "adjunctive" drug to the currently prescribed drug. Typically, the adjunctive drug helps treat the patient's underlying

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[1] It should be noted that unlike regulatory (C.F.R.) text, preamble language does not have the force and effect of law; rather, it sets forth the agency's views on how it is likely to interpret statutory and regulatory requirements.

disease or condition or helps address a side effect of the currently prescribed drug. By helping address treatment of the underlying disease or condition or by helping address a side effect of the currently prescribed drug, these communications about an adjunctive drug are also intended to ultimately improve the patient's adherence and compliance with the currently prescribed drug. Thus, they should be included as permissible refill reminders that can be sent without patient authorization.

OCR Should Clarify That It Will Interpret the "Reasonable" Compensation Limit for Refill Reminders Broadly

We turn to the "reasonable" compensation limit for "refill reminders." The HITECH Act's special statutory exception from patient authorization for sponsored refill reminders requires that any payment received by the health care provider must be "reasonable in amount," 42 U.S.C. § 17936(a)(2)(A)(ii). The January 25, 2013 final rule significantly narrows the flexibility granted by Congress by requiring that "any financial remuneration received by the covered entity in exchange for making the communication is ***reasonably related to the covered entity's cost in making the communication***." 45 C.F.R. § 164.501 (definition of "marketing," provision (2)(i)) (emphasis added). Nothing in the statutory or regulatory language indicates that "reasonable" compensation should be interpreted so narrowly.

In the rulemaking preamble, OCR stated that permissible costs "are those which cover ***only*** the cost of labor, supplies, and postage to make the communication." 78 Fed. Reg. at 5997 (emphasis added). OCR also stated that "***only*** the pharmacy's cost of drafting, printing, and mailing the refill reminders" may be taken into account. *Id.* (emphasis added). We are concerned that the quoted preamble language could be interpreted very narrowly by both potential sponsors of refill reminders and by pharmacies, thereby effectively denying pharmacy patients the widely accepted benefits associated with communications to improve their adherence and compliance with prescription drug therapy. We urge OCR to clarify that narrow, restrictive interpretations of the preamble language were never intended.

To prevent misinterpretation, we expressly ask OCR to clarify that the cost of "labor," and the "cost of drafting, printing, and mailing" encompass a wide range of direct and indirect costs associated with refill reminder programs. For example, "labor" costs should include an allocated portion of the labor cost of a wide range of pharmacy personnel, whether located at retail pharmacy locations or at pharmacy chain corporate headquarters. These costs include labor costs associated with developing and reviewing communications content; developing criteria to ascertain which patients will receive which communications; matching appropriate communications and specific patients; determining whether specific contemplated programs qualify as refill reminder programs that can be conducted without patient authorization; setting up and maintaining file format communications methodology; addressing patient comments and questions stemming from communications received; maintaining and updating patient records; managing "accompanying information" and stationery; printing, sorting, inserting, and delivering letters to the post office (and comparable labor costs for messages delivered by E-mail, text, or other means); maintaining automated systems used for the above functions; and training and overseeing employees performing the above-mentioned functions.

Labor costs include those of pharmacists, pharmacy technicians, physicians, attorneys, management personnel, human resources personnel, information technology specialists, and administrative and support personnel performing the above-mentioned functions, allocated as appropriate. In addition, OCR should recognize that "labor" costs include a pro rata portion of total benefits, taxes, and other "overhead" items typically taken into account by government and industry in ascertaining total employee costs. OCR should also recognize that the professional fees and expenses of outside counsel, accountants, physicians, technical specialists, and others needed to assist pharmacy personnel can be taken into account. By analogy, standard accounting rules allow for consideration of such indirect costs under the category of SG&A – Selling, General and Administrative costs.

We also request that OCR recognize that permissible costs include the cost of purchasing or leasing appropriate computer hardware and software associated with refill reminder programs and the cost of purchasing or leasing printing and mail handling equipment (or comparable equipment for communications delivered by other means), including depreciation, maintenance, electricity, insurance, and associated property taxes.

Our request that OCR clarify and recognize that a broad range of a pharmacy's costs, as detailed above, may be taken into account in determining whether payments to the pharmacy are "reasonable" is generally consistent with other requirements enforced by HHS. For example, in enforcing the federal Medicare/Medicaid anti-kickback statute, 42 U.S.C. § 1320a-7b(b)(2), HHS's Office of Inspector General has recognized that payments from pharmaceutical companies to healthcare providers are generally not of anti-kickback enforcement concern if the payments do not exceed fair market value of any legitimate service rendered to the payer. 59 Fed. Reg. 65,372, 65,376 (Dec. 19, 1994). To use this as a standard to determine the "reasonableness" of the remuneration not only allows for the healthcare improvements available through better adherence and compliance of patients related to, among other things, such communications, it also permits covered entities to align compliance programs to ensure that compliance with the Privacy Rule does not create non-compliance with anti-kickback obligations.

Further, our request that OCR clarify that "reasonable" costs include a broad range of costs (and look to consistency with the anti-kickback model of fair market value) is supported by a study conducted in 2010 by Avalere Health LLC, an expert pharmacoeconomic consulting firm that FMI and NACDS independently submitted to the rulemaking docket for OCR's July 14, 2010 proposed rule. In particular, costs associated with refill reminder programs are discussed at pages 7-10 of that report, a copy of which is enclosed for your convenience.

