Health Information Technology and Patient Safety: A Dynamic Discussion

Lucian Leape Institute at the National Patient Safety Foundation
Third Annual Forum & Gala
September 16, 2010
Boston, Massachusetts

Proceedings

Strategic Vision for Patient Safety
Working to Create Transformational Change
The Lucian Leape Institute at the National Patient Safety Foundation gratefully acknowledges

McKesson

for its generous support for the publication of these proceedings.

The National Patient Safety Foundation has been pursuing one mission since its founding in 1997–to improve the safety of care provided to patients. As a central voice for patient safety, NPSF is committed to a collaborative, inclusive, multi-stakeholder approach in all that it does. NPSF is an independent, not-for-profit 501(c)(3) organization.

© Copyright 2011 by the National Patient Safety Foundation. All rights reserved. This report is available for downloading on the Foundation’s website, www.npsf.org. It may be printed without permission from NPSF; however, to reproduce this report for mass distribution, written permission must be obtained from the publisher.

National Patient Safety Foundation
Attention: Director, Information Resources
268 Summer Street, Sixth Floor, Boston, MA 02210
info@npsf.org
# Contents

Introduction ................................................................. 3  
Six Transforming Concepts: The Heart of LLI Work .................. 4  
Meeting Participants and Format ..................................... 4  
Transforming Concept 1: Medical Education Reform ............. 5  
Transforming Concept 2: Integration of Care within and across Health Care Delivery Systems .................. 7  
Transforming Concepts 3 and 4:  
   Restoration of Joy and Meaning in Work  
   The Safety of the Health Care Workforce ...................... 9  
Transforming Concept 5: Transparency as a Practiced Value in Everything We Do .............................. 12  
Transforming Concept 6: Active Consumer Engagement in All Aspects of Health Care .............................. 14  
Emergent Themes from the Comment Period ..................... 16  
Featured Speaker: Dr. David Blumenthal ......................... 18  
References ........................................................................ 20  
Appendix A: 12 Recommendations for Reforming Medical Education .................................................... 21  
Appendix B: Sponsors of the LLI Third Annual Forum & Gala .... 23
The Lucian Leape Institute was formed in 2007 and is dedicated to providing thought leadership and strategic vision for the field of patient safety. Composed of national thought leaders with a common interest in patient safety, the Institute functions as a think tank to identify new approaches to improving patient safety, calling for the innovation necessary to expedite the work, create significant, sustainable improvements in culture, process, and outcomes, and encourage key stakeholders to assume critical roles in advancing patient safety.

The Institute has focused on identifying and framing vital transforming concepts that require system-level attention and action. The six concepts identified to date include medical education reform; active consumer engagement in all aspects of health care; transparency as a practiced value in everything we do; integration of care within and across health care delivery systems; restoration of joy and meaning in work; and the safety of the health care workforce.

Fulfilling the objectives embodied in these six concepts is critical to moving the national patient safety agenda forward; it is clear that this will require profound changes in the culture and structure of our health care system. Roundtables and executive sessions are being convened, in turn, to address each of these transforming concepts.

The groundswell of visible and vocal support for the Institute’s mission and activities from leaders across health care has been remarkable, and Institute members are committed to the system-level action necessary to bring about true change and safe patient care.

**Lucian Leape Institute at the National Patient Safety Foundation**

The Lucian Leape Institute was formed in 2007 and is dedicated to providing thought leadership and strategic vision for the field of patient safety. Composed of national thought leaders with a common interest in patient safety, the Institute functions as a think tank to identify new approaches to improving patient safety, calling for the innovation necessary to expedite the work, create significant, sustainable improvements in culture, process, and outcomes, and encourage key stakeholders to assume critical roles in advancing patient safety.

The Institute has focused on identifying and framing vital transforming concepts that require system-level attention and action. The six concepts identified to date include medical education reform; active consumer engagement in all aspects of health care; transparency as a practiced value in everything we do; integration of care within and across health care delivery systems; restoration of joy and meaning in work; and the safety of the health care workforce.

Fulfilling the objectives embodied in these six concepts is critical to moving the national patient safety agenda forward; it is clear that this will require profound changes in the culture and structure of our health care system. Roundtables and executive sessions are being convened, in turn, to address each of these transforming concepts.

The groundswell of visible and vocal support for the Institute’s mission and activities from leaders across health care has been remarkable, and Institute members are committed to the system-level action necessary to bring about true change and safe patient care.

