Meeting Report

American Health Information Committee
June 13, 2006

The American Health Information Community (AHIC), a federally-chartered commission formed to help advance President Bush's call for most Americans to have electronic health records within 10 years, held its sixth meeting on June 13, 2006, at the Department of Health and Human Services (DHHS), 200 Independence Avenue, SW, Washington, DC, 20201.

The purpose of the meeting was to bring together the Community's 17 members to continue discussion of steps toward ways to achieve its mission of providing input and recommendations to DHHS on how to make health records digital and interoperable, and assure that the privacy and security of those records are protected in a smooth, market-led way. The meeting's discussions focused on: (1) an AHIC workgroup roadmap; (2) an update on the Healthcare Information Technology Standards Panel (HITSP); (3) an update on privacy, security, and confidentiality; (4) a review of the Roadmap for National Action on Clinical Decision Support; and (5) a discussion of goals, objectives, and strategies in moving AHIC forward.

DHHS Secretary Michael O. Leavitt chairs the Community. The remaining 16 members, selected by Secretary Leavitt, are key leaders in the public and private sectors who represent stakeholder interests in advancing the mission of the Community and who have strong peer support. Members serve 2-year terms.

A summary of the discussion and events of that meeting follow.

Call to Order

Joining Secretary Leavitt counterclockwise around the table were:

David Brailer, MD, PhD, Vice Chairman, AHIC

Nancy Davenport-Ennis, founder of both the National Patient Advocate Foundation and the Patient Advocate Foundation (Ms. Davenport-Ennis was represented by Gail McGrath, President and National Director of Government Affairs, National Patient Advocate Foundation, for part of the meeting)

Douglas Henley, MD, Executive Vice President, American Academy of Family Physicians

Kevin Hutchinson, CEO of SureScripts

David Brantley, Office of Technology Policy, U.S. Department of Commerce (Mr. Brantley represented Robert Cresanti, Under Secretary of Commerce for Technology, U.S. Department of Commerce)

Laura Conn, Acting Director, Public Health Informatics Branch, Centers for Disease Control and Prevention (CDC) (Ms. Conn represented Julie Gerberding, MD, Director of the Centers for Disease Control and Prevention, U.S. Department of Health and Human Services)

Charles N. (Chip) Kahn III, President of the Federation of American Hospitals

Nancy Kichak, Associate Director for Strategic Human Resources Policy (Ms. Kichak represented Linda Springer, Director of the Office of Personnel Management)

Colin Evans, Director of the System Software Lab, Intel (Mr. Evans represented Craig Barrett, PhD, Chairman of the Board, Intel)

Mark Warshawsky, PhD, Assistant Secretary for Economic Policy, U.S. Department of the Treasury

Tony Trenkle, Director, Office of E-Health Standards and Services, Centers for Medicare and Medicaid Services (Mr. Trenkle represented Mark McClellan, MD, PhD, Administrator of the Centers for Medicare and Medicaid Services)

William Winkenwerder, Jr., MD, Assistant Secretary of Defense for Health Affairs

David Ayre, Senior Vice President, Compensation and Benefits, Pepsico, Inc. (Mr. Ayre represented Steven Reinemund, CEO and Chairman of Pepsico, Inc.)

Ed Goodman, Vice President, Public Policy, VHA, Inc. (Mr. Goodman represented Lillee Gelinas, RN, MSN, Vice President of VHA, Inc.)

Jonathan Perlin, MD, Under Secretary for Health, Department of Veterans Affairs and Veterans Health Administration

Scott Serota, President and CEO of the Blue Cross Blue Shield Association

E. Mitchell (Mitch) Roob, Secretary of the Indiana Family and Social Services Administration, was unable to attend; no representative attended the meeting in his place.

Introductory Comments

Secretary Leavitt emphasized the importance of AHIC's discussions in helping to drive a comprehensive agenda on health care, including comprehensive health care reform, reducing medical errors, and improving outcomes. Minute details required to push these issues forward cannot be ignored. Secretary Leavitt invited Community member Dr. Jonathan Perlin to describe recently publicized research carried out at the Department of Veterans Affairs (VA).

Dr. Perlin discussed the highlights of a study involving 216,000 intensive care unit (ICU) patient episodes in the VA system. The study used electronic data to show that mortality is highest in ICU patients without a previous diagnosis of diabetes and very high blood sugar or very low blood sugar. The risk of dying was found to be 3.8 times greater in patients without a previous diagnosis of diabetes when their blood sugar was high. This fundamental finding alerts ICU clinicians to improve care and reduce the risk of death by considering this information, which was singularly available by examining electronic data from these 216,000 ICU episodes.

Secretary Leavitt commented that in addition to critical research such as that described by Dr. Perlin, transparency in pricing and quality is another issue that must be addressed; standards are needed in this area. Consumers generally make decisions on the basis of which hospital is closest to them or where their

physician practices. Providing additional information to help consumers in their decisionmaking process is key.

Secretary Leavitt then described the "gestation process" of health and information standards as related to AHIC. The Community identified important areas and feasible goals within these areas—for example, determining the next logical steps in the development of standards. AHIC then developed workgroups to advance work in these important areas. The Community reviews the workgroups' efforts and either accepts workgroup recommendations or asks workgroups to continue their efforts. Accepted recommendations are forwarded on to HITSP, where they are harmonized with other standards. Following this process, recommendations are submitted to the Certification Commission for Healthcare Information Technology (CCHIT), which can certify products as being consistent with standards recommended by AHIC. Secretary Leavitt emphasized the importance of marketplace acceptance, noting that during the current administration, AHIC likely will push three batches of recommended standards through this process.

Before the end of the current administration, the following five accomplishments are expected: (1) it will be made clear that standards will be in place and they will be adopted by the marketplace, (2) a clear process for adopting standards will be developed, (3) the first three batches of standards referred to by Secretary Leavitt will be adopted, (4) a process to update and improve these activities will be created, and (5) a self-sustaining model will be developed. Secretary Leavitt again stressed that the marketplace is ultimately where the adoption process has to be accepted. AHIC was designed with this in mind, as representatives of government agencies that are responsible for policy development and payment of health care for almost 50 percent of Americans are members of the Community. Since the last AHIC meeting, complete unanimity has been reached in reaffirming the commitment of federal agencies to adopt AHIC-recommended standards and make adoption/adherence to them a condition of doing business.