Today, some pharmacies do utilize the services of independent business associates to help them send sponsored refill reminders (and similar prescription drug compliance and adherence communications) to their patients. Many pharmacies utilize the services of independent companies that specialize in developing effective communications programs, as well as assisting them in selecting which patients should receive which communications and when. The services of these companies are often essential in helping smaller pharmacy chains,

which typically do not have the resources or scale to run their own communications programs, to provide these valuable services to their patients. Other pharmacies may utilize the services of independent business associates that carry out more ministerial functions, such as printing, sorting, and mail fulfillment. All of these business associates are an integral part of sponsored, patient-specific refill reminder programs run by pharmacies for their patients. Without the assistance of business associates, the great majority of these sponsored communications programs would not exist today.

OCR should recognize that independent business associate costs, as paid by the pharmacy, are permissible costs. We do not believe that the notion of "profit" for independent third party business associates should have any bearing in determining whether a cost actually borne by a pharmacy or physician is "reasonable." Like other business entities, independent business associates that assist pharmacies are in business to make a reasonable profit. If a pharmacy cannot utilize the services of an independent, for-profit business associate, such as a mail fulfillment house, sponsored refill reminder programs that run without patient authorization will, as a practical matter, come to a halt. Congress could not have intended that result when it created the special statutory exception from authorization for sponsored refill reminders. Congress simply required that the payments had to be "reasonable in amount."

In considering what is "reasonable" costs, because of both the need for consistency with other healthcare enforcement and to ensure consistency for the use of business associates, a greater range of costs should be clarified and the use of fair market value will work to align the different rules with the understanding of "reasonableness."

OCR Should Clarify That A Pharmacy Can Utilize The Services Of An Independent Business Associate To Help Fulfill A Refill Reminder Program Without Automatically Triggering The Need For Patient Authorization

The preamble to the final rule includes language in two separate places that, when read in isolation, appears to effectively preclude a pharmacy from using a business associate to help it send its patients any sponsored communications that promote the sponsor's specific product or service unless the pharmacy obtains patient authorization. This preamble language could have the unintended consequence of preventing a pharmacy from using the services of a business associate to help deliver a communication that would otherwise qualify for the statutory refill reminder exception from patient authorization. This is inconsistent with the basic concept in the Privacy Rule and the Security Rule that a business associate may assist in patient communications, provided common requirements for engaging a business associate are fulfilled.

Specifically, our concern is with the following two preamble excerpts:

> We also clarify that where a business associate (including a subcontractor), as opposed to the covered entity itself, receives financial remuneration from a third party in exchange for making a communication about a product or service, such communication requires prior authorization from the individual.

78 Fed. Reg. at 5595.

> Even where a business associate of a covered entity, such as a mailing house, rather than the covered entity itself, receives the financial remuneration from the entity whose product or service is being promoted to health plan members, the communication is a marketing communication for which prior authorization is required.

Id. at 5597.[2]

When the relevant pages of the preamble regarding sponsored communications (*id.* at 5595-97) are read as a whole, we think it is evident that OCR did not intend to preclude the payment of compensation by the sponsor of a communication to the covered entity's business associate for a communications program that does not otherwise require patient authorization. Rather, the quoted language only set forth OCR's views on a basic principle that is not in dispute, namely, a business associate cannot carry out an activity that could not be carried out by the covered entity itself and the covered entity has not authorized the business associate to perform on its behalf. In other words, OCR was only explaining that a business associate cannot conduct programs directly for a sponsor where the covered entity could not conduct such programs itself.

The language quoted above is capable of being misinterpreted by both potential sponsors of refill reminder communications and by pharmacies (and other covered entities) so as to effectively preclude the use of business associates in helping to facilitate refill reminders that do not require patient authorization. This misinterpretation is clearly contrary to the express intent of Congress in establishing a specific refill reminder exception from authorization and would prevent patients from receiving the important public health benefits associated with these sponsored communications.

Compensation to a business associate for its participation in a communications program, whether flowing directly or indirectly, should not lead to the pharmacy's automatic disqualification from using the statutory refill reminder exception from authorization. We arenot aware of any legal or policy reason related to the protection of patient medical privacy that should prevent a pharmacy (or other health care provider) from using the services of an independent business associate, such as a mail fulfillment house, to help it carry out a refill reminder communications program that does not require patient authorization.

CONCLUSION

We respectfully have urged OCR to issue clarification (such as in a guidance or FAQ) on the three points discussed above. OCR should do so as soon as reasonably possible so as not to hinder refill reminder programs after the September 23, 2013 compliance date of the final rule.

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[2] Although the quoted language responded to a comment that concerned health plans, it appears to be equally applicable to other covered entities, such as pharmacies.

FMI welcomes an opportunity to discuss the issues raised by this statement with Senate Finance Committee along with NACDS since the September 23rd compliance date is quickly approaching. FMI appreciates the opportunity to provide this statement for the Senate Finance Committee's review and consideration.