**Members of the Lucian Leape Institute**

Lucian L. Leape, MD  
*Chair, Lucian Leape Institute*  
Adjunct Professor of Health Policy  
Harvard School of Public Health

Diane C. Pinakiewicz, MBA  
*President, Lucian Leape Institute*  
President, National Patient Safety Foundation

Carolyn M. Clancy, MD  
Director  
Agency for Healthcare Research and Quality

James B. Conway, MS  
Senior Vice President  
Institute for Healthcare Improvement

Susan Edgman-Levitan, PA  
Executive Director  
John D. Stoeckle Center for Primary Care Innovation  
Massachusetts General Hospital

James A. Guest  
President  
Consumers Union

Gary S. Kaplan, MD, FACPME  
Chairman and Chief Executive Officer  
Virginia Mason Medical Center

Julianne M. Morath, RN, MS  
Chief Quality and Safety Officer  
Vanderbilt Medical Center

Dennis S. O’Leary, MD  
President Emeritus  
The Joint Commission

Paul O’Neill  
Former Chairman and Chief Executive Officer, Alcoa  
72nd Secretary of the US Treasury

David M. Lawrence, MD  
*LLI Member Emeritus*  
Chairman and Chief Executive Officer (retired)  
Kaiser Foundation Health Plan, Inc. and Kaiser Foundation Hospitals

Pamela A. Thompson, MS, RN, FAAN  
*LLI Member Ex-officio*  
Immediate Past Chair  
NPSF Board of Directors  
Chief Executive Officer  
American Organization of Nurse Executives
Introduction

Politicians, health care experts, and the lay public unanimously agree that the state of the current US health care system is unacceptable in terms of the quality and safety of the care provided as well as the escalating cost of the care received. In passing the Health Information Technology for Economic and Clinical Health (HITECH) Act as part of the recently enacted stimulus bill, Congress and the Obama administration demonstrated their support of health information technology (HIT) as a means of addressing the quality and cost issues that currently plague our health care system. In an unprecedented commitment of resources, the federal government will make available as much as $27 billion in incentive payments over the next decade, beginning in 2011 (Blumenthal and Tavenner, 2010). This move demonstrates the federal government’s strong commitment to building an HIT infrastructure that will improve the health of our populations as well as the performance of the health care delivery system, including patient safety.

Indeed, HIT holds the promise of potentially stimulating major improvements in patient safety. Computerized physician order entry (CPOE) with updated, accurate, widely available medication lists and allergy alerts could substantially reduce medication errors. However, a 2009 study found that less than 2 percent of US hospitals have a comprehensive electronic health record (EHR) system (Jha et al., 2009)—and because of the technical, educational, and financial challenges to widespread and integrated HIT, some patient safety experts are concerned that national implementation of HIT may introduce additional and preventable medical errors.

The Lucian Leape Institute at the National Patient Safety Foundation (LLI) hosted a symposium to bring together LLI members and health care leaders to consider the potential effects of HIT implementation on patient safety, focusing on the Institute’s six transforming concepts, each deemed to be an integral component in advocating for patient safety. Over the course of an afternoon’s discussion and an evening presentation by David Blumenthal, MD, MPP, National Coordinator for Health Information Technology with the Department of Health and Human Services, participants engaged in a lively and provocative interchange. Topics covered included concerns regarding implementation of proposed approaches as well as the potential for unforeseen negative consequences, possible solutions to these concerns, and strategies for maximizing the potential benefits of HIT. The following proceedings strive to capture this conversation.
Six Transforming Concepts: The Heart of LLI Work

The Lucian Leape Institute has focused its work on six transforming concepts that require system-level attention and action:

- Medical education reform
- Integration of care within and across health care delivery systems
- Restoration of joy and meaning in work
- The safety of the health care workforce
- Transparency as a practiced value in everything we do
- Active consumer engagement in all aspects of health care

Fulfilling the objectives embodied in these six concepts is critical to moving the national patient safety agenda forward and will require profound changes in both the culture and structure of our health care system.

Meeting Participants and Format

The Third Annual Forum and Gala of the Lucian Leape Institute was held on September 16, 2010, in Boston. Participants included LLI members, patient safety experts, and health care leaders. The participants met for several hours in the afternoon and attended an evening gala and presentation by Dr. David Blumenthal. The afternoon’s discussion was structured around the six transforming concepts of the Institute. LLI members, who serve as topic chairs for each of the concepts, described the status of the Institute’s work in their given area of interest and explored how HIT could facilitate system-wide improvements in patient safety. After each presentation, participants explored with the LLI members the implications for HIT and patients.