Secretary Leavitt has attended 19 meetings in different cities with different employer groups that have organized to provide greater levels of detail and more transparency on pricing and quality through their health plans (until now, the federal government has been absent from these discussions). A few weeks prior to this AHIC meeting, Secretary Leavitt announced that the government would join these employer groups to pool data for the purpose of identifying quality indicators and creating better price and quality transparency.

DHHS is in the process of identifying 12 communities with which to partner—Secretary Leavitt will be personally approaching the largest employers in these communities to develop price and quality transparency. Government agencies, private employers, providers, and plans will be asked to commit to the following activities: (1) sharing data, so that there is greater transparency; (2) adopting health IT standards created by AHIC; (3) beginning to adopt standard pay-for-performance definitions; and (4) developing consumer incentives within plans (for employers and insurers). It is anticipated that approaching these regional markets will begin to create greater adoption of the standards AHIC is developing. In addition to pursuing collaborations with these communities, DHHS is approaching Fortune 500 companies in an effort to carry out similar activities.

Secretary Leavitt concluded his opening remarks by indicating that the activities he described are focused on creating a sense of consumer, payer, and provider momentum toward adoption of AHIC-recommended standards. The first batch of recommendations have been passed on to HITSP. These recommendations focused on ambulatory issues. The second batch likely will involve inpatient issues; it is anticipated that the third set of recommendations will focus on health architecture.

Approval of May 16, 2006, Meeting Minutes

Minutes from the May 16, 2006, AHIC meeting were distributed, reviewed by Community members, and approved unanimously with no changes.

Workgroup Roadmap Discussion

Dr. Brailer described the current and future activities of AHIC as it moves forward, acknowledging the enormous amount of work and contributions being made by workgroup members. To date, the Community has established four workgroups and has recommended the establishment of a crosscutting Subgroup on Privacy and Security. More than 20 public workgroup meetings have been convened.

The first set of workgroup recommendations were presented at the May 16, 2006, AHIC meeting. Seven recommendations from the Electronic Health Records Workgroup were accepted by the Community, eight were accepted from the Chronic Care Workgroup, three were accepted from the Consumer Empowerment Workgroup, and eight were accepted from the Biosurveillance Workgroup. Other recommendations were tabled or given back to the workgroups for additional consideration. Each workgroup has a specific charge and a broad charge guiding them in the development of their recommendations. The following three-step process has been proposed for moving the AHIC workgroups from their specific charges to their broad charges:

- Workgroups will begin collecting information through testimony, reviewing written pieces, and their own deliberations for bringing experts forward, to identify the "critical components" of their respective broad charges.

- Workgroups then will prioritize these "critical components," recognizing that they are not all created equally, and that different sequences of components can help achieve the goal faster or slower. Workgroups also will create a roadmap and a workplan addressing how these critical components, or sets of specific charges, add up to the broad charge.

- Workgroups will identify recommendations that flow from those the critical components.

According to the proposed plan, AHIC workgroups will be charged with starting to develop their respective workplans in June. In July, workgroups will begin collecting background information, testimony, and other information so that by around October, core themes, inputs, and major issues have been identified. It is hoped that letters of recommendation will be submitted for the next batch of workgroup recommendations in November/December. As the process is further refined and more legacy information builds up, 3-4 month cycles are anticipated between sets of recommendations.

Discussion Highlights

"There is a report that is being prepared [by the Hospital Quality Alliance] on the information that's needed to measure performance and how that relates to information technology and the practical ability to generate that information. And we are planning at the August first meeting a report on that work"
– Dr. Brailer

"There are at least three wheels that are turning here. One is the development of the standards. The second is the development of the process to automate the collection of the data, that's what we're engaged in. And the third is the development of the acceptance, which is happening both at this table and others." – Secretary Leavitt

"The view that we've taken of the workgroups is that they are organic. It is possible a Workgroup could obsolete itself…Or, as we've done with [the Privacy and Security Subgroup], it could spawn other processes. So I hope the spirit that we bring to this is that we don't let structure dictate our process, but we create structures as needed on a temporary or standing basis to accomplish our goals." – Dr. Brailer

"We have a set of recommendations that are working on certain topics, and [also] a set of goals. And I think it would be enormously helpful that if either as a team or part of your function we could somehow map those together and see where they fit, because it is not clear which recommendations go with which goal and so on and so forth…some sort of matrix that would help connect those will be helpful." – Mr. Evans

"There is a significant degree of overlap between the broad charges and those four goals, but they're not designed to be completely concentric or overlapping. We'll certainly tell you how each goal overlaps each workgroup or vice versa." – Dr. Brailer

"If we could come to some agreement on certain types of conditions or patient populations to focus on…I don't know where that work would be done, because individually we're coming up with our own patient populations and disease conditions that we want to demonstrate, at least in the Consumer Empowerment Workgroup, and I've seen a little bit of that in the EHR Workgroup. It seems there is an overlying need to make sure that we're focused on a singular population." – Mr. Hutchinson

"Once we get to demonstrating the improvement of the quality of care and the lowering of cost and the integration of care, it seems that we're going to have to have some measurable objectives around a certain condition, or population…And maybe it's not in the Workgroups where that's performed [but] it's got to be performed somewhere." – Mr. Hutchinson

"There are certain diseases that we measure quality performance in and others we don't. If we talk about chronic care management, there are certain diseases that it applies to, and not others. So to some degree there is an implicit set of disease conditions. I think it would helpful for me to ask the [Office of the National Coordinator] to go back and look at some of the disease priorities in each of the areas, and perhaps if there are any interesting findings to report it back here." – Dr. Brailer

HITSP Update

Dr. John Loonsk, Director of the Office of Interoperability Standards, Office of the National Coordinator, and Dr. John Halamka, HITSP Chair, provided an update on the Panel's activities. Dr. Loonsk described the challenges facing HITSP in moving forward with the standards-related activities developed by AHIC, noting that there many Community recommendations related to September deliverables for HITSP. There also are a number of standards-related issues that HITSP is grappling with; these generally fall into the following categories: (1) gaps, (2) overlap, (3) adoption, and (4) specificity.

