Testimony
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Health Information Technology Activities at the Agency for Healthcare Research and Quality

Statement of
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Chairman Ensign and members of the Subcommittee, I am delighted to join Dr. Brailer in outlining the ways in which the Department of Health and Human Services (HHS) is advancing the adoption, implementation, and effective use of health information technology (IT).

Achieving the President's goal of widespread use of interoperable electronic health records requires us to address a number of complex and technical issues, many of which are being addressed at the Department level. My testimony will focus on how the activities of the Agency for Healthcare Research and Quality (AHRQ) complement the Department's efforts by harnessing the power of IT to improve the effectiveness, efficiency, quality, and safety of health care.

While we work with the various divisions of HHS to ensure that the fundamental IT infrastructure is in place, we are critically examining how these IT tools can be used in real-world health care settings to make care better. For many health care providers the need to address specific local threats to the safety and quality of patient care is immediate; an increasing number of practitioners and organizations have made or will soon make investments in health IT. To enable them to make informed investment decisions, AHRQ's program and research activities support evaluation of the impact of selected health IT applications on quality, safety and cost. We also have recognized the need for a strong emphasis on the needs of providers who care for rural and underserved populations. That is why we have made awards to local and regional organizations that affect the care received by more than 40 million Americans.

Leaders in health care recognize that improvement requires both incentives and the capacity to respond to those incentives. Our focus is on building the capacity within healthcare settings – large and small, urban and rural (including frontier areas) -- for effective use of health IT, and disseminating findings rapidly. The benefits of health IT need to begin now for as many Americans as possible. The results of these investments

represent tangible benefits that will be accelerated as the private-public collaboration to facilitate a nationwide information infrastructure develops.

We are also addressing a critical stumbling block to the widespread adoption of health IT, the human dimension of the use of IT, which focuses on the intersection between IT and the health care providers who need to use it. Unlike the baseball field in the movie Field of Dreams, we have dramatic examples of the building of health IT systems, whose designers found physicians and other clinicians neither came nor played. Unless we address these issues as well as technical ones, we risk falling far short of a safer, higher quality health care system.

The Importance of Health IT

When we look at the challenges facing our healthcare system in the years and decades ahead, there is no job more important than getting health IT into place, and getting it right. As the Institute of Medicine noted in their second report on patient safety, Americans should be able to count on receiving health care that is safe. This requires, first, a commitment by all stakeholders to a culture of safety, and second, to improved information systems. While transformation of our heath care system – with higher quality, patient-centric and cost-effective care -- will not happen simply as a result of health IT, it is difficult to think how transformation could possibly take place without the capacities it brings. We have a fundamental problem of fractured healthcare delivery that results in needless waste of resources. Health IT can bind this system together, even as it preserves its diversity.

Think for a moment about what is happening in health care settings around the country. Millions of decisions are being made about people's lives without the right information in hand:

-- Is chemotherapy the best treatment for a patient with breast cancer, or should she be

treated with radiation and chemotherapy?

-- Which of our young athletes should be screened and with what type of diagnostic test for heart abnormalities, as a front-page story in the *Wall Street Journal* asked last week?

-- How does a person with diabetes, high blood pressure, and obesity manage all the different demands of their conditions?

Patients and consumers struggle with even more basic decisions: Which provider to see? When to seek care? Which treatment option is best for their needs?

Many of these decisions are difficult even in the most ideal circumstances, when there is sufficient time to assess good, reliable information. But as we all know, these decisions frequently must be made at times and places where information is not available, and time is of the essence. The power of IT can help us to regularly assess quality and outcomes while bringing us reliable data that can be accessed at the point-of-care.

For nearly three decades, AHRQ and the National Library of Medicine (NLM) at the National Institutes of Health have funded the basic science of health IT, developed and tested tools to facilitate its use, and supported the work of innovators. Many of the leading systems of our nation were created on the backbone of AHRQ and NLM grants over the last three decades. Two prominent examples are Intermountain Healthcare in Utah and the Regenstrief system in Indiana, which are now models for the effective use of health IT. The task we have now embarked upon is to move that knowledge and experience into the health care system more broadly and to support targeted research to fill the gaps in our knowledge base that are critical to widespread diffusion of health IT. Successful implementation of health IT in turn provides the best possible platform for delivering scientific evidence to clinicians and patients when decisions are made.