Prior to the Forum, participants had been invited to submit three key concerns regarding HIT. These comments were provided to faculty members in order to guide their remarks.
**Transforming Concept 1: Medical Education Reform**

**Presenter:**
Dennis S. O’Leary, MD
President Emeritus, The Joint Commission

Dr. Dennis O’Leary presented the initiative on medical education reform that was recently undertaken by the Institute. The Institute’s report, which focuses on the lack of attention to patient safety education and training in medical schools and postgraduate training programs, was based on roundtable discussions convened in October 2008 and June 2009, and was published in March 2010 (*Unmet Needs*, 2010). The report addresses an array of problematic issues in medical education respecting patient safety. These issues include:

- Powerful medical school and teaching hospital cultures that are antithetical to curricular changes necessary to support patient safety education and training
- Egocentric rather than team-based medical training
- Inattention to the need for novel resources for the teaching of patient safety skills, attitudes, and behaviors
- Inappropriate and, at times, disrespectful behavior by faculty role models

The report includes 12 overarching recommendations (listed in *Appendix A* on page 23), each with multiple subsidiary recommendations.

The report was released with a press conference and a subsequent audio conference that is available at the Institute for Healthcare Improvement website ([http://www.ihi.org/IHI/Programs/AudioAndWebPrograms/WIHI.htm?player=wmp](http://www.ihi.org/IHI/Programs/AudioAndWebPrograms/WIHI.htm?player=wmp)).

Dr. O’Leary went on to explore how HIT relates to potential opportunities for medical education reform. He opined that use of HIT could help mitigate the information overload medical students traditionally experience. Rather than concentrating their efforts on memorizing facts, students should be taught to find information when needed and to use information effectively, thus freeing up time to master the skills, behaviors, and attitudes that are the foundation of practicing patient safety.

The most substantial obstacle to the implementation of HIT to foster greater patient safety training in medical school is the need for retraining the faculty in patient safety basics—a reality underscored by medical school faculty leaders at last year’s Harvard Millennium conference. However, some medical schools are already implementing HIT in ways that cultivate patient safety training. Dr. O’Leary emphasized that greater leverage on the part of medical education accrediting bodies, specifically the Liaison Committee on Medical Education (LCME) and
the Accreditation Council for Graduate Medical Education (ACGME), is needed to accelerate this process.

Meeting attendees proposed a number of steps that could be taken to promote expanded patient safety education and training in medical schools and postgraduate training programs. These included:

- Publish a list of exemplar medical schools that include patient safety training in their curricula. Desire to be included on the list might serve as an incentive for other schools to invest in the resources needed to provide this training.
- Engage medical students by thinking of them as “customers” and demonstrating the value of teamwork, leadership, and patient safety skills.
- Reward demonstrated competence in patient safety. When medical students see that being competent in patient safety is necessary to becoming a functional member of the care team, they will create demand for relevant training in medical schools based on these competencies. The University of Central Florida and University of Illinois at Chicago are already engaging in innovative patient safety curricular initiatives.
- Support the patient safety courses of the Institute for Healthcare Improvement Open School, an online educational program, which has been active for almost two years. The school emphasizes skills in the areas of quality improvement, patient safety, teamwork, leadership, and patient-centered care (http://www.ihi.org/IHI/Programs/IHIOpenSchool).

Transforming Concept 1: Medical Education Reform
Transforming Concept 2: Integration of Care within and across Health Care Delivery Systems

Presenter:
Diane C. Pinakiewicz, MBA
President, Lucian Leape Institute
President, National Patient Safety Foundation

Diane Pinakiewicz presented the status of work to date in the area of integration of care for the topic chair David Lawrence, MD, former chairman and chief executive officer of the Kaiser Foundation Health Plan, Inc., and Kaiser Foundation Hospitals. She noted that of the six transforming concepts, this one is likely the most affected by the state of HIT. She described the recent work at an LLI roundtable convened in March 2010 on the topic. At the meeting, participants identified six specific questions to inform the work regarding integration of care:

- What does integration mean?
- How do we achieve integration?
- What is the pathway to achieving integration?
- What are the levers for success?
- How do we know when we have achieved integration?
- What are the results of integration?

In addition, the group identified an overarching question regarding this work: Is the focus on integrating organizations and integrating care services centered around the patient? Members of the roundtable felt that because most discussions have focused on integration at the corporate and government levels, the most pressing need now is to address care integration at the patient level.

In addition to crafting these clarifying questions, the group identified three key elements that distinguish care integration from care coordination. Care integration involves:

- A diagnostic process and therapeutic plan; those involved in diagnosis and treatment need to share information and identify solutions in a coordinated way
- Sequencing of care delivery throughout the continuum of the treatment process; the care plan for treatment needs to be coordinated from start to finish with appropriate sequencing of events
- Coordination of patient care information; recording of critical insights gleaned throughout and between treatments over the course of the patient’s lifetime (this component represents the strongest potential for the application of HIT)

Gary Kaplan, MD, FACMPE, chairman and chief executive officer at Virginia Mason Medical Center, emphasized a sense of urgency regarding care integration. Those who are opposed
to care integration are in many cases attempting to advance their agenda with financial incentives, he suggested. Thus the time is critical for fostering true integration. He noted that although accountable care organizations (ACOs) should have an increasing potential for fostering integration, some experts remain skeptical of ACOs’ ability to effect changes beyond the level of superficial appearances, or “window dressing.”