In terms of adoption in clinical care settings, certain terms are used in most clinical care settings. There are traditions for those terms, and infrastructure oriented to their use. There also are ways in which information technology is deployed that relate to integrating systems and are part of the business model

for how some services are provided. One long-term issue relates to the structured way data are stored. Most medical information is recorded as free text, either through transcription, handwriting, or electronic word-processable files. Ideally, coded data are used for unambiguous data storage. The challenge, however, is that it is much easier to put information into the free text form than it is to put it into a very structured, coded form.

In terms of specificity, Dr. Loonsk provided an example of implementation-level guidance to demonstrate the type of specificity that represents a challenge to HITSP. The guidance includes a highly detailed listing of every standard, including technology, terminology, structure, etc. necessary to have an unambiguous implementation. HITSP is striving for this level of detail, which is the manner of specificity that is important in terms of having systems move towards the ability to "plug and play" and interoperate.

Dr. Halamka reminded Community members that HITSP is a group organized to harmonize the standards used to exchange health data in the United States. The Panel brings together experts from across the health care IT community, from customers to doctors, nurses, and hospitals; from those who develop health care IT products to those who use them; and from the government agencies who monitor the U.S. health care system to those organizations actually writing the standards. The Panel's activities are open, transparent, and led by the American National Standards Institute (ANSI). Cooperative partnerships have been and are being developed between and among certain standards developers.

A total of 155 organizations participate in HITSP, representing a broad spectrum of interests. Membership includes 17 standards development organizations (SDOs); 114 non-SDOs including clinicians, providers, safety net providers, vendors, purchasers, payers, public health professionals, and researchers; 15 government organizations; and 9 consumer organizations. The HITSP Board of Directors also represents multiple stakeholder groups (eight representatives are from SDOs, nine are from non-SDOs, four individuals are government-appointed representatives identified by the Office of the National Coordinator for Health Information Technology (ONCHIT), and two are from consumer organizations).

Dr. Halamka provided definitions of the following terms:

- **Harmonization:** The selection of standards most ready for use as an interlocking set to implement in support of specific events and actions.

- **Context:** The coupling of an action or event and a specific request for an interoperability specification.

- **Gap:** Missing or incomplete standards that are required for fulfillment of the events in the given use case.

- **Overlap:** Refers to instances where some or all of the requirements are met by multiple standards.

- **Standards Development Organization:** An organization that produces standards that meet the test of HITSP Standards Readiness Criteria.

Dr. Halamka then described the HITSP panel process. First, AHIC workgroups, Nationwide Health Information Network (NHIN) contractors, or other customers prepare a harmonization request. HITSP technical committees then analyze requirements, identify candidate standards, and highlight standard gaps and overlaps. Gaps are forwarded to SDOs to obtain guidance as to emerging candidate standards or new standards requirements; overlaps are resolved through SDO interactions. HITSP then selects the final set

of standards—the standards recommended by the technical committees are discussed and ratified by the HITSP panel. Once the standards are ratified, HITSP technical committees work with SDOs and other groups to produce implementation-level guidance that includes interoperability specifications. Certain aspects of implementation guidance, especially when multiple SDOs are involved, may be created by other groups for HITSP. HITSP work products are delivered to AHIC for their endorsement. CCHIT will include functional criteria for interoperability based on HITSP implementation guides in its certification work.

In terms of progress to date, AHIC breakthrough area use cases were received by the HITSP technical committees in January of 2006. These use cases were emergency room visits (Biosurveillance Workgroup), laboratory results (Electronic Health Records Workgroup), electronic clipboard and medication history (Consumer Empowerment Workgroup), and secure messaging between consumers and providers (Chronic Care Workgroup). HITSP completed a requirements analysis to understand interoperability requirements for specific scenarios in April. In May, candidate standards were named, gaps and overlaps were identified, and criteria to analyze overlaps and duplications were designed.

In September, HITSP will deliver specific implementation-level guidance, called "Interoperability Specifications" for the four AHIC breakthrough areas. The Interoperability Specifications will: (1) identify standards and specific implementation context for those standards, (2) describe specific value sets for unambiguous data exchange and system-to-system interaction, and (3) provide the necessary instructions to implement the specific standards in commercial and self-developed systems. By June 30, 2006, the Panel plans to select standards for each breakthrough use case using the HITSP-approved criteria. Also during the remainder of 2006, HITSP will:

- Pilot the remainder of the process by constructing interoperability specifications, testing and disseminating them for industry use.

- Promote public awareness of health information technology standards harmonization activities and provide an open, balanced, and transparent review mechanism.

- Develop a business model that will sustain HITSP for as long as standards harmonization and coordination are necessary.

Discussion Highlights

"What I worry about is that as the products are being developed with the standards, that somehow we make it very clear that the end user always has to be in mind, whether it's a provider, whether it's a consumer, but it has to be workable for the people that are actually going to be using it" – Ms. McGrath

"How do we break down that large [Interoperability Specifications] document into reusable building blocks? If we have one guide to that, that we reused across all use cases, suddenly we don't have a thousand pages per use case, which becomes unmanageable and un-maintainable." – Dr. Halamka

"It's our hope that through this process, consumer organizations themselves will develop some of the expertise to be able to translate consumer input into this process" – Dr. Brailer

"There are vendors and technology companies who map because they can't support a particular standard, but they can map to the standard without building it inside the application. Is that something that HITSP as well as the Certification Commission feels is okay, as long as it gets to the other end in that format, or is this something that needs to be native in the application?" – Mr. Hutchinson

"Ultimately, of course, we'll want CCHIT to have the native product, whatever is the interoperable standard, but going from the current state to future state may require temporary mapping." – Dr. Halamka

"It is important to say there is a defined timeline as to where that bridge or connection point would be allowed to occur. Even if it is a year or two or three years out, as long as there is a defined timeline to when it becomes native into the application." – Mr. Hutchinson

"How do we get from current state to future state? I think the answer is there will be some interim balance, some free text, some structure, and [it will] evolve to more structure over time." – Dr. Halamka