July 24, 2013

InterSystems

InterSystems Corporation
8000 Towers Crescent Drive
Suite 250
Vienna, VA 22182-2707
Tel: +1.703.748.0202
Fax: +1.703.748.0606
www.InterSystems.com

Senate Committee on Finance
Attn. Editorial and Document Section
Rm. SD-219
Dirksen Senate Office Bldg.
Washington, DC 20510-6200

Dear Senators Baucus and Hatch,

InterSystems thanks the Senate Finance Committee for their leadership on Health IT (HIT) and the opportunity to comment on the implementation of HITECH – particularly as it relates to interoperability. These hearings provide much needed, thoughtful Congressional oversight on HIT policy and have opened an important conversation about whether the substantial investment of taxpayer dollars is being used in a manner consistent with Congressional intent. We hope that it will spur thoughtful debate and concrete policy solutions. We look forward to working with you to further the adoption of real and meaningful health information exchange.

Founded in 1978, InterSystems is a software company and a worldwide leader in health information technology; interoperability is central to our work. Some of our clients include: Johns Hopkins University, Cleveland Clinic, Kaiser Permanente nationwide, the U.S. Veterans Administration, the Department of Defense health care systems and state and regional level health information exchanges (HIEs). We are currently part of conversations on how to structure State HIEs, as well helping with the development of their long-term business plan. We are involved in interoperability efforts in almost every state; many of the projects are ARRA funded.

While HITECH has provided strong incentives for providers to adopt electronic health records and electronic medical records, there has been significantly less adoption of true interoperability or health information exchange. What is more, for a variety of policy and competitive reasons, there appears to be resistance to the actual exchange of medical information. We hope that Congress can provide the necessary oversight and guidance to develop the clear path towards interoperability, and we are eager to partner with you toward this end.

Our experience in the public and private sectors demonstrates that **the technological capability exists to make interoperability an immediate reality**. Once this foundation is in place, the private marketplace will be able to function on its own without the need for additional infusions of federal resources. This solution fits into – and provides the cornerstone for – a much more expansive vision of shared health information. Our vision includes both providing easily accessible information at the point of care, as well as the aggregation of information for much broader purposes – including health surveillance, increasing government reporting, health care analytics, disability processing, and clinical research. Our vision also supports multi-institutional efforts to reduce costs while improving care through proactive health efforts. We encourage all health care markets to harness the extensive efforts to share data between and among clinical delivery points of service and to provide a solution that allows the all parties to bring information to the point of service without having to resort to one-off, stand-alone

interfaces that create a significant challenge to modify and maintain over time. Congress and the Administration can help to spur interoperability by providing the essential guidance and support necessary to level the playing field in the private market.

Below are concrete recommendations for ways that federal policy can direct and encourage interoperability. We have also provided these as formal comments to the Office of the National Coordinator on HIT (ONC) and the Centers for Medicare and Medicaid Services (CMS) as part of their Request for Information on HIE. While we hope that CMS and the ONC will consider our recommendations, it may require Congressional guidance to spur real action.

Coordinating HIT Efforts Across the Federal Government

Federal policy must be designed to support robust health information exchange across the federal government. Although the Veterans Administration and the Department of Defense are outside the jurisdiction of the Senate Finance Committee, the considerable interplay between the VA, DoD and the private health market demands your attention to ensure that information exchange is possible between these entities. HHS, the VA, and DoD must use the same standards of information exchange as developed by the ONC so that patients who are seen in any health care setting is accessible.

State HIEs as Hub for Information Exchange

Federal policy could spur advances in interoperability by cementing State HIEs in their positions as the hubs for health information exchange. State HIEs are struggling to balance competing demands including the evolving requirements of the marketplace, understanding and meeting the needs of stakeholders and the detangling funding options. State HIEs are at varying stages of development and some states have made significant progress toward increasing health information exchange and breaking down competitive forces. We have recommended that CMS and ONC stay active in providing technical assistance, disseminating best practices and helping other states achieve HIE success.

We recommend using federal payment structures to bolster State HIEs and to mandate the exchange of health data. We recommend a change in Medicare payment policy that says that the transmission of all Medicare claims between providers and CMS must be sent through the State HIEs. In other words, providers should electronically submit through the State HIE all of their Medicare claims that need to be processed. Claims submitted to Medicare directly, or outside of the HIE would either be rejected or subjected to a steep processing fee.

Requiring a central location through which all Medicare payments must be transferred drastically simplifies the exchange of data by creating a single, trusted point of entry for the state. It gives providers a reason to join a state exchange. It levels the playing field for small developers who may not have the ability or the resources to develop HIE functionalities that would let an EHR submit directly to CMS. What is more, this change in payment policy creates an instant marketplace and long-term business case for State HIEs; and it guarantees that the millions in taxpayer money that was already spent developing the State HIEs don't go to waste.

In addition, State HIEs should be a repository for collecting and sharing health data for state and federal databases and services, such as: state immunization registries, enrollment and eligibility data, and the public health databases in each state from the Centers for Disease Control (CDC). This is consistent with the intent behind the federal investment in a national health information framework. It also builds a strong self-sustaining business case for State HIEs.

Support the Development of Standards

Work must continue on standards and on making data computable—and incentives and/or mandates must be in place to ensure that existing standards are routinely used. This standardization will also assist in getting data to patients through various patient engagement tools, as well as support analysis and research. Well-defined standards make information sharing more efficient, drive down the cost of interoperability and help State HIEs efficiently exchange data.

Patient Engagement

In the Meaningful Use Stage 2 final rule, providers are required to give patients the ability to view, download, and transmit their health information. Giving patients access to their own data increases portability and will encourage electronic information exchange. CMS and ONC must now increase the percentage of patients who have access to their data, as well as encourage that patient-generated data can be exchanged and accepted in electronic formats. The technology already exists to do this—it can be done through standards and terminology code sets. Federal policy must be stringent enough for providers to put exchange in practice.