AHRQ's Current Health IT Activities

In FY 2004 AHRQ awarded 108 grants and contracts to find solutions for a number of gaps in our knowledge and to advance the use of health IT. Reflecting a commitment of $139 million over five years, these awards were truly nationwide in scope. They spanned 43 states, with over half of the projects based in rural and small hospitals and clinics. In combination, these community-based health care institutions provide health care to more than 40 million Americans.

Mr. Chairman, in announcing this hearing you asked how health IT can further three objectives: reducing medical errors, improving the quality of patient care, and reducing the cost of health care. AHRQ's research activities are making significant advances in meeting all three of these objectives.

Reducing Medical Errors

Medication errors are a grave threat to patient safety and present one of the greatest opportunities for reducing medical errors. The potential value of health IT here seems intuitively obvious: reducing handwriting and other communication errors, electronic cross-checks for errors in medication strength, identification of interactions with other medications or other adverse events reflecting the patient's overall medical condition. Our projects span the spectrum from prevention to detection and prompt treatment of medication errors, and identify the most effective ways to use health IT to achieve each of these goals.

Our first priority is to prevent medication errors from ever occurring. In a series of studies, we are finding that electronic prescribing with decision support using personal digital assistants (PDAs) reduces illegibility, omissions, and the overall incidence of prescribing errors. However, we also discovered some of the barriers to PDA adoption, including the interface and its interoperability with existing systems. We have developed

tools to assist practices in assessing their readiness and designing their workflow to accommodate the use of tools like PDAs.

Patients, especially patients with chronic illnesses, can play an important role in preventing medication errors. Some of our projects are developing Internet-based portals to enable patients to manage their own care, including medications. In the course of deploying this technology, we are learning valuable lessons about how patients want to participate. Patients are very enthusiastic about documenting their medications, giving their clinicians new insights about medication compliance as well as other supplements the patients may be taking on their own initiative. An unexpected side benefit from the move to an internet-based system was that the children of elderly patients who are living in a different state were able to assist in their parents' care in a new and engaged manner, when parents authorized access by their children.

Recognizing that medication errors can still occur even when health care providers are vigilant, a team at Duke University is attempting to minimize the potential for serious patient harm. They are testing a monitoring system for hospital patients that will detect the onset of an adverse drug effect, immediately alert the hospital staff, and suggest the most appropriate intervention. AHRQ is also funding systems for the voluntary reporting of errors.

In short, health IT is a critical element in our efforts to improve patient safety but it is not the complete answer. The Administration continues to support passage of patient safety legislation, which will provide the confidentiality and privilege protections that will enable health care providers to foster a climate of continuous quality and safety improvement.

Improving the Quality of Care

The linkage between health IT and improving the quality of care occurs on multiple levels. We know that we cannot improve the quality of care unless we can measure

performance. But monitoring and reporting the quality of care is time-consuming, inaccurate and incomplete without IT systems. A challenge shared by AHRQ and the Centers for Medicare and Medicaid Services (CMS) is how to best translate measures of quality into computable, automated quality reporting systems in settings such as hospitals and physician offices.

The maturation of IT for use in daily practice comes at a time of increasing recognition that good healthcare delivery requires better coordination across all sites of care. Many patients obtain care from multiple providers and experience the effects of poor coordination of information and care. Indeed, 69% of Americans report that poor coordination among their providers is a serious problem for them, and 32% report that they or a family member have created their own medical record to assure that all health care professionals they see have accurate, current information about their health issues. Health IT can reduce this burden by facilitating the transfer of information among providers, customizing knowledge for the patient, and facilitating communication between providers. AHRQ has funded cutting edge research into how to translate medical knowledge into specific information, tailored to the patient at hand and immediately available to the clinician when decisions are being made. These include alerts about inappropriate therapies, reminders about preventive care, and assistance in automatically doing the right thing. Health IT has the potential to rapidly disseminate knowledge previously available only in large urban academic health centers. For example, our project in rural Tennessee brings cutting edge cancer care to the rural population through decision support systems and tele-communication with cancer experts.

