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Text of the Keynote address given by Barry P. Chaiken, MD, MPH, FHIMSS
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Our great country is on an unsustainable healthcare cost curve that threatens our ability to bounce back from the severe economic challenges we now face. In addition, healthcare quality and safety, as well as access to care, sit at disappointing levels, especially considering the resources our nation expends on healthcare.

While these healthcare challenges are daunting, I believe the solutions to them must and will come from the professionals sitting in this room and from our colleagues across the country and around the world. Healthcare information technology is the instrument that will transform healthcare and it is we – the informaticists, clinicians, management engineers, senior IT executives, IT specialists and the diverse talents of so many others – who will create the applications, processes and workflows that will improve quality, safety, access and cost-efficiency.

I am confident that we can make this transformation happen because similar revolutions relating to technology and the workplace have happened quite recently. For example, consider the huge changes in how we communicate with each other. Throughout this week, we all will be periodically checking our e-mail inboxes to stay in touch and communicate. According to Merriam-Webster, it was in 1969 that the term "inbox" first entered the American lexicon, to describe a physical tray holding incoming mail and work documents. Over the next 40-plus years, the inbox morphed into an electronic tray where important messages and information are stored. Today, the inbox pervades our working and personal lives, present on our personal computers and mobile smart phones.

The story of the inbox is in many ways the story of the American economy over the past four decades. The inbox tells the story of how a manufacturing-based industrial economy became an information- and knowledge-based service economy driven by data and analytics. The inbox tells the story of how savvy businesses began to share information quickly and inexpensively. These businesses effectively leveraged this information to deliver higher quality products at lower costs. By meeting the needs of their customers, their profits grew while profits of their competitors' shrank. New ventures sprouted to support these innovators with brand new knowledge-based products. Smart companies thrived in this new data—driven marketplace; others – either unable or unwilling to adapt – could no longer compete.

While most American industries became more efficient and streamlined as a result of these economic realities, healthcare in many ways remained frozen in time. Today, the cost of the American health care system, at 17 percent of GDP, is a millstone around the neck of American businesses, raising the costs of production, stealing wages from the pockets of workers, and restricting the ability of American companies to compete globally. Health care here costs at least 50 percent more than it does in any other industrial country, and according to the World Health Organization, our health care system underperforms in quality, safety, and access to care. In 2006 we ranked 39th for infant mortality, 43rd for adult female mortality, 42nd for adult male mortality, and 36th for life expectancy. According to a 2008 study reported in the Journal of Health Affairs, the United States trails every single country in the 30-nation Organization for Economic Cooperation and Development in amenable age-standardized death rates, meaning, we are worst at preventing unnecessary death in people under the age of 74. Isn't the whole point of healthcare delivery to create wellness and prevent unnecessary death? Sadly, we are not doing very well.

In many respects, our health care system still operates like the typical business of 1969 – it is still largely paper-based, it ignores information tools that can facilitate evidence-based best practices, and it functions without analytics to qualify and quantify the care we provide. Medical decisions are made according to implicit criteria – hidden internal knowledge – rather than explicit criteria – external knowledge that can be checked, evaluated, and updated. The Dartmouth Atlas of Health Care provides documented proof of glaring, unacceptable variations in how health care is provided and sheds light on disparities existing across the country. Too many providers are not taking advantage of 21st-century technologies to access 21st century information, choosing instead to provide care the same way it was done 40 years ago.

How can we change this? While enacting healthcare reform legislation remains a critical need, any health care bill will primarily impact reimbursement policy, not the transformation of care delivery. And, because the task of transforming our health care system to meet the challenges of the 21st century remains to those of us who work in the system, as the HIMSS board chair, I direct these three important messages to your inbox today:

> One: HIMSS will play a leading role in the transformation of American health care by effecting positive change in four key areas: quality, safety, access to care and cost.
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> Two: HIMSS's purpose – our reason for being - is this health care transformation.

Three: As members of HIMSS, you are the leaders who will create the solutions that will drive this transformation. Through the implementation of compelling healthcare IT solutions, you must transform the way health care is provided in this country. Not the president, not Congress, not clinicians – you. If you don't do it, it will not happen. You must step forward and you must lead.