HIEs Need to Support All Points of the Care Continuum

CMS has regulatory authority to invest in the creation of standards to support a dynamic care plan summary with requirements for real-time updates to ensure all providers have up-to-date patient information. Through the State HIE and the participation of all providers, the care plan would aid in medication reconciliation, treatment reconciliation, problem list reconciliation and many other clinical decisions. CMS and ONC should establish standards to support care plan summaries across all care settings including long-term care, behavioral health, home health and individual providers. State HIEs should serve as the central repository for this shared patient information. Congress should make federal incentive payments available to post-acute care, home health and other critical providers currently excluded from the Meaningful Use incentive program.

InterSystems looks forward to working with you and your staff on policies that will advance interoperability and real data exchange, and thanks you for the opportunity to provide these comments. Your continued oversight of the HITECH funds and your dedication to achieving the full potential of the HITECH investments is appreciated. Please do not hesitate to contact us if you have any additional questions. We would be happy to discuss these recommendations in greater detail.

Statement for the Record

HEALTH INFORMATION TECHNOLOGY: USING IT TO IMPROVE CARE

Senate Committee on Finance
July 24, 2013

Mark Savage, Director of Health IT Policy and Programs,
National Partnership for Women & Families
and
Christine Bechtel, National Partnership for Women & Families,
and Member, Health IT Policy Committee

The National Partnership for Women & Families submits this written statement to share the perspectives of patients and consumers on using electronic health information exchange to improve their health and health care.

We thank the Senate Committee on Finance for holding these two hearings on health information technology, which is the infrastructure for improving health care and quality. Last week, the Committee requested testimony from government officials responsible for moving the Electronic Health Record (EHR) Incentive and Meaningful Use program forward on schedule. This week, the Committee has requested testimony from the provider and vendor communities.

Surprisingly, the Committee is missing a key voice and perspective in these hearings: that of patients and their family caregivers. This is an essential voice because *patients'* health and health care are at stake.

During the hearing on July 17, Committee members indicated that some in the provider and vendor communities had raised objections and urged that we delay efforts to move the Meaningful Use program forward. On the contrary, we cannot afford to further delay bringing America's health information system into the 21st Century.

Thirteen years into the 21st century, the nation's patients and consumers still wait for the kind of access to their health information--anytime, anywhere--long found in other core areas of American economic, social, and political life. They appreciate the strategic, necessarily ambitious approach that Congress enacted in the HITECH Act of 2009 to move electronic health information exchange forward. They assuredly do not want further delay.

The HITECH Act established a national goal that every person in the United States has an electronic health record (EHR) by 2014. Republicans and Democrats alike have long been behind this important goal. Recognizing that we cannot transform our health information infrastructure on a dime, Congress enacted a strategic, phased approach over five years, 2009-2014, during which providers and hospitals would adopt increasingly robust EHR technology and make increasingly sophisticated and meaningful use of that technology to improve patient and population health and health care, improve quality, and reduce cost.

1875 connecticut avenue, nw ~ suite 650 ~ washington, dc 20009 ~ phone: 202.986.2600 ~ fax: 202.986.2539
email: info@nationalpartnership.org ~ web: www.nationalpartnership.org

The federal government has invested considerable resources in convening numerous stakeholders, experts, and innovators across the nation to gather their collective knowledge and wisdom about how best to implement this transition, including common standards for interoperability and functions that all certified EHR technology must incorporate.

The results to date? In four years since Congress enacted the HITECH Act, 88 percent of eligible hospitals and 75 percent of eligible providers have registered for the Meaningful Use program, with almost all successful in meeting the program's requirements for meaningful use of EHRs to improve individual and population health. These doctors and hospitals cover the gamut of critical access, rural, and urban providers serving a significant portion of the nation's patient population.[1]

The Meaningful Use program has been responsible for much of this rapid and vast improvement. It has helped create interoperability at much greater and faster rates than ever before, so that health information can be more uniformly collected, shared, and used in private and secure ways. This kind of federal leadership, in open and transparent collaboration with the private sector, is critical to fostering innovation and achieving true interoperability and meaningful use.

Systemic change, of course, is never easy nor simple, and so some have asked for delay. We know this work is difficult, and providers across the country are doing their best to transform their care. Yet often the difficulties have less to do with technology and more to do with culture change. The Meaningful Use and related programs, however, are the best way to develop the tools providers need to succeed, and to offer patients the information they deserve to achieve better health. **We must leverage the program, not delay it. Congress asked us to be smart, not slow; it asked us to succeed, not delay.**

Patients and families overwhelmingly support these efforts. When Congress passed the HITECH Act in 2009, more than eight in ten doctors were transmitting their patients' information to other medical professionals predominantly by paper or fax, creating additional complexity and burden and often resulting in lost information. But two thirds of patients *and* doctors say that patients should be able to view and download their personal health information online.[2] And almost three fourths of doctors prefer to share patients' information electronically with other providers when needed.[3] By considerable margins (73%-85%), the public and doctors strongly support using electronic health information exchange to reduce medical errors, cut avoidable costs like duplicate tests, better coordinate patient care, and measure health care quality and patient safety.[4]

The National Partnership for Women & Families conducted a nationwide survey in 2011 which found that when patients have online access to doctors with electronic health records, ***80 percent use it***--and they are consistently even more positive about trust in and the perceived value of EHRs.[5] For patients whose doctors still use paper medical record systems, nearly two thirds (65%) say online access is important to them.[6]

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[1] Centers for Medicare and Medicaid Services, "Medicare and Medicaid EHR Incentive Programs," pp. 8, 10, 15 (July 9, 2013) (update to HIT Policy Committee).
[2] Markle Foundation, "Markle Survey on Health in a Networked Life 2010," p. 3 (Jan. 2011).
[3] Markle Survey, p. 4.
[4] Markle Survey, p. 5.
[5] National Partnership for Women & Families, "Making IT Meaningful: How Consumers Value and Trust Health IT," p. 3 (Feb. 2012).
[6] National Partnership Survey, pp. 24-25.