Sara Singer, MBA, PhD, assistant professor at Harvard School of Public Health and Harvard Medical School/Massachusetts General Hospital, spoke about the need to distinguish between integration of health care systems (the means) and integrated patient care (the end). She also highlighted the importance of respecting and responding to the patient’s perspective of the care experience, as well as recognizing the important role of patients and family members in ideal care delivery.

An attendee queried how to best integrate data from multiple patients: through HIT, patient registries, or a patient database. In responding, Ms. Pinakiewicz distinguished two different levels of care integration for which HIT is needed:

- Individual level (i.e., the need to coordinate care at the transaction level across the continuum of care and over time)
- Population level (i.e., the need to collect and report on population-based data)

In the discussion that followed the presentation, Ms. Pinakiewicz and participants talked about the pressing need to clarify the terminology and scope related to integration. In response to a participant’s concern that end-of-life care might not be included in the concept of care integration, Ms. Pinakiewicz confirmed that all aspects of care delivery would need to be integrated, including end-of-life care, so that care is organized more effectively around the patient, and resources are deployed for needed services. Lucian Leape, MD, adjunct professor of health policy at the Harvard School of Public Health and chair of the Lucian Leape Institute, commented that a simple test for gauging whether or not care is integrated is to ask the patient about his or her experience. In conclusion, he emphasized the importance of patient registries and electronic health records that all providers can access to conduct true integration of care.
Transforming Concepts 3 and 4: Restoration of Joy and Meaning in Work  
The Safety of the Health Care Workforce

Presenters:
Julianne M. Morath, RN, MS  
Chief Quality and Safety Officer  
Vanderbilt Medical Center

Paul O’Neill  
Former Chairman and Chief Executive Officer, Alcoa  
72nd Secretary of the US Treasury

Julianne Morath opened the discussion by presenting the status of the initiative. The Institute is convening a roundtable discussion on these transforming concepts at Vanderbilt University in December 2010. These transforming concepts are based on two premises: that workers finding joy and meaning in health care work is critical to the well-being of patients and providers, and that workforce safety is a precondition for restoring joy and meaning to work. The group recognizes that although many pay lip service to the workforce being the most important asset within a health care organization, the physical and psychological safety of individuals at the front lines of care has not previously been a priority. The health care system lags behind other industries in this regard.

Ms. Morath described the relationship between HIT and this transforming concept, noting that fragmentation of care delivery, problems related to human factors, and technology-related issues can all compromise both employee and patient safety. She characterized HIT as a potential source of risk and consequent error that has the ability to undermine patient safety and the patient’s positive experience of the care they receive. She cautioned that if HIT is implemented in an effort to increase workforce accountability rather than streamline tasks, it will likely become a distraction from the core work of relating to patients and providing them with quality care. HIT implementation could create situations in which workers operate in unmitigated risk (e.g., errors in CPOE interoperability lead to medication errors that are not identified because the manual checks and balances have been removed from the process). A potential consequence of HIT with faulty design characteristics is that providers may become uncertain about the utility of HIT, thinking “this is as good as it gets.” In the same vein, electronic health records (EHR) could either help or hinder provider efficiency and the provision of safe care. Ms. Morath pointed out that, although these concerns are legitimate, HIT holds the potential to expand real-time data analysis, which can motivate staff to pursue quality and safety initiatives more proactively.
The presenters and attendees discussed the gaps, challenges, and opportunities for restoring joy and meaning in work while improving the safety of the health care workforce through the implementation of HIT. Paul O’Neill imparted a disquieting statistic: the injury rate among health care providers is 30 times higher than that among individuals working in high-risk industries. According to Mr. O’Neill this finding represents a leadership issue as well as the obstacle of competitive work climate: health care leaders have not effectively imported potentially helpful techniques from other industries, neglecting the conviction that “you should never be hurt at work.” A participant from the Association for the Advancement of Medical Instrumentation asserted that significant gaps exist in the consistency of training levels, regarding patient safety, available to various groups within a health care organization. HIT software developers need to understand the principles of patient safety in order to incorporate them into the system design.

Susan Edgman-Levitan, PA, executive director of the John D. Stoeckle Center for Primary Care Innovation at Massachusetts General Hospital, posited that the health care industry would do well to incorporate principles and tools from the design and engineering worlds. She referenced a book relevant to the topic, Studying Those Who Study Us, by Diana Forsythe (2001), emphasizing the importance of the input of end users, patients, and family in the design process. She recalled a real-world example of a case in which the needs of end users were not taken into account in software design. A Boston hospital system implemented a CPOE program that in its first iteration did not allow the patient’s weight to be entered in ounces, posing a significant problem for clinicians trying to calculate doses for infants and small children.