"At the HITSP Web site you will find documentation on every process, every meeting, every to-do item open to the public. Any organization in this country can join HITSP. Simply all we ask is that you attend the meetings and participate. The process that we use at the panel level is a consensus process, where we hope we can get to consensus, or near consensus, on all of the work products." – Dr. Halamka

"One of the key aspects of all the standards that we work through is that [they] will constantly evolve. An example is that today we believe that genetic sequences may hold promise for the future…Are there well-developed standards for security around genetic sequences, for the storage and displayed interpretation? No…So we need to ensure when that use case now comes along that there is an opportunity to constantly revise and update." – Dr. Halamka

"We want whatever products to exist in the marketplace to be able to communicate with each other. How those products look and feel to the user, the features and functions that they may offer to the patient or the doctor is up to the vendor community and is up to the market." – Dr. Halamka

"When I meet with vendors, they say the amount of effort we as an organization have to place in creating point-to-point nonstandard connections with all of the other vendors is actually exhausting and draining our resources from innovation where it really matters, and that is creating the products and services for patients and doctors that are highly useable. So I think we'll reduce cost, enhance value, and allow the marketplace to focus on innovation." – Dr. Halamka

"As computing power becomes greater, the ability to interpret or meta-analyze, or meta-index the free text that is nuanced, and then provide structure is really an attraction in the future…the ability to provide meaning that's able to be interpreted and analyzed is one of the areas where I think clinical decision support and the record of structure is so very powerful." – Dr. Perlin

"I think our greatest challenge is to…let the vendor community innovate with unique user interfaces that allow a doctor to get to controlled vocabularies and then we'll have the standards to transmit that information from place to place." – Dr. Halamka

"In terms of the marketplace, do you have any sense of [whether we are] creating just a few vendors that will participate in this market, or will there be a few vendors with some specialization of smaller vendors, or will it in fact be dozens of vendors?" – Dr. Warshawsky

"I think actually dozens is probably the right answer…once there is one unambiguous way to send information from place to place." – Dr. Halamka

"Are the medical schools and academia working as part of this process as well, from the training of new physicians as they're coming out of the medical schools? And then are the payers also involved in this process? Because if we work on the standardized medical terminology but yet different information is required to get the claim approved, then we're going to hit another roadblock as reimbursement occurs." – Mr. Hutchinson

"In addition to chairing HITSP, I'm the CIO of Harvard Medical School…Harvard is in the middle of redefining medical education…and part of that is now called a 6-month Introduction to the Profession… Part of that curriculum, in fact, includes reviews of all of the major provider order entry and health record applications used in the Harvard community…we are truly steeping the next generation of physicians to expect the use of these electronic tools." – Dr. Halamka

"I'm aware that now we have created the environment where people have an expectation of interconnectivity of electronic data…I think there is a role of education here, of the general public and of people who use the systems, in the sense of…setting expectations as to what can or cannot work over a certain period of time." – Mr. Evans

Privacy, Security, and Confidentiality Update

Jodi Daniel, Director of the Office of Policy and Research within the ONCHIT, provided the Community with a brief update on the privacy and security solutions contract her office has been working on. She also provided an overview of some of the other ongoing privacy and security activities within the ONCHIT. She reminded Community members that across the AHIC-chartered workgroups, there have been many discussions focused on identity proofing and authentication of users, how to match data with individuals, appropriate access of information, what information should be shared, and how to protect the privacy of the individual whose information was being used for public health purposes.

Although standards development and implementation is a critical component of being successful in health IT initiatives, so is identifying the appropriate privacy and security practices and policies. No system can guarantee that information is protected, whether it's in paper or electronic format; however, much greater privacy and security protections are enabled with electronic systems. Electronic systems help ensure that information is readily available to the clinician so they can provide the best care to the patient. They also prevent inappropriate access by those who should not be seeing personal medical records.

The Health Insurance Portability and Accountability Act (HIPAA) required DHHS to develop standards for financial and administrative health care transactions. The Act is predicated on the belief that privacy and security must be considered at the same time as technology standards. Although HIPAA privacy and security rules may not solve all of the policy questions that arise with respect to health information technology, they provide a strong foundation for privacy and security of health information. The most significant initiative ONCHIT has to examine privacy and security practices across the country is the Health Information Security and Privacy Collaboration (HISPC).

Many issues related to privacy and security of health information either are state-based or organization-based. State laws may be more protective of privacy and may cover additional types of information; organization-level policies may be stricter and different than applicable state and federal laws.

In terms of the NHIN contracts, contractors are working on prototype architectures that identify various technical approaches. They also will provide a testing ground for privacy and security options that will be used in policy considerations. A public meeting of the NHIN contractors, scheduled for later this year,

will be held to discuss security issues. It is hoped that at that time, there will be some initial findings from the states that can be discussed and used to help inform discussions at the NHIN prototype level.

A recommendation was made and accepted at the last AHIC meeting to form a Privacy and Security Subgroup to focus and consolidate various workgroup-level discussions centered on these issues. The Privacy and Security Subgroup will include membership from each of the AHIC-chartered workgroups.

Dr. Linda Dimitropoulos, RTI International Project Director on the privacy and security solutions contract that is forming HISPC, then provided an update on this contract (Secretary Leavitt excused himself from the meeting during this presentation—Dr. Brailer chaired the meeting until Secretary Leavitt's return). The HISPC initiative under the privacy and security solutions contract was formed to support collaboration within and among states to foster participation of stakeholders in identifying barriers and developing solutions to health information exchange (the purpose of HISPC is to maximize knowledge exchange and identify common solutions). Work under the state subcontracts is designed to produce consensus-based solutions and implementation plans. The involvement of stakeholders at the state and community levels (including patients and consumers) is critical to developing solutions to achieve acceptance.

Dr. Dimitropoulos provided an update on HISPC progress since the briefing given at the January AHIC meeting. In January 2006, RTI released the Request for Proposals for subcontracts through the National Governors Association (NGA) to the Governors of all 54 states and U.S. territories. In February, RTI and NGA held two bidder's conferences to discuss submissions. In March and April, RTI and NGA reviewed proposals, and a subcontract was signed with the HIT National Resource Center (NRC) to provide public Web pages, private workspaces, and to develop the assessment tool for collecting and aggregating business practices. In May, the prime contract was increased by $5.73 million to fund 33 states and 1 U.S. territory. Also that month, DHHS issued a press release indicating that 22 states had already executed subcontracts and 12 were still pending.