At least two manufacturers have now incorporated a decision support system developed by one of our grantees into EKG machines. By helping emergency medical service teams and emergency room physicians better determine when a patient with chest pains actually has suffered from, and may still be vulnerable to a heart attack, quality of care will be greatly enhanced. Those who truly need care will receive it and those who may be suffering from less serious problems, like indigestion, will be spared the unnecessary

risks, worries, and costs that accompany unnecessary hospitalizations. As this improved diagnostic capability is deployed throughout the nation, annual savings are estimated at $720 million.

Improving quality is also about improving communication among care providers through IT systems that allow clinicians to quickly access patient information, including remote information such as radiology or laboratory studies performed off-site. It is about improving the complicated coordination required when patients transfer from one care setting to another. We have several projects supporting the transition of patients, such as pregnant women or post-surgical adults, from the intensive hospital setting into an outpatient clinic. And improving quality is about supporting the communication between the provider, the patient, and the patients' caregivers through electronic mediums such as email.

Our research also has made clear the importance of system issues such as organizational culture and workflow. Our investments evaluate specific strategies to close the gap between the potential of health IT to improve care quality and the less promising reality experienced by many providers due to suboptimal product design or challenges in integrating health IT with the work of clinicians. For example, we are funding studies of technology integration, using time-motion studies, culture surveys, and observational techniques to understand why technologies are accepted or sabotaged by the clinical users. But we don't stop there. AHRQ funds research projects to explore how the technology can adapt in intelligent ways to clinician needs. We have a suite of projects with Partners Healthcare System in Boston to develop "SmartForms" for various settings – smart because they anticipate the physicians' needs for information based on the patient, and automatically assist the physician in pulling together the various action plans necessary to execute the right care plan.

Finally, the breadth of our current portfolio has been instrumental in enabling AHRQ to take health IT into settings where traditionally there has been underinvestment. These include nursing homes and pharmacies, waiting rooms, schools and homes, in rural and

small settings. These projects have benefited parents and caregivers, including the blind, chronically ill and those recovering from serious acute events. Each of these new frontiers requires the discovery of the unique needs of the targeted population, growing new partnerships, and, creatively transferring knowledge about lessons learned.

Reducing the Cost of Care

The potential for cost savings from systematic use of health IT includes avoidable expenditures in the administrative and financial aspects of health care institutions, improved efficiencies in workflow, improved physician decision-making (especially when decision support systems provide immediate access to information on comparative effectiveness and cost effectiveness), and in the reduced need for additional patient care that medical errors often entail. There are also significant financial and non-financial costs to patients that can be reduced through the introduction of health IT: the potential for bringing health care to the patient's location (which can be a serious issue for those geographically isolated, homebound, or in nursing homes), removing the inconvenience, expense and increased risk of harm associated with inpatient admission, reducing or eliminating the need to return to a tertiary care hospital for follow-up consultations, and the potential for patients to substitute email or other web-based consultations in place of office visits with their physicians. One-third of Americans reported that they needed to return for a repeat visit because their clinical information was not available during their first visit.

AHRQ's prior investments provide evidence of the potential for savings in selected care settings and our work in progress will demonstrate the value obtained from investments in health IT in a broad array of settings. Over the last decade work by one of our grantees demonstrated that computerized reminders can reduce the cost of tests ordered for hospitalized patients by approximately 10%. Another example is the Utah Health Information Network, developed a decade ago by then-Governor Leavitt, which demonstrated the potential for savings in administrative and billing costs through the use of health IT. By creating a more efficient way to submit bills, UHIN both reduced costs

and reduced the administrative burden of re-entering the same data for different payers. AHRQ now is working with UHIN to add clinical data to their statewide system to enhance its potential to improve the quality and safety of patient care as well.