Mr. O’Neill described one challenge to widespread use of patient safety practices: the difficulty of transferring ideas, including best practices, among, or even within, institutions. He opined that it is impossible to have consistent excellence in one portion of an institution without the support of transparency and learning across the institution. An important benefit of HIT is the potential for increased transparency and free movement of ideas throughout and between institutions that are conducting patient safety work. Sustainable excellence is impossible without the tenets of transparency.

Mr. O’Neill proposed that a process should be developed by which health care institutions would upload daily reports of all errors and injuries (e.g., hospital-acquired infection, medical error, patient falls and other injuries). He asserted that patients should be able to investigate these error and injury rates online. He posited that such transparency among care providers would not discredit the daily progress and success within the industry, but instead it would mobilize health care providers towards greater engagement in quality and safety initiatives.

Tejal Gandhi, MD, director of patient safety at Partners HealthCare and an internist from Brigham and Women’s Hospital, noted the need for user engagement when introducing new
technologies. The hospital recently installed a bar coding system at the bedside to improve patient safety. Prior to implementing this system, leaders ensured that nurses and other end users were involved in planning and design. Hospital-based researchers studied staff workflow patterns and surveyed staff satisfaction before and after the initiative. Dr. Gandhi reported that the initiative might well have failed if not for the feedback and design input of the end users. She also underscored her conviction that the health care system is at a crossroads: EHR and other aspects of HIT have the potential to greatly benefit quality and safety, but also can make the work of clinicians much more time consuming. Attention at this juncture is important to ensure that systems are built with the capabilities needed to support providers in care delivery.

Lucian Leape issued a caution that was echoed by others throughout the afternoon session: the importance of viewing HIT as more than a new gadget. He highlighted the necessity of considering HIT as part of a redesigning of care processes. He stated: “If you automate a bad process, then you have an automated bad process.”

An attendee from a company that develops HIT remarked on the importance of considering the workflow of the provider when building care processes, while still maintaining patients as the center of delivery systems. Mr. O’Neill concluded by noting that literacy and real-time reporting can affect patient choice and thereby have an important impact on the industry as a whole.
Transforming Concept 5:  
Transparency as a Practiced Value in Everything We Do

Presenter:  
Gary S. Kaplan, MD, FACMPE  
Chairman and Chief Executive Officer  
Virginia Mason Medical Center

Dr. Gary Kaplan described the status of this initiative as being at the initial thinking stage and listed several characteristics of transparency:

- Redefining the “customer” focus so that the patient is considered first
- An essential element for promoting a culture of safety
- A necessity for understanding the “current state,” which is required as the first step of transformation, for the quality and cost imperative, and for disclosure and apology
- “Simply telling the truth”
- “Making the invisible visible”
- “Good for business and, most importantly, good for patient care”

Dr. Kaplan explained that HIT relates to transparency in several ways. HIT is an enabling tool that can help make visible current processes, gaps, and potential sources of errors. HIT can also help identify processes and interventions that are more safe and effective, while supporting rapid cycle improvement methodologies. HIT can enable patients to achieve the connectivity they desire, which relates to HIT in terms of ownership and transparency of the patient record. Finally, an all-patient database would help leaders and managers understand the costs associated with providing care at the population, organization, and individual patient levels. Dr. Kaplan asserted that it is impossible to truly compare cost and quality metrics without transparency.

Dr. Kaplan discussed several challenges to transparency with regard to HIT implementation:

- Fear of the consequences of increased transparency, including provider accountability
- The complexity of the current health care system, often cited as a reason transparency will not work
- Financial disincentives to transparency
- Special pricing arrangements that would be curtailed if the transactions were made transparent
- A health care culture that often keeps providers from challenging authority
- Confidentiality concerns
- The need to create effective care processes and not simply automate faulty ones

Dr. Kaplan noted that while some individuals consider confidentiality concerns to be a significant barrier to transparency, he disagrees. He emphasized the need to balance
transparency with confidentiality, but argued that the benefits of transparency make this balancing act worthwhile. Diane Pinakiewicz suggested that, given the opportunity, patients might begin to think of confidentiality as being more malleable rather than rigid, such that they might be willing to concede some level of confidentiality for the advantages of transparency.

Dr. Kaplan discussed the opportunities for transparency related to HIT, as well as concerns about HIT implementation. He suggested that one consider patient safety in terms of the theoretical limits of possibility, such as zero hospital-acquired infections, and recognize the health care industry’s current under-performance with respect to worker safety. Considering the theoretical limit reveals the gap between the current and potential levels of patient safety. He implored leaders to set higher standards and aim for zero-defect performance. He pointed out that HIT can provide a method to spread rapidly the solutions that work and the lessons learned in patient safety initiatives.