In terms of upcoming HISPC activities, kickoff meetings began in May, and states are developing their workplans and assembling their teams. In June, debriefings are being held with states that were not offered subcontracts. Plans are underway to share documents, tools, and methods with states that are not subcontracted to the project. Training sessions will be held to familiarize the states with their private work spaces and assessment tools through the NRC Web portal. In July, project and state public Web pages will go live via the NRC to facilitate information sharing (see http://healthit.ahrq.gov/hispc). In summer of 2006, states will form multistakeholder workgroups to respond to a set of health information exchange scenarios. Stakeholder workgroups will identify business practices associated with privacy and security (practices will be coded as "good" practices or as barriers to health information exchange). The policy and legal drivers behind barriers will be identified. In fall of 2006, regional and statewide meetings will be held to share progress and information. In fall/winter of 2006/2007, analysis of solutions and implementation plans will be carried out, and in spring of 2007, a nationwide meeting will be held.

Dr. John Thomasian, Director of the Center for Best Practices with the NGA, provided the Community with some perspective on the states' role in health IT and in privacy and security. Dr. Thomasian indicated that the state Governors are major advocates of health IT development. Recognizing the key role of governors in bringing stakeholders together has been an important step forward—engaging governors in these efforts has helped to begin creating an institutional framework that will help address the regulatory, financial, and policy challenges facing health IT deployment.

In this year's State of the State addresses, 96 percent of the governors mentioned health care as a major challenge for the administration in their respective states. Almost 65 percent called for widespread

reform, and almost 25 percent of Governors mentioned initiatives focused on health care information technology. The governors believe that the first step in building a more cost-effective and efficient system is to establish the ability for patients, providers, and insurers to exchange health care electronically in a safe, secure environment. In addition to the State of the State addresses, at least 27 governors over the last 2 years have launched their own initiatives in electronic health information exchange. These activities range from establishing task forces to creating roadmaps for state deployment, to offering state-financed grants for pilot programs that demonstrate an aspect of electronic health data exchange.

States are looking to use flexibility in Medicaid to fundamentally change how services are delivered so that they are more tailored to the individual's needs and employment status. At the same time, states are moving forward on initiatives to provide health care quality and provide greater transparency. Many of these efforts are being coupled with initiatives in health information technology.

Discussion Highlights

Prior to the discussion, Secretary Leavitt returned to the meeting and resumed as Chair.

"RTI and NGA…really tried [to] make sure that we were getting a good cross-section so that the [lessons learned] that came out of this work would cut across the varying, different types of states and their progress in health information exchange. So there were some limits as far as funding and being able to bring in all of them, but we tried to bring in as many as we could in this project, and we're trying to consider ways that we can bring in the other states" – Ms. Daniel

"Many states contributed to the process financially, through in-kind donations in their own contracts. I think that the discussions will be heated at times, and I think that there is enough leadership and there is enough breadth across stakeholder groups to ensure that it is a good process, a good healthy dialog, and that there is enough transparency that we will see the outcomes will be very positive."
– Dr. Dimitropoulos

"The fact that we did get so much interest is a real testament to the fact that the states are really committed to this work and want to be a part of this process…There is a lot of enthusiasm, buy-in, and interest in trying to sort through these issues, and I am very encouraged that we will have a very good collaborative process at all levels." – Ms. Daniel

"There is a belief…that we can move forward and still preserve the fundamental privacy and security protections that we have…through this process, we may discover that we have some things that just don't make sense…The states are interested in uncovering those, and fixing them, and looking at harmonization where it makes sense…There's work to be done, but certainly it is being driven by an interest to move forward and see harmonization where we can." – Dr. Thomasian

"Achievement in this area is multidimensional. It's difficult; it's almost certain to be fraught with mistakes and stumbles. And we experienced those ourselves as we've put more and more data into electronic formats and moved it around. What we have learned is that this is a continuous process, and that the bar moves higher, so you got to just keep moving with it." – Dr. Winkenwerder

"We rely on the U.S. power grid. And we [have] had outages…there is a dependency there. No matter how well orchestrated and organized and planned our system is, there a dependency there that relates to the behavior of others…It sort of re-gauges your thinking in terms of what level of resource and effort and ongoing commitment is necessary." – Dr. Winkenwerder

"Our goal is to have a standard process across all the states…We did develop a micro-iterative process where each state starts with a Variation Workgroup…They will conduct moderated sessions, where they will review the scenarios, they will identify the business practices that their organization has associated with those scenarios, enter those into a database that we have set up for them that will allow them to check off whether or not certain practices are barriers or if they're enablers of health information exchange." – Dr. Dimitropoulos

"In addition to having trainers go out and train the states on how to use these tools and how think about these issues and how to manage this process, [there are] state liaisons who will be working with a group of states so they can make sure that there is always a point of contact for the states to check in with…to make sure that things are moving along, things are moving smoothly, things are moving consistently, and to help address any challenges that may come up along the way." – Ms. Daniel

"Right now, good practice is, at the highest level, a practice that would allow interoperability… It is a moving target. And I think one of the purposes of this project that was set out at the beginning was, that it is going to be an ongoing process. One of the goals is to actually leave in place in the states, when this contract ends, is [to have] an infrastructure that will allow them to continue to examine those issues that come up and continue their work along that line." – Dr. Dimitropoulos

"In addition to the within-
state convening, there is a cross-state convening that happens as well, that allows this dialog to be occurring about not only what are the best practices that a state considers, but what is the context that they see across the United States that we can begin having that…A lot of the states that were interested in participating saw the tools and the framework validating something that they felt they had to do anyway, [and] it gives them a context to [do it] in collaboration with many other states." – Dr. Brailer

"Our goal is to get to some degree of harmonization to make this thing easier for interconnectivity. But I fear there are too many "if/then" statements in the code when we're done here if we're not very careful." – Mr. Evans

"It is a worry. Clearly we would all be better off if one could just articulate what the tenets of privacy and security in the digital era look like. We not only don't have them, we don't know who to talk to about them, to some degree, because this is a process of collaboration, this is not, at this point, even being considered as a regulatory effort." – Dr. Brailer