In short, Americans do not want more delay. Stage 2 implementation and Stage 3 rulemaking should remain on their intended trajectories, or even be accelerated. Beginning in October, Stage 2 offers important new benefits to patients, including the ability to view, download, and transmit their health information to other caregivers. Stage 3 offers further promise for improving care and quality and lowering costs by focusing on using EHRs to improve health outcomes. These goals cannot and should not be compromised or delayed.

The National Partnership for Women & Families

The National Partnership is a leading non-profit, non-partisan organization working to promote access to high-quality health care, fairness in the workplace, and programs and policies that help women and men meet the demands of work and family. Among other things, the National Partnership leads the Consumer Partnership for eHealth (CPeH) and the Campaign for Better Care (CBC), two important coalitions collectively representing more than 150 consumer and patient groups dedicated to changing the way health care is delivered and paid. The Consumer Partnership for eHealth, for example, has been working since 2005 to ensure that efforts to build electronic health information exchange meet the needs of America's patients and their families and produce higher-quality and more patient-centered care, fewer health disparities, and better health outcomes for everyone.

Like others, we have committed substantial amounts of time and expertise to ensure that the nation builds electronic health information exchanges well and that patients, families, and communities get the benefits now. We have been very active participants, for example, on the Health Information Technology Policy Committee, the Consumer Empowerment Workgroup, the Meaningful Use Workgroup, and the subgroup on Engaging Patients and Families.

The Hon. Pedro R. Pierluisi
Statement for the Record
Hearing on "Health Information Technology: Using it to Improve Care"
Senate Committee on Finance
July 24, 2013

Chairman Baucus and Ranking Member Hatch:

I submit this statement for the record to respectfully urge the Finance Committee to include the language of H.R. 1379, *the Puerto Rico Hospital HITECH Amendments Act of 2013*, which has 13 bipartisan cosponsors, in an appropriate legislative vehicle this session. Senator Robert Menendez, a member of the Committee, has introduced identical legislation in this chamber, S. 636, which has been cosponsored by Senator Marco Rubio. An earlier version of the legislation, which I introduced in the 111th Congress, was endorsed by the American Hospital Association via letter to Chairman Baucus on September 27, 2010.

H.R. 1379/S. 636 would correct an oversight in the Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted as part of the American Recovery and Reinvestment Act in February 2009. As you know, the goal of the HITECH Act is to encourage doctors and hospitals to use electronic health records, which can improve patient care, curb medical errors, and reduce health care delivery costs. To promote the adoption of electronic health records, the HITECH Act authorizes bonus payments under Medicare and Medicaid for eligible doctors and hospitals that become "meaningful users" of electronic health records. The Medicare incentive program consists of both "carrots" and "sticks"; physicians and hospitals will be penalized if they fail to adopt electronic health records by a certain date.

Unfortunately, the HITECH Act omitted Puerto Rico hospitals from the Medicare incentive program. This exclusion appears to have been inadvertent, since the bill makes Island physicians eligible for both the Medicare and Medicaid bonus payments and makes Island hospitals eligible for the Medicaid bonus payments.

There is no principled basis to exclude Puerto Rico hospitals from the Medicare component of the HITECH Act and this exclusion will significantly hamper efforts to adopt electronic health records —and thereby improve patient care and reduce delivery costs—on the Island. H.R. 1379/S.636 would amend the HITECH Act to treat Puerto Rico hospitals like hospitals in the States, making them eligible for Medicare bonus payments if they become meaningful users of electronic health records and subjecting them to penalties—in the form of reduced Medicare reimbursement rates—if they fail to do so by a certain date.

To be clear, Puerto Rico hospitals are not seeking preferential or special treatment. They are simply seeking fair and equal treatment. This bill would ensure they receive the same bonus payments as

hospital in the States for adopting electronic health records, which have been shown to improve patient care.

Rectifying this oversight through legislation would involve only minimal outlays. CMS's final rule on the electronic health records incentive program provided both a low-scenario and a high-scenario cost estimate, representing low and high rates of demonstration of meaningful use. For the Medicare hospital component of the Act, the low-scenario is $6.7 billion in federal spending and the high-scenario is $10.7 billion. CBO has provided a preliminary estimate that amending the HITECH Act to include Puerto Rico hospitals would cost an average of only $10 million a year, an extraordinarily modest amount in light of the overall cost of the HITECH Act initiative.

To account for the passage of time between enactment of the HITECH Act and the inclusion of Puerto Rico hospitals in the Medicare component of the Act, H.R. 1379/S. 636 provides Puerto Rico hospitals with roughly the same amount of time to come into compliance as stateside hospitals were provided under the original HITECH Act and its implementing regulations. The bill was drafted with technical assistance from CMS.