A participant remarked that the proactive, rather than strictly reactive, use of HIT could help improve patient safety. HIT can be used to identify steps or tasks that might otherwise be overlooked, such as ensuring follow-up on lab test results for patients recently discharged from the hospital. HIT also can be used as a trigger tool—for example, to identify patients with elevated INR (International Normalized Ratio, used to monitor the effectiveness of blood thinning drugs such as warfarin to prevent a bleeding event). HIT represents an opportunity to collect an array of information from patients in real time: self-assessments, quality-of-life surveys, and experience of care assessments. Paul O’Neill discussed the utility of conducting a root cause analysis when a medical error or near miss occurs. If lessons learned are shared transparently through reports distributed via HIT, other organizations can alter their processes and improve patient safety, increasing their abilities to offer informed preventative care.

Mr. O’Neill suggested that organizational leaders could emulate engagement activities at Virginia Mason Medical Center in Seattle. The organization receives input from patients and families in many ways, including participation in improvement events. The medical center’s Quality Oversight Committee includes public board members, such as a recently retired aerospace executive who considers care delivery from a systems-based perspective. In addition, the organization emphasizes the importance of its patient safety work with a prominent patient safety award granted annually in honor of a patient who died in 2004 due to a medical error.

A participant described the results of a recent study by Richard Boothman, JD, AB, chief risk officer of the University of Michigan Health System, and his colleagues that supports the business case for disclosure and apology for medical errors (Kachalia et al., 2010).

Dr. Kaplan then discussed the current gaps that exist in implementing HIT to increase transparency. He highlighted the need for robust patient safety measures across institutions in order to allow for recognition of improvement in quality and safety over time.
**Transforming Concept 6: Active Consumer Engagement in All Aspects of Health Care**

**Presenter:**
Susan Edgman-Levitan, PA  
Executive Director  
John D. Stoeckle Center for Primary Care Innovation  
Massachusetts General Hospital

Susan Edgman-Levitan stated that patient engagement and the delivery of patient- and family-centered care is the central transformative work to create safer, more effective health care. The LLI plans to convene Institute roundtables to focus on patient engagement at three levels:

- Engaging patients and families in their clinical care through support for informed medical decisions, self-management, and management of chronic conditions
- Involving patients and families in the design of care systems and quality improvement activities, through patient and family advisory councils and use of qualitative data to inform design and quality improvement
- Involving patients/consumers in the creation and implementation of health policy

Ms. Edgman-Levitan commented that the third level relates to the function of the health care system, within which a significant amount of misinformation exists. Educating patients about what good health care is (i.e., “more care does not equal better care”) represents a huge public relations challenge.

HIT relates to improved patient and family engagement in a number of ways, according to Ms. Edgman-Levitan. Prior to the advent of the Internet, physicians were the “owners” of all clinical information. With HIT, patients can have access to a variety of informational sources, including care summaries, previsit information, after-visit summaries, medication lists, medication allergies alerts, and family history information. She asserted that HIT can support patient engagement in several specific ways, for example, by allowing people to access test results, previsit summaries, and medication lists online. A participant noted that HIT represents an opportunity to engage patients by extending care across geographic boundaries through Skype™ and e-visits. James Conway, MS, senior vice president, Institute for Healthcare Improvement, asserted that involvement on advisory councils represents an important opportunity to engage patients and hear the patient’s voice. He noted that as of October 1, 2010, all hospitals in Massachusetts are required to convene patient advisory councils that report to the board of directors (Dreyer, 2009).
Ms. Edgman-Levitan and attendees identified two educational challenges to patient and family engagement:

- Patients, in most cases, have not been educated or encouraged to work with providers as partners, nor are they able to assess the reliability of health information or its relevance to their own medical conditions.
- Providers have not been educated about how to provide patients easy access to their personal health information and many think it is a HIPAA violation to give patients information about themselves.

The discussion also revealed two potential gaps in HIT that can affect patient care: the absence of vital information and the presence of inaccurate information in patients’ records. Ms. Edgman-Levitan commented that given the complexity of the care system, addressing these gaps is critical to patient safety. She also introduced two other topics that relate to patient engagement: shared decision making and coordination of care.

Michael Barry, MD, president of the Foundation for Informed Medical Decision Making, commented on the relationship between shared decision making and patient safety. He described data from a Cochrane review that demonstrated the importance of fully informing patients about their health care options. After being fully informed about a procedure, 20 percent of patients who were leaning towards undergoing the procedure decided on another option. According to Dr. Barry, not fully informing patients prior to treatment is analogous to taking the wrong patient to surgery. This concept represents a new arena for patient safety. Ryan Thompson, MD, an internist at Massachusetts General Hospital, commented on the importance of coordination at transitions of care: “Passing the baton is where patients get into trouble.” A participant relayed a quote (which he attributed to a leader at Cincinnati Children’s Hospital), “The gap between excellence and perfection is death,” reminding staff and leaders of the goal of providing reliable care 100 percent of the time.