"A lot of [privacy and security policies] are formed because of perceptions that have developed either rightly or wrongly as a result of incidents, whether a security incident, improper disclosure of information, and I'm wondering how you're going to deal with it. I think what you're doing is an important first step, but I think there is a big education and outreach effort that needs to be done to deal with a lot of perceptions that are formed." – Mr. Trenkle

"Part of each state's obligation under their subcontract was to demonstrate that they could reach out to the broadest base of stakeholders…one of the ways that they're doing that is by having a public process where they invite stakeholders to come register, join their community, get the opportunity to participate in the stakeholder working groups, [and] receive information as the process is developing. States are working on outreach plans to reach out to all the corners of their states and across the whole range of stakeholders who exchange health information, including consumers and patient advocates. "
– Dr. Dimitropoulos

"Initially, you are going out to gather information, but then after that, there is an education outreach process which I would assume would be the next step." – Mr. Trenkle

"One of the requirements under this contract is not only to identify solutions, but also for the states to come up with implementation plans…trying to incorporate in the implementation plans, training, education, reaching out to the right stakeholders and the like, could be part of that process and would be an important component." – Ms. Daniel

"A key objective to this is have every state have a broad base of stakeholders in government and private-sector folks own the analysis, own the results, and own some of the solutions. So not only will they help identify issues, but they will own the step forward." – Dr. Thomasian

A Roadmap for National Action on Clinical Decision Support

Mr. Jerome Osheroff of Thomson Micromedex reminded Community members that clinical decision support (CDS) involves giving clinicians, patients, and others relevant information in a context that helps them make better decisions, prevents errors, and improves the care quality and outcomes. CDS interventions include guidelines, alerts, order sets, and tools to interpret patient data. Studies show value in terms of guideline adherence and fewer medication errors/adverse events. The activities of AHIC's workgroups illustrate opportunities for CDS to augment Health IT and performance improvement efforts, and the workgroups are improving exchange of key health care data. CDS can help recipients organize and interpret this information, and offer guidance and alerts to ensure that it drives good decisions and outcomes. In this way, CDS can help amplify medication lists into tools for reducing medication errors, turn laboratory results into tools for optimizing disease management, and translate secure messaging into increased consumer guidance and care efficiency.

Despite the demonstrated benefits of CDS, its full potential to drive performance improvement in the U.S. health care system has not been realized, for a variety of reasons. For example, CDS knowledge and tools are not interoperable. Vendors and providers therefore "reinvent the wheel," building and implementing the same interventions from the ground up. CDS adoption is limited and often difficult. Many providers struggle to identify a clear CDS strategy and business case to support best care. Usability and deployment problems are frequent because there is little pooling of experience and application of best practices. As a result, well-documented quality, safety, and efficiency problems persist in health care, despite the opportunity for CDS to address them.

Dr. Jonathan Teich, of Brigham and Women's Hospital and Harvard University, gave an overview of the Roadmap for National Action on Clinical Decision Support, which was released that day by the American Medical Informatics Association (AMIA) under a contract with ONCHIT. The CDS Roadmap is an ONCHIT-commissioned blueprint for coordinated national action to ensure that usable and effective clinical decision support is widely used by providers and patients to improve health care. More than 70 experts and stakeholders from a wide variety of organizations participated in reviewing initial materials, face-to-face meetings at the Institute of Medicine, comment periods, and e-mail exchanges.

Participants in the CDS Roadmap development process identified three pillars of specific improvement: (1) best knowledge available when needed, (2) high adoption and effective use, and (3) continuous improvement of CDS methods and knowledge. The following six strategic objectives that are most likely to bring about the pillars and to bridge the gaps also were developed:

- Develop practical standard formats for representing CDS knowledge and interventions (*best available knowledge when needed*).

- Establish standard approaches to organizing and distributing CDS (*best available knowledge when needed*).

- Develop solutions to policy, legal, and financial barriers (*high adoption and effective use*).

- Compile and disseminate best practices for usability and implementation (*high adoption and effective use*).

- Develop standards to collect, learn from, and share the national CDS experience (*continuous improvement of CDS and knowledge*).

- Use electronic health records data systematically to advance knowledge (*continuous improvement of CDS and knowledge*).

Mr. Osheroff concluded this presentation by discussing the following critical path action steps recommended by the CDS Roadmap: (1) create an ongoing stakeholder group/forum; (2) collect and promote best CDS practices; (3) develop and conduct pilots of usable, valuable, scalable CDS based on strategic objectives and targeting high-priority clinical areas; and (4) support/leverage pertinent initiatives.

Discussion Highlights

During this discussion period, Secretary Leavitt excused himself from the proceedings. Dr. Brailer again assumed the position of Chair in Secretary Leavitt's absence.

"Everyone agrees it's life saving, everyone agrees that some of the keys to efficiency are tied up in this, that the value back to the clinician of using these tools is wrapped up in this. But this is an enormously complicated area in terms of how do we move it forward…We are certainly going to keep this involved in the workgroups, but we're looking for insight from many of you about what else we should be doing here and how to build on this Roadmap." – Dr. Brailer

"It's clear to me that a component of resolving [physician reimbursement rate issues] will be a conversation about pay-for-performance…unless we are able to link good clinical decisionmaking into our pay-for-performance standards, we will not be able to persuade physicians and other clinicians to use this." – Secretary Leavitt

"Adoption is low because the business case can't be made for individual physicians…As a result, we're going to have a wonderful tool that nobody will buy…to get adoption you have to have a solid underpinning of a business case." – Mr. Serota

"The more that I've listened today, the more concerned that I become we are throwing too much at providers too fast…I am worried we are throwing this out there, and the provider will throw their hands up and say there is no way. I am overwhelmed. I cannot deal with this." – Mr. Serota

"Maybe it is a piece of it that we're not spending enough time on. And maybe this isn't the place to be doing it, but there certainly needs to be someone that is thinking about how we're going to link all this together…My guess…is that it'll be the link between the hospital and the clinician or the clinic, that ultimately drives the pace of adoption, not just of having the system but in terms of its implementation." – Secretary Leavitt