AHRQ is funding another statewide regional health information exchange in Indiana, for which the Regenstrief Institute, a national health IT leader, is a key player. This statewide initiative builds upon the successful NLM-funded Indianapolis patient care network, which was developed to make health care information reliably available for patients seen in Emergency Departments regardless of where they usually get care and to improve the exchange of information between health care providers and the public health authorities. When current data are available, redundant testing can be avoided and the right care can be delivered more rapidly. In an effort to more definitively identify the cost savings of health IT, we are concurrently funding an evaluation of the value of that exchange, not only in the hospital system but also throughout the Indiana primary care and specialty clinics. This well-designed evaluation will provide the nation with clear evidence of whether the actual savings are as significant as many hope. It will provide crucial evidence for those seeking to make a business case for health IT.

AHRQ will also understand the costs and benefits of the statewide electronic prescribing roll-out in Massachusetts, undertaken by a consortium that includes Blue Cross Blue Shield. AHRQ researchers will have access to claims and utilization data for over 1000 prescribers, translating to approximately 480,000 prescriptions over the course of the year.

The results of AHRQ's current research will also inform America about the wide-ranging effects of the large investments in health IT by integrated delivery systems. One evaluation project studies the effects on patient outcomes and resource utilization resulting from Kaiser Permanente's $3 billion investment in electronic medical records for ambulatory physician practices. The evaluation findings from these major investments will be available to the public. This may accelerate adoption by enabling health care institutions to learn from the early adopters.

National Resource Center for Health IT

Mr. Chairman, I cannot over-emphasize how essential technical assistance is to the successful adoption and implementation of health IT. To assure that as many Americans as possible benefit from our research, we are committed to exporting lessons learned from current demonstrations rapidly and widely. We have been inundated with requests for help from providers and health care systems attempting to adopt health IT. In response, we have created a National Resource Center for Health IT, the largest single commitment to technical assistance in AHRQ's history. The Resource Center leverages our investments in health IT by offering help where it's needed – real world clinical settings that may feel ill equipped to meet the implementation challenge -- facilitating expert and peer-to-peer collaborative learning and fostering the growth of online communities who are planning, implementing, and researching health IT. Our initial needs assessment led to the development of a series of educational teleconferences on critical topics for health IT implementers: how to comply with rules and regulations, how to design workflow, how to evaluate effectiveness, and how to tackle clinical decision support systems. Early this month, we convened a highly successful, weeklong meeting attended by over 700 doctors, nurses, pharmacists, and IT professionals to share practical knowledge about health IT, and linked it closely with the Department's goals for patient safety. As one of our grantees from Kentucky said, "this meeting brought real life case study experience to so many of the issues facing us today."

AHRQ has also used the Resource Center to assist States that are initiating statewide clinical data sharing. We have convened small, round-table working meetings of experts to share detailed expertise with states that are starting the process of determining the governance and technical architecture of their data-sharing organizations. The first of these was in Tampa, at the invitation of the Florida Governor's Health Information Infrastructure Advisory Board on Healthcare; we have planned expert roundtables in New York, Wyoming, and Montana, with further assistance to Delaware, Maryland, and

Georgia. In these roundtables, AHRQ has been fortunate to draw upon the expertise of our State contractors who are intimately involved with this work in their own States, as well as consultants from our Resource Center.

The Resource Center provides a web portal with critical infrastructure for convening practitioners, encouraging collaboration, and disseminating best practices. The portal gathers communities of practice with similar interests and concerns to share and learn. While it was initially only open to AHRQs grantees, we are opening this rich resource to other federal grantees. We recently announced that AHRQ will support a special portal for the nation's community health centers as they struggle to adopt health IT, with plans to expand to providers involved in the Medicare initiative to expand the use of health IT in physician offices known as DOQ-IT and to providers in the Indian Health Service (IHS). In recognition of the widespread interest in rapid turnaround of health IT knowledge, the Resource Center will be expanding its practical, educational teleconferences to any organization, and providing in-depth "learning collaborative" curricula for a smaller subset of interested organizations.