Mr. Conway described a recent project that demonstrated the potential promise of engaging patients in their own health care. As part of a consumer engagement endeavor, the Partnership for Healthcare Excellence conducted a campaign promoting three concepts in two communities near Boston: “Smart Patients Ask Questions,” “Wash Your Hands,” and “Carry Your Medication List.” Techniques used included billboards, programs in schools, churches, and communities, reference materials, public service announcements, and other tools. After 18 months, the group found a demonstrable difference in patient understanding in these areas as compared to the rest of Massachusetts. Mr. Conway concluded that the effects of a focused initiative can be astounding.
Emergent Themes from the Comment Period

During the comment period that followed the presentations, a number of themes surfaced. These included the potential benefits of HIT, the potential risks of HIT, leadership requirements for successful HIT implementation, cultural transformation and HIT, and potential facilitators for HIT implementation.

Potential benefits of HIT:
- Quality and safety benefits related to better information access and decision support
- Improved documentation and measurement of care
- Increased direct care time for providers if HIT is well designed
- Ability to insert prevention needs into care processes via decision support
- Greater recall capacity of computerized records (e.g., an electronic record never “forgets” a drug allergy)
- Information exchange across settings

Potential risks of HIT:
- Data and process can threaten to overwhelm the workflow
- Automating a process with underlying faults may lead to an automated faulty process
- The possibility of entering and relying upon compromised data
- The distraction factor: leaders’ attention being pulled toward meaningful use criteria and away from other quality and safety initiatives
- Lack of interoperability
- Overconfidence in the power of HIT: mistakenly believing that HIT is a panacea instead of a means to an end

Leadership requirements for successful HIT implementation:
- Set clear expectations for implementation (“only a leader can remove the reasons that people cannot change”)
- Demonstrate/communicate the benefits of HIT for the quality and safety agenda
- Focus on workflow and usability
- Ensure that interoperability of systems is a top priority
- Select vendors who are willing to support and customize

Leading to greatness

Paul O’Neill asserted that, at an organization with the potential for greatness, everyone will answer yes without hesitation to these three questions:
- Am I treated every day with dignity and respect by everyone I encounter?
- Am I given the things I need so I can make a contribution that gives meaning to my life?
- Am I recognized for what I do?
- Appreciate the connection between choosing transparency and restoring joy and meaning in work
- Be creative when faced with fixed resources
- Support two cost-free improvements: dignity and transparency

**Cultural transformation and HIT:**
- Both technical and adaptive changes are needed for successful HIT implementation.
- Experience-based design is useful for fostering change. Showing staff videotaped responses of patients who are asked about their feelings during various health system encounters (e.g., "How did it feel when you were lying on the stretcher in the hallway for 10 minutes?") can be a powerful instigator of change.
- A culture supportive of patient safety requires both transparency and accountability.

**Potential facilitators for HIT implementation:**
- The patient's voice
- Multidisciplinary front-line engagements and strong clinical champions
- Convening of long-term committees consisting of senior leaders and representatives from all groups to work on care processes and HIT implementation issues specific to the institution
- A focus on process redesign prior to HIT implementation

The discussion of these themes was lively and participatory, involving many attendees.
**Featured Speaker: Dr. David Blumenthal**

At the evening’s gala, Dr. David Blumenthal, national coordinator for health information technology with the Department of Health and Human Services, described his experience to date with HIT implementation, sharing his belief in the value of HIT from personal experience. After a brief description of his professional path to his current position under the Obama administration, Dr. Blumenthal asserted that he views his role not as overseeing the dissemination and installation of software, but as advancing changes in the way providers and hospitals deliver care day to day. He expressed his conviction that keeping this goal in mind is essential to motivating individuals and achieving change. He also asserted that HIT implementation can advance each of the Institute’s transforming concepts.

Dr. Blumenthal listed three key barriers to the adoption of HIT:

- **Financial:**
  - A decrease in short-term productivity
  - The need for capital investment
  - The reality that any cost savings will flow to health plans and not to those implementing HIT

- **Technical and logistical:**
  - Difficulty selecting software due to complex technical requirements

- **Structural:**
  - A lack of infrastructure for moving information around the health care system and between collaborating providers who reside in different geographic areas

Dr. Blumenthal then listed five organizing concepts that serve as goals for national HIT implementation:

- To improve the quality, safety, and efficiency of health care
- To improve care coordination
- To engage patients and families in their health care
- To improve population health and public health
- To promote privacy and security

Dr. Blumenthal discussed several approaches in place to meet these goals. Federal funds will support regional extension centers that will offer technical assistance for physician practices. These centers are prioritizing primary care physicians in small practices wherever they exist, though there is a particular emphasis on underserved (including rural) locations.
Federal standards and certificate criteria will become the basis for ensuring interoperability among HIT systems. Legislation outlining these criteria has been drafted and $2 billion allocated for these activities, which are slated to begin in January 2011.