"I certainly don't think that we produced something that is succinct and as specific as that 10-year roadmap that lays out, essentially what the sequence of developing and offering kinds of tools or advancing those would be…Today, all we're asking a clinician to do is pay attention to products that are certified in the ambulatory space, which we'll be having made available in June and July." – Dr. Brailer

"Should the Certification Commission be the one determining the priorities? If we're saying the clinician should use a certified program and we're empowering the Certification Commission to define those terms, then we've essentially advocated the strategy role to the Certification Commission." – Mr. Serota

"It seems to me that the role of the Community is to determine the priorities and what is doable, when. And that what happens at CCHIT is completely dictated by what we ultimately send them."
– Secretary Leavitt

"None of the contractors who work for the Office of the Coordinator are making decisions without the approval of that Office…The roadmaps are still in formation. It is my hope that by August we can have those roadmaps… And we can then give everyone, not just those bodies, but people in the private sector, a sense of real direction about where this is heading." – Dr. Brailer

"When we talk about pay-for-performance, it changes the whole dynamic. Because whatever is done here, we're going to create that market…because something is going to be required by physicians or hospitals." – Mr. Kahn

"At the end of the day, I think you're going to have your business proposition. It's going to be that if doctors don't buy this stuff, and if we don't make sure that it works right for them, they're going to be in real trouble. Because they're not going to be able to do it in small practices. But they're not going to get their Medicare increase unless they play. And we can say we're not going to make the information technology incumbent upon playing, but we're going to make certain kind of reporting incumbent upon playing, and the poor guys with three or four doctors in a practice aren't going to be able to do it because they don't have the nurses to do the record stuff without something like this being online." – Mr. Kahn

"Whether we are talking positive funding advances or negative, we know, by lots of evidence, that improved quality improves the cost picture. We at Brigham and Women's Hospital have seen significant reductions in malpractice costs because we're delivering this kind of stuff. We've seen better deals from our payers because it's clear that these things are delivering better quality." – Dr. Teich

"Speaking on behalf of the physician community and especially for the AAFP, we see clinical decision support embedded in EHRs as the next frontier…in moving rapid adoption of the EHR technology…Now it is time to begin to thinking about seriously writing that check with a vendor to adopt EHR."
– Dr. Henley

"30% of our members have implemented EHRs. We're working on the next 30%. And it is this topic, clinical decision support, that they bring to the table every single time to bring value to the EHR that they want to purchase now. So the more emphasis that we can place on this, [the better]." – Dr. Henley

"It would be interesting to survey different physician groups, particularly the specialties, such as oncology, to have them define their definition of what they are using pay for performance income to currently offset...what we're hearing repeatedly from that population, is that those dollars are already committed to offsetting other cost and other services that have been traditional within their practices for their patient community." – Ms. Davenport-Ennis

"There needs to be a lot more discussion and a forum created around how to advance the use of clinical decision support systems…it's not one system…It depends on what types of decisions you're trying to support...My vote would be for going a little more slowly in this in terms of certification, or standards…and let's see what develops in the field with the implementation of electronic health [records]." – Dr. Winkenwerder

"On the one hand, we're trying to think about how to spoon-feed some decision support through EHRs into one or two doctor offices, but on the other hand [we have] to recognize that many or our large academic centers and large groups are far, far, far down the pathway of developing incredibly sophisticated decision support capabilities, some of them sitting here at this table." – Dr. Brailer

"Your feelings are very much representing what we feel at this point, that we need to walk this direction very gingerly and to recognize that there are a lot of efforts that need to move in parallel to make it happen." – Dr. Brailer

"I hope that there is no one in the room who feels satisfied that American health care is where it should be, that our quality is where it should be. The Rand study showed that Americans only receive evidence-based care 54% of the time." – Dr. Perlin

"There is a huge opportunity to simultaneously improve the quality and improve the efficiency. And frankly, I believe, reduce the liability and provider burden. It's not all borne on the back of the physician alone if you have a smart system…I think we should really set our sights high in the interest of improving the health of the American population in a rational fashion that shares the burden, reduces the liability, but ultimately really supports the goal of safer, more effective, more efficient, and ultimately more compassionate health care." – Dr. Perlin

"Do you have a concern as we put out these standards sequentially, batch one, batch two, batch three, that [as] physicians…adopt today…[they may not] be compliant with batch two and batch three…In a sense, once they committed to one, that they are going to have to commit to everything else, and they don't know what everything else is going to be?" – Dr. Warshawsky

"It is a concern, that we can't either pilot it all to the back end and get it all worked out, and launch it on the industry at once, and we can't just incrementalize it without creating distortions…The approach we're taking…[is] a cyclical update. Given the very long lead times that are involved with the update of the systems with the acquisition of them, I don't see another way." – Dr. Brailer

"We tried to make the promise to the clinicians that we will be as backwards compatible as possible, but each of the standards that you've heard talked about that have come from the use cases are being updated on a regular basis…we're certifying at the market level, not at the adoption level. Meaning that as long as the physician bought it when it was certified and got the benefit of that, it is up to them to make decisions about their future certification." – Dr. Brailer

"Part of the work that we're trying to do is to take some of the things that have made people so content and happy with [CDS] in some places, and try and translate those lessons, because it is really a communication that hasn't gone on. It shouldn't have to be a burden." – Dr. Teich

"We cannot proceed from where we are now and not…be thinking about how this will be integrated in…My guys will not sign a contract with anyone, unless there are pages and pages about what happens next when certification requires, over a brief period of time, higher and higher levels of compliance with some set of standards. So whatever the vendor is selling them off the shelf now and whatever they modify, they've got contracts that protect them for some length of time" – Mr. Kahn

"I don't see how you separate the discussion of clinical support systems and pay-for-performance… Somehow you have to pay for this…we have to have the conversation about how are we going to convince people to invest in this technology, if the payout is down the road. And clearly it is…the guys who are paying the premiums today [have] to be sure they're going to be around when that payout occurs." – Mr. Serota