Thank you.

Presidente
Junta de Directores
Lcdo. Pedro J. González Cruz

Presidente Ejecutivo
Lcdo. Jaime Plá Cortés

Presidente Electo
Lcdo. Domingo Cruz Vivaldi

Miembros de Junta
Dr. Jaime Rivera Dueño

Lcdo. Pedro L. Meléndez Rosario

Lcda. Diraida Maldonado

Lcdo. Daniel Del Castillo

Lcda. Waleska Crespo

Lcdo. Marco Reyes

Lcdo. Fernando Alarcón

Dra. Marina Román Eyxarch

Dra. María de los A Correa

Lcdo. Elyonel Pontón

Lcdo. Enrique Vicéns

Dr. Luis Clas

Sra. Alicia Suárez

Statement for the record on behalf of the Puerto Rico Hospital Association for the Senate Finance Committee's July 24, 2013 Full Committee Hearing entitled:

"Health Information Technology: Using it to Improve Care"

July 24, 2013

Hon. Max Baucus
Chairman, Senate Committee on Finance
Attn. Editorial and Document Section
SD-219 Dirksen Bldg.
Washington, DC 20510-6200

Mr. Chairman,

Thank you for the opportunity with this hearing to draw attention to an issue of fairness for 3.8 million U.S. Citizens and the Hospitals who serve them. Quality of care has always been a priority for you and the bi-partisan Leadership of the Senate Finance Committee and we bring to your attention an issue that affects our quality of care for U.S. Citizens and taxpayers.

Unfortunately, when the Health Information Technology for Economic and Clinical Health (HITECH) Act was enacted by Congress in 2009, Puerto Rico's subsection (d) hospitals commonly known as acute care hospitals were inadvertently left out of the HITECH Act's Medicare component when it was drafted and enacted in law. We ask that our acute care hospitals be treated the same as identical hospitals elsewhere in the United States because Puerto Rico should not be singled out.

Our Member Hospitals support the goal of the HITECH Act to advance the design, development and operation of a nationwide health information infrastructure that promotes the electronic use

Hospitales al servicio de la comunidad

Villa Nevárez Professional Center Suite 101, San Juan PR 00927
Tels. (787) 764-0290 / 0987 / 0604 • Fax (787) 753-9748
E-mail: info@hospitalespr.org
Website: hospitalespr.org

and exchange of information. We agree that doctors and hospitals should be encouraged to use electronic health records (EHR), so, patient care is improved, medical errors are curtailed and lower health care delivery costs.

To promote the adoption of EHRs, the HITECH Act authorizes bonus payments under both Medicare and Medicaid for eligible doctors and hospitals that become "meaningful users" of certified EHR systems. The Medicare incentive program consists of both "carrots" and "sticks" in that physicians and hospitals will be penalized if they fail to adopt EHR technology by a certain date. Puerto Rico's hospitals are fully prepared to participate as Congress intended.

Unintended Consequences of a drafting error:

Unfortunately, the HITECH legislation omitted Puerto Rico hospitals from the Medicare component of the incentive program, an exclusion that was evidently a drafting error. The legislation makes Puerto Rico physicians eligible for both the Medicaid and Medicare payments **and** Puerto Rico's hospitals are eligible for the Medicaid bonus payments – yet the hospitals were omitted from the Medicare provision, which is likely attributed to the definition of an eligible hospital as a "subsection (d) hospital", an acute care hospital located in the fifty states or District of Columbia. This issue can easily be corrected with a proposed amendment that would simply add for purposes of this Act the inclusion of **subsection (d) hospitals in Puerto Rico,** thus putting Puerto Rico hospitals on parity with those in the States.

There is no principled basis to exclude Puerto Rico hospitals from the Medicare component of the HITECH Act as Puerto Rico residents pay the Medicare payroll tax just like their fellow citizens in the 50 states and District of Columbia. This inadvertent exclusion significantly hampers Puerto Rico's hospitals' efforts to adopt EHR systems putting at stake a vital modernization initiative.

Providers are increasingly using electronic health records, both to manage their patients' care and to provide more information to those patients, according to new data published by the Centers for Medicare & Medicaid Services. By meaningfully using EHRs, physicians and care providers have shown increased efficiencies while safeguarding privacy and improving care for millions of patients nationwide, the data show. Unfortunately, for 3.8 million U.S. Citizens residing in Puerto Rico as well as her many visitors needing heath care, they have been left out of this opportunity to improve the quality of care.

It's important to note that CMS Administrator Marilyn Tavenner recently stated that "Electronic health records are transforming relationships between patients and their health care providers. EHRs improve care coordination, reduce duplicative tests and procedures, and help patients take more control of their health and result in better overall health outcomes." If more patients than ever before are seeing the benefits of their health care providers using EHR's to better coordinate and manage their care, then we ask why Puerto Rico's Hospitals should be left out while others progress.

Puerto Rico has over 60 hospitals serving approximately 3.8 million U.S. citizens of Puerto Rico; approximately the same population as the States of Oklahoma or Oregon. Official figures state that there are approximately 724,000 eligible Medicare beneficiaries. Unfortunately, only Puerto Rico was excluded from the program through this drafting error omitting these U.S. Citizens.