Dr. Blumenthal related that although there is much to do in the coming months and years, he remains optimistic about HIT adoption for two reasons. First, he believes that the next generation will not tolerate a paper-based system and will push strongly for widespread HIT adoption. Second, he believes that physicians need to use the most modern technologies available to be seen as competent professionals by the public. He believes that our society is at a tipping point with the use of technology to improve health and health care. Current efforts with HIT are creating a foundation for this transition; however, it is essential that the shift be grounded by a commitment to use HIT with the patient’s best interest in mind.

When asked about the pace of implementation under the revised meaningful use criteria issued in January 2010, Dr. Blumenthal replied that while he is sure that HIT adoption can be successful, the key question is how quickly providers can acquire and implement the new technology. Although implementation will be a challenge for some practices, he asserted that the step is critical and that “we couldn’t wait for it to happen on its own.” He sees his role as one of balancing the needs of the providers who are implementing these systems, and the need for our health care system to evolve.
References


Appendix A

12 Recommendations for Reforming Medical Education

From Unmet Needs: Teaching Physicians to Provide Safe Patient Care
Report of the Lucian Leape Institute Roundtable on Reforming Medical Education
(Boston: National Patient Safety Foundation; 2010)

1. Medical school and teaching hospital leaders should place the highest priority on creating learning cultures that emphasize patient safety, model professionalism, enhance collaborative behavior, encourage transparency, and value the individual learner.

2. Medical school deans and teaching hospital CEOs should launch a broad effort to emphasize and promote the development and display of interpersonal skills, leadership, teamwork, and collaboration among faculty and staff.

3. As part of continuing education and ongoing performance improvement, medical school deans and teaching hospital CEOs should provide incentives and make available necessary resources to support the enhancement of faculty capabilities for teaching students how to diagnose patient safety problems, improve patient care processes, and deliver safe care.

4. The selection process for admission to medical school should place greater emphasis on selecting for attributes that reflect the concepts of professionalism and an orientation to patient safety.

5. Medical schools should conceptualize and treat patient safety as a science that encompasses knowledge of error causation and mitigation, human factors concepts, safety improvement science, systems theory and analysis, system design and re-design, teaming, and error disclosure and apology.

6. The medical school experience should emphasize the shaping of desired skills, attitudes, and behaviors in medical students that include, but are not limited to, the Institute of Medicine and Accreditation Council for Graduate Medical Education (ACGME)/American Board of Medical Specialties (ABMS) core competencies—such as professionalism, interpersonal skills and communication, provision of patient-centered care, and working in interdisciplinary teams.

7. Medical schools, teaching hospitals, and residency training programs should ensure a coherent, continuing, and flexible educational experience that spans the four years of undergraduate medical education, residency and fellowship training, and life-long continuing education.

8. The LCME should modify its accreditation standards to articulate expectations for the creation of learning cultures having the characteristics described in Recommendation 1 above; to establish patient safety education—having the characteristics described herein—as a curricular requirement; and to define specific terminal competencies for graduating medical students.
9. The ACGME should expand its Common Program Requirements to articulate expectations for the creation of learning cultures having the characteristics described in Recommendation 1; to emphasize the importance of patient safety-related behavioral traits in residency program faculty; and to set forth expected basic faculty patient safety competencies.

10. The LCME and the ACGME should direct particular attention to the adequacy of the patient safety-related preparation of graduating medical students for entry into residency training.

11. A survey of medical schools should be developed to evaluate school educational priorities for patient safety, the creation of school and teaching hospital cultures that support patient safety, and school effectiveness in shaping desired skills, attitudes, and behaviors.

12. Financial, academic, and other incentives should be utilized to leverage desired changes in medical schools and teaching hospitals that will improve medical education and make it more relevant to the real world of patient care.
## Appendix B

### Sponsors of the LLI Third Annual Forum & Gala

The Lucian Leape Institute at the National Patient Safety Foundation gratefully acknowledges the following organizations for their generous support of the Institute’s Third Annual Forum & Gala:

<table>
<thead>
<tr>
<th>Leadership Sponsor</th>
<th>Champion Sponsor</th>
<th>Ambassador Sponsors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospira</td>
<td>Partners HealthCare</td>
<td>AmerisourceBergen</td>
</tr>
<tr>
<td></td>
<td>Anonymous Donor</td>