As I begin to make the case for why and how healthcare IT will transform health care, I'd like to take us all back to 1981, the year I graduated from medical school. Back then, people spent a good part of each workday managing paper. Upon returning from lunch, a busy executive was handed a pile of pink while you were out messages. She, or more likely he, would find a report draft on top of a bulging inbox. Attached to the report was a brand new, very popular, high-tech item of the day – a post-it note - where the boss scribbled a message to review and advise by writing comments in the margins. On his desk for his signature was a series of letters that his secretary had revised using another technological marvel - white-out. Reminded to call a key contact for advice on an important matter, the executive would quickly thumb through his rolodex to find the telephone number.

During my time as an epidemic intelligence service officer with the Centers for Disease Control back in the 1980s, I do remember working this way. My first outbreak investigation was a foodborne illness on a cruise ship sailing out of Pittsburgh on the Ohio River. When investigating these type of outbreaks, my first task was to construct attack-rate tables that try to statistically identify the food that made people ill. I built these tables by doing all the calculations on a handheld calculator. No PCs were available to me at that time. Needless to say, it took me a few hours to complete the table and identify the cause of the outbreak.

Back then, we were very comfortable going about our business in this fashion and saw no need to change. Still, over the following several years and continuing into the 1990s, the workplace began to change immensely due to personal computers, e-mail and the Internet. Workers did not need to be encouraged to use this technology. They wanted to use it, even demanded to use it, because it made their jobs easier and made them more productive.

Today, in 2010, we must begin to change healthcare in the same fashion – by creating healthcare IT solutions that are so compelling, so irresistible, that people just want to use them. We cannot rely on incentive programs or executive orders. We must create demand.

We must create electronic systems so appealing that they make physicians want to leave their paper medical records behind. We must create clinical decision support systems that make it routine for physicians to check their internal knowledge with data and evidence. We must offer workflow solutions that improve the efficiency of using health IT. We must make physicians want, yes, demand the enormous power that IT brings to the practice of medicine.

Creating this demand is important because it will improve quality, safety, access to care and cost-efficiency. Simply, we have to change a paper-based system in which most clinical decisions are made primarily by intuitive judgment – based on the ability to recall disparate facts – into an electronic system enabling decisions to be made according to data and evidence.

We must provide clinical decision support tools that reduce the burden of recalling facts and help to assess patients, form diagnoses, and choose therapeutic paths. Healthcare IT opens the door to this higher level of medical practice, one where both physicians and nurses can concentrate on examining, interacting, and motivating patients while technology handles the burdens of collecting, storing and accessing data. The knowledge of best practices and evidence-based care must be delivered to every single clinician at every point of care so that every patient everywhere receives care according this latest knowledge, rather than according to the habits of a clinician disconnected from this knowledge.

American medicine, right now, is relying too heavily on recalling facts. Perhaps the clearest example of this fact is the Pronovost checklist. Each year, about 28,000 Americans die due to I-V line infections. In response, Peter Pronovost, a Johns Hopkins physician, developed a list of five simple steps that intensive-care doctors should take to prevent the introduction of bacteria when inserting an I-V line. Physicians working at 108 hospitals in Michigan adopted the five steps and reduced the infection rate to essentially zero. A paper about their success was published in the New England Journal of Medicine in 2006. But, today, most American intensive-care doctors still don't use the checklist. They continue to rely on their ability to remember what to do each time they insert an I-V line. Most times, they get it right. The few times they don't, people die unnecessarily from infections. This is crazy. Every physician I know wants to help patients, not hurt them. Yet, we are hurting them.

It's up to healthcare IT to make knowledge such as the Pronovost checklist more readily available and its discovery and use more intuitive. This work will require the design of clinical decision-support systems and other tools that merge seamlessly with patient care activities. This work will not just distribute best practices, but embed them into the workflow of medical practice. This work requires a unique multi-

disciplinary effort involving not only workflow experts but also virtually any person connected with clinical care.

Bringing this level of sophistication and beyond to American health care will signify true transformation and will require all of the diverse talents represented within HIMSS. No matter who you are, whether you are a senior IT executive, a clinician or an engineer – whether you come from a hospital, a community or public health organization, a clinical practice, a payer or a pharmaceutical company – or whether your primary interest is patient safety, quality, research, privacy, or return on investment – we need you to contribute to the cause of transforming health care through IT.

HIMSS is reaching out to new groups and communities who must engage in the transformation. For example, our Life Sciences Community initiative actively engages pharmaceutical and life science companies, medical researchers, practicing clinicians, the academic community, and device manufacturers. This initiative concentrates on improving the quality, access and usefulness of data through interoperability and interconnectivity – data that can lead to new medical discoveries and treatments. With Board approval, I recently appointed Debra Bremer, Vice President at Pfizer, as an advisor to our Board to offer guidance in these efforts.