The Bi-partisan Solution offered by S. 636:

We appreciate the leadership of a respected Member of your Committee; Senator Bob Menendez for introducing S. 636, legislation known as the *Puerto Rico Hospital HITECH Amendments Act of 2013* to correct this oversight along with Senator Marco Rubio.

S. 636 has identical legislation introduced in the House, H.R. 1379, by Cong. Pedro Pierluisi. Twelve Bi-partisan House Members joined in introducing the legislation including Congressmen Mica, Ros-Lehtinen, King (NY), Diaz-Balart, Young (AK), Grijalva, Christensen, Faleomavaega, Conyers, Serrano, Bordallo and Grayson.

Both the Puerto Rico Hospital Association and the American Hospital Association (AHA) endorse the bills. I have attached copies of their expressions of support along with my statement to you and the Senate Finance Committee.

This legislation simply adds Subsection (d) Hospitals in Puerto Rico to Medicare's HITECH initiative. These are the same hospitals which currently would qualify if they were located in any other part of the United States. To account for the passage of time between enactment of the HITECH Act and the inclusion of Puerto Rico hospitals in the Medicare component of the Act (which this legislation would achieve), the legislation provides Puerto Rico hospitals with approximately the same amount of time to come into compliance as stateside hospitals were provided under the HITECH Act and its implementing regulations

Again, Mr. Chairman, we ask the support of you and your Committee to provide for the inclusion of Puerto Rico's subsection (d) hospitals in the Medicare Component of the HITECH Act at the earliest opportunity. This is not only a fairness issue but one which impacts the quality of care for 3.8 million U.S. Citizens who happened to reside in the U.S. Territory of Puerto Rico.

Thank you for your consideration and support. With our best regards,

Jaime Plá Cortés, MHA
Executive President, Puerto Rico Hospital Association

American Hospital Association

Liberty Place, Suite 700
325 Seventh Street, NW
Washington, DC 20004-2802
(202) 638-1100 Phone
www.aha.org

August 2, 2013

The Honorable Max Baucus
Chairman
United States Senate Committee on Finance
219 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Baucus:

On behalf of our nearly 5,000 member hospitals, health systems and other health care organizations, and our 43,000 individual members, the American Hospital Association (AHA) urges you to support the *Puerto Rico HITECH Amendments Act of 2013* (S. 636). This legislation would enable Puerto Rico hospitals to participate in the Medicare and Medicaid Electronic Health Records (EHR) Incentive Programs.

Congress established the Medicare and Medicaid EHR Incentive Programs in the *Health Information Technology for Economic and Clinical Health (HITECH) Act*, which was part of the *American Recovery and Reinvestment Act (ARRA) of 2009*, to provide much-needed funds to support the transition to an e-enabled health care system. Hospitals share Congress' vision of a health care system where widespread use of interoperable EHRs supports improved clinical care, better coordination of care, fully informed and engaged patients, and improved public health.

Under the programs, hospitals that meet the criteria as "meaningful users" of certified EHR technology are eligible to receive incentive payments to encourage the transition to electronic recordkeeping, resulting in better patient care for all patients. Unfortunately, the definition of "hospital" in the Medicare program under HITECH does not include Puerto Rico hospitals; thus, they are currently ineligible to receive EHR incentives under Medicare. We believe this exclusion is an unintended oversight as Puerto Rico is a U.S. territory, its residents are U.S. citizens, and its hospitals provide care for nearly 3.8 million Puerto Rican U.S. citizens.

S. 636 would correct the definition of "hospital" under HITECH by including Puerto Rico hospitals as eligible to participate in the Medicare EHR Incentive Program. Enacting this legislation would not only bring equity to Puerto Rico hospitals, but would help modernize Puerto Rico hospitals and enable better coordination of care for their patients.

The AHA supports enacting this measure, and looks forward to working with you as this legislation moves forward.

Sincerely,

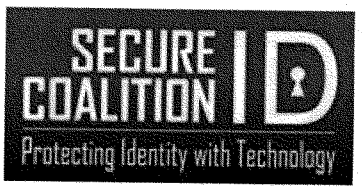
Rick Pollack
Executive Vice President

Written Comments of
Secure ID Coalition

Before the
United States Senate Committee on Finance

Hearing on
Health Information Technology: Using IT to Improve Care

July 24, 2013



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However, there's a third choice that is accurate, cost-effective, and highly protective of patient privacy, security, and civil liberties: a smart-card-enabled insurance card. By upgrading both privately-issued and government-issued insurance cards (such as the Medicare and Medicaid cards) to a secure smart card,[1] healthcare providers can accurately pull a patient's records with the highest level of certainty they are accessing the records of the patient sitting in front of them. Software that can overlay any electronic medical record (EMR) system can be used to match the smart card token to the existing record in the EMR system. Smart cards are a platform; they are based on international standards and are non-proprietary.

Using smart card technology will become even easier in the upcoming years, as the US financial services sector will completely transition all payment cards (both debit and credit) away from fraud-prone magnetic swipe cards to smart cards by 2015. While smart cards are already ubiquitous in the US, used today in every mobile phone (over 3 billion around the world), each person (or patient) will be carrying one in their wallet or purse by 2015, creating a level of comfort, confidence and trust with the technology platform in their hands.