Working in Partnership

To advance health IT, AHRQ is working closely with public and private organizations, such as the National Governors Association (NGA), eHealth Initiative, Markle Foundation, Connecting for Health, and America's Health Insurance Plans to promote solution development for many of the challenges I have described. With the NGA, we will be participating in developing and providing leadership resources for State officials on investing in health IT and healthcare quality improvement.

Health IT can accelerate improvements in safety and quality if there are clear objectives. Working closely with leading medical professional organizations (including the American Medical Association, American Academy of Family Physicians, and American College of Physicians), America's Health Insurance Plans, payers, consumers and other stakeholders, AHRQ's leadership has been essential for prioritizing goals for improving

physician performance in ambulatory care. The results of this collaboration, known as the Ambulatory care Quality Alliance (AQA) will be adopted broadly in early 2006 in the private sector as well as by CMS. The AQA is now developing strategies to collect and report the requisite data including the use of health IT when feasible. Improvements in care will start now and can be accelerated by efforts to establish a nationwide information infrastructure led by Secretary Leavitt.

AHRQ is working with the Leapfrog Group, an organization of leading employers to develop an evaluation tool that allows hospitals and physicians to ensure that their computerized physician order entry (CPOE) systems and electronic prescribing are effectively reducing medical errors. These tools will be available by the end of the year. AHRQ is also providing support to the Medical Group Management Association (MGMA) Center for Research to understand the level of adoption of electronic health records and other new technologies in medical groups and the issues associated with their successful implementation. By documenting barriers encountered in adopting these technologies and mechanisms, we will know better how to target our research to overcome these barriers.

AHRQ is collaborating with other Federal agencies to align our health IT efforts. With CMS, we are active participants in the design and evaluation of health IT projects in pay-for-performance, electronic prescribing, and the implementation of the Medicare Modernization Act. With the IHS, we have supported enhancements to their electronic health record, and, incidentally, that system has been chosen by the National Aeronautical and Space Administration (NASA) to be its electronic health record. With the Food and Drug Administration and NLM, we are supporting standards development and coordination efforts. In all of our efforts, AHRQ maintains close relationships with other agencies, in order to maximize the Federal investment of health IT dollars. We maintain these relationships, in part, through working with the Federal Health Architecture (FHA)/Consolidated Health Informatics (CHI) Initiative managed by the Office of the National Coordinator for Health Information Technology. The FHA has been tasked to provide an architecture, or framework, to guide federal health IT

investments, and to foster interoperability through the selection and adoption of health data standards.

The Agency is working directly with the Office of the National Coordinator for Health Information Technology on a number of issues including an analysis of the intersection health IT forms with various state privacy laws and business practices. This FY 2005 $11.5 million initiative, working with up to 40 states or territories, will assess variations in business policies and state laws that affect health information exchange and identify practical solutions while assuring the preservation of privacy and security. These important efforts will assure patients, providers and other stakeholders that personal and sensitive health data will remain safe and secure.

Concluding Observations

Mr. Chairman, I would like to conclude by offering a few brief observations based upon our work in health IT.

First, health IT alone cannot provide the improvements needed in our healthcare system. These improvements will depend upon the integration of high quality health IT into the very fabric of care by incorporating systems into our individual clinical practices, hospitals and other settings.

Second, for most health care settings, health IT is not likely to afford an "out-of-the-box" solution. Effective use of health IT begins with a careful examination of the health care setting and then uses the power of IT to enhance its effectiveness and efficiency.

Third, to accelerate the pace of health IT adoption and implementation, we need to facilitate the sharing of both knowledge and experience through additional opportunities for voluntary peer-to-peer learning. Given the level of economic investment that is required, providers are understandably worried that a mistake in judgment could prove

financially catastrophic.

Finally, the development of an interoperable health IT infrastructure will be a critical element in our nation's effort to accelerate the pace of innovation and the speed with which patients will benefit from new medical breakthroughs. The inherent delays in our current system for assessing the effectiveness of new drugs, devices, and procedures will decrease dramatically with widespread use of health IT and advance our common goal of evidence-based medicine.

Mr. Chairman, this concludes my prepared statement. I will be delighted to answer any questions.