"As we sit here today, someone is signing a contract with some software vendor to implement an EHR vendor with a number of physicians in their local community. So adoption is occurring…some [physicians] will use clinical decision support systems, some will use [them] simply as a means to get access to their own information and exchange information and do referrals and a number of other things. But they will adopt a technology at their own pace, and are adopting technology at their own pace…Adoption is occurring and we are seeing the rollouts occur, but we do need to see those longer term incentives put in place." – Mr. Hutchinson

"One of the cornerstone items on the critical path of the roadmap is to create a forum…to bring the stakeholders together in a room and sort through some of these issues so that we can move forward starting tomorrow to make these things happen." – Mr. Osheroff

Looking Forward: Goals, Objectives, and Strategies

Because of time constraints, Dr. Brailer provided a very brief overview of the Community's strategic framework. Dr. Brailer directed AHIC members' attention to a 16-page document titled *Draft Office of the National Coordinator's Goals, Objectives and Strategies*. The document enumerates four overarching goals: (1) inform health care professionals, (2) interconnect health care, (3) personalize health management, and (4) improve population health. Each goal has underlying objectives and strategies. The strategies either have been initiated and specific actions are being taken, are under active consideration and require further discussion, or are designated for future discussion.

To date, the following strategies have been initiated, are under active consideration, or have been designated for future discussion:

- **Goal 1: Inform Health Care Professionals**

  - Strategies that have been initiated:
    - Strategy 1.1.1: Simplify health information access and communication among clinicians.
    - Strategy 1.2.3: Lower risk of EHR adoption.

  - Strategies for active consideration:
    - Strategy 1.2.1: Foster economic collaboration for EHR adoption.
    - Strategy 1.2.2: Lower total cost of EHR purchase and implementation

  - Strategies for future consideration:
    - Strategy 1.1.2: Increase support for clinicians to use EHRs.
    - Strategy 1.3.1: Increase investment in sources of evidence-based knowledge.
    - Strategy 1.3.2: Increase investment in tools that can access and integrate evidence-based knowledge in the clinical setting.
    - Strategy 1.3.3: Establish mechanisms which will allow clinicians to empirically access information and other patient characteristics that can better inform their clinical decisions.
    - Strategy 1.4.1: Ensure low-cost EHRs for clinicians in underserved areas.
    - Strategy 1.4.2: Support adoption and implementation by disadvantaged providers.

- **Goal 2: Interconnect Health Care**

  - Strategies that have been initiated:
    - Strategy 2.1.1: Establish well-defined health information standards.
    - Strategy 2.1.2: Ensure federal agency compliance with health information standards.
    - Strategy 2.1.3. Exercise federal leadership in health information standards adoption.
    - Strategy 2.3.1: Support the development and implementation of appropriate privacy and security policies, practices, and standards for electronic health information exchange.

  - Strategies for active consideration:
    - Strategy 2.2.1: Stimulate private investment to develop the capability for efficient sharing of health information.
    - Strategy 2.2.4: Support state and local governments and organizations to foster electronic health information exchange.

  - Strategies for future consideration:
    - Strategy 2.2.2: Use government payers and purchasers to foster interoperable electronic health information exchange.
    - Strategy 2.2.3: Adapt federal agency health data collection and delivery to NHIN solutions.
    - Strategy 2.3.2: Develop and support policies to protect against discrimination from health information.

- **Goal 3: Personalize Health Management**

  - Strategies that have been initiated:
    - Strategy 3.1.2: Expand access to personal health management information and tools.
    - Strategy 3.2.1: Promote adoption of remote monitoring technology for communication between providers and patients.

  - Strategies for active consideration:
    - Strategy 3.1.1: Establish value of personal health records, including consumer trust.

  - Strategies for future consideration:
    - Strategy 3.3.1: Promote customer understanding and provider use of personal genomics for prevention and treatment of hereditary conditions.
    - Strategy 3.3.1: Promote multi-cultural information support.

- **Goal 4: Improve Population Health**

  - Strategies that have been initiated:
    - Strategy 4.1.1: Enable simultaneous flow of clinical care data to and among local, state, and federal biosurveillance programs.
    - Strategy 4.4.1: Foster the availability of field EHRs to clinicians responding to disasters.

  - Strategies for active consideration:
    - Strategy 4.2.1: Develop patient-centric quality measures based on clinically relevant information available from interoperable longitudinal electronic health records.

  - Strategies for future consideration:
    - Strategy 4.1.2: Ensure that the nationwide health information network supports population health reporting and management.

- Strategy 4.2.2: Ensure adoption of uniform performance measures by health care stakeholders.
- Strategy 4.2.3: Establish a standardized approach to centralized electronic data capture and reporting of performance information.
- Strategy 4.4.2: Improve coordination of health information flow during disasters and crises.
- Strategy 4.4.2: Support management of health emergencies.

Dr. Brailer asked Community members to review these goals and strategies, noting that a discussion on them would take place during the August AHIC meeting.

Public Input Session

Speaker Number 1 – Katheryn Serkes of the Association of American Physicians and Surgeons (AAPS), one of the largest national organizations of physicians in private practice, expressed concern that the Community was not addressing some basic contentions her group has with using advances in health information technology. For example, territorial and political turf battles are likely to arise when deciding who will be making decisions on standards, particularly with regard to clinical decision tools. She noted that standards can be used to protect one group's territory or to help reach a political goal.

Another significant issue from the perspective of the AAPS centers on trying to separate pay-for-performance and evidence-based medicine. She commented that "evidence based medicine is a good thing, but, it's when mandatory and used for payment, used as a carrot or the stick for the purposes of payment that we get a concern." She also suggested that as this work progresses toward setting standards, that the Community consider what approach it might take in terms of a national certification of physicians, a national licensure, or something less than licensure—some sort of national certification if there is pay-for-performance and adoption of evidence-based medicine standards.

Speaker Number 2 – Gary Dickenson expressed concern that the Community may be too focused on short-term goals, particularly those related to the HITSP deliverables. He characterized the architectures being discussed as more similar to building "cul-de-sacs," rather than building a "super highway" that is secure for the purposes intended for the interchange for robust electronic health records. He noted that the types of interoperability that are being described are using point-to-point transient messaging, which is not sufficient for persistent legal health records and their interchange in a secure manner.

Closing Remarks

Following the end of the public discussion session, Dr. Brailer adjourned the meeting, thanking all members of the Community and those who provided public comments.