During the hearing, Sen. Mike Enzi (R-WY) articulated a vision of a healthcare card that would enable every citizen to carry with them their entire medical history in case of an emergency. Healthcare smart cards are making Sen. Enzi's vision a reality this very day. In fact, the U.S. Centers for Disease Control and the American Medical Association conducted a training simulation in 2012 of healthcare smart cards used in a disaster setting. It unequivocally showed that patients with healthcare smart cards were able to receive care in a faster, more accurate manner than patients without such cards, as first responders were able to access vital disaster patient health records immediately during an emergency situation, thus saving lives.

Today current deployments of smart cards by small and large healthcare facilities and systems are proving quantifiable patient matching results in saving time and money.

- Memorial Hospital in North Conway, New Hampshire is a twenty-five bed hospital serving 100,000 annual patient visits. After the implementation of a smart card based patient identity system Memorial Hospital reduced billing errors by 88% from 6.8% to less than 1%. Duplicate medical records were reduced 90% from 7% to less than 1%. Average admission time was reduced by 90% from 22 minutes to less than three; allowing Memorial to redirect staff to other productive tasks. In addition Memorial deceased admission error rate from 6% to less than 1% on an average of 1500 registrations per week; reducing the number of records that require manual intervention to fix before billing.
- Nashville, Tennessee based Vanguard Health System began deploying smart cards as part of their Life-Med ID system for 22,000 patients in Resolute Health ambulatory service between two, Texas cities San Antonio and New Braunfels. They began looking at solutions for patient ID matching that would require less overhead. Implementing the smart card based system effectively eliminated duplicate health records and patient identity theft. The smart card created a one-source solution; one record for ambulatory, acute card and throughout home health – everything is located one record.

The Secure ID Coalition strongly supports the use of smart cards for patient matching, and encourages the Committee to talk with industry experts – representatives from Memorial Hospital in New Hampshire, Vanguard Health Systems in the Texas and those involved with the CDC/AMA training demonstration – to find out more about how smart cards can not only protect American's medical privacy and security, but also their lives. We stand ready to answer the Committee's questions. Please feel free to contact Kelli Emerick, Executive Director, Secure ID Coalition at kemerick@secureIDcoalition.org or 202-263-2575.

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[1] Smart cards are defined in the National Institute of Standards and Technology's Special Publication 800-63.1 and are capable of the highest level of authentication and security. *See NIST SP-800-63.1.*

The Secure ID Coalition (SIDC) appreciates the opportunity to provide written comments for the Senate Finance Committee to be included in the record for the July 24, 2013 hearing, titled, "Health Information Technology: Using it to Improve Care."

Founded in 2005, the Secure ID Coalition works with industry experts, public policy officials, and federal and state agency personnel to promote identity policy solutions that enable both security and privacy protections. Because of our commitment to citizen privacy rights and protections we advocate for technology solutions that enable individuals to make decision about the use of their own personal information. Members of the Secure ID Coalition subscribe to principles that include the increased deployment of secure identity solutions, as well as advise on and advocate for strong consumer privacy protections and enhanced security to reduce waste, fraud, theft and abuse. Our mission is to promote the understanding and appropriate use of smart card technology to achieve enhanced security for ID management systems while maintaining user privacy. Such ID management systems include physical and/or logical access to facilities and networks. For more information, please visit our website at www.secureIDcoalition.org.

While Health IT (HIT) has the ability to transform the U.S. healthcare industry's capacity to improve the quality and speed of care to American citizens, significant efforts must be undertaken to ensure the patient's privacy and security – as well as their safety – are protected if any implementation is to be successful. Vital to this effort is a process known as 'patient matching' where systems are established to ensure the correct identification of patients, as well as the correct matching of patients with their health records and intended treatments. This is an essential part of providing and receiving safe, quality care. The failure to correctly identify patients and match their information to their intended treatment can result in procedures being performed on the wrong person, medication errors, or life threatening diagnostic mistakes.

Congress has been aware of the issues surrounding patient matching for many years. In an effort to address the concerns the Department of Health and Human Services was required, as part of the 1996, Health Insurance Portability and Accountability Act (HIPAA), to promulgate a rule on Unique Patient Identifiers. This rule never came to fruition. As a result, the United States has no comprehensive strategy for patient matching. With the 2009 passage of the HITECH Act (included in the American Reinvestment and Recovery Act), the lack of government's leadership in creating a coherent and integrated patient matching strategy has caused significant problems related to Health IT systems and interoperability and record sharing.

The HITECH Act, as the hearing reviewed, uses incentive payments and penalties to encourage all hospitals and providers to use electronic health records (EHRs). Patients are increasingly more likely to have an electronic health record (EHR) and as a result, healthcare providers are finding it even more critical than ever to ensure the right record is matched to the right patient.

During this hearing, Ranking Member Orrin Hatch (R-UT) echoed this concern about patient matching, specifically inquiring of Dr. Colin Banas of the Virginia Commonwealth University about patient privacy and security, as well as obstacles to solving these problems.

Dr. Banas testified that there are two solutions to the problem. The first solution would be an algorithm that matches patients based on a number of different data points; the second would be national patient identifier, similar to the unique National Provider Identifier issued to healthcare providers by the Centers for Medicare and Medicaid Services. Both of these options have significant drawbacks that prevent their use. In the first case, the algorithm is too costly and not nearly accurate enough for use in a healthcare setting and resulting in massive amounts of personal data (not necessarily healthcare data) to be accessed and possibly stored about each healthcare patient. While a national patient identifier would be cost-effective and accurate, its use is currently prohibited by Congress due to civil liberties concerns.

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