Our Payer Community initiative recognizes the shift from the payer playing the role of a transaction manager to one of a care delivery partner focused on improving chronic care management and overall patient outcomes. With Board approval, I also recently appointed Kevin Hayden, President at WellPoint, as an advisor to our Board to provide guidance in these efforts.

Both Debra and Kevin have been working hard with our staff to engage these two communities as we have engaged other industry specialty areas in our effort to transform healthcare through IT. To further involve and educate professionals we need to achieve our goal, HIMSS also has launched a Diversity Business Roundtable, created and delivered numerous distance learning opportunities, and reached out to several academic institutions.

Transforming healthcare requires the development of imaginative solutions. Cedars-Sinai Medical Center in Los Angeles did just that to improve hand-washing compliance, according to a story in the New York Times. Several research studies have reported that health care providers wash or disinfect their hands in less than half of situations where they should, with physicians being among the worst offenders. In an effort to achieve 90 percent or better hand-washing compliance in advance of a Joint

Commission inspection, Cedars-Sinai first tried a campaign of e-mails, faxes and posters, but that didn't work. Then, a group of physicians and hospital administrators – who dubbed themselves the Hand Hygiene Safety Posse – started handing out bottles of Purell to physicians rounding on wards or as they stepped out of their cars in the parking lot. Also, the posse awarded a $10 Starbucks card as a reward to any physician "caught" washing his or her hands. This tactic improved compliance from 65 to 80 percent but still fell short of the 90 percent goal.

After delivering these discouraging results to the medical center's chief of staff advisory group of roughly 20 doctors, the hospital's epidemiologist handed each doctor a sterile petri dish loaded with a spongy layer of agar. "I would love to culture your hand," she said.

The resulting cultures were photographed. The images were – in the exact words of the epidemiologist – "disgusting and striking, with gobs of colonies of bacteria."

But here's the best part – and where IT comes into play: the hospital harnessed the power of this disgusting image by making it into a screen saver that haunted every computer in Cedars-Sinai. Reluctance to hand washing vanished in the face of this filthy evidence, and compliance shot up to nearly 100 percent, where it remains today. Cedars-Sinai urologist Dr. Leon Bender said in the Times article: "With people who have been in practice 25 or 30 or 40 years, it's hard to change their behavior. But when you present them with good data, they change their behavior very rapidly."

Now, Cedars-Sinai obviously did not employ leading-edge IT sophistication to solve its problem. But I chose to share this story with you because it's a wonderful example of fast and practical problem solving. It shows how you can solve an important safety problem, relatively quickly, through multidisciplinary teamwork, data gathering and a little bit of IT. Oh, and let's not forget about some good marketing. I chose to tell this story because I want you to think of what problem of a similar nature you might solve. And how you can work to gather the team and fix it.

This week we will hear about many other examples of problem solving and achievement. This year's Davies Award winners, for example, have impressively improved access to care, quality performance, cost-efficiency and safety. The 19 hospitals that have achieved the HIMSS Analytics Stage 7 recognition represent the first of the truly paperless hospitals and give all other hospitals something to emulate.

But I have purposely crafted my remarks today to emphasize that it's no longer about what others have done or what others are doing. It's now about what you and your organization are doing to transform

American health care. I suspect that some of you may see yourselves clearly within this context while others may not. Let me suggest to you today that no matter who you are and what your role is, you have an important if not critical role to play to achieve transformation. You can fulfill your role by building a multidisciplinary team with the expertise needed to solve a problem. You can fulfill your role by gathering and sharing data and evidence as you go along. And you can fulfill your role by having the courage to stay the course or to change your mind – whatever the situation calls for. Great science comes from flip-flopping – it's O-K to change your point of view as you gain new knowledge.

The challenge before us now is to help all health care organizations to achieve the standards set by the leaders. Indeed, we are succeeding in changing the culture. We have reached the tipping point. Health IT isn't just for early adopters anymore; it is expected of all.

I send this urgent message to your inbox today: the transformation of American health care by improving access, quality, safety and cost-efficiency is a cause to which we all must dedicate ourselves. Identify a project, engage experts different from you, embrace diversity, form a team, try something unique, make mistakes, redouble your efforts, celebrate your successes, and then start again with a new idea. It is you who will discover something new. It is you who will develop the needed solutions. It is you who will effectively implement change. It is you who will transform healthcare. It's your job to act now upon the message in your inbox and to place your contribution to a transformed American health care system in your out-box in due time. Thank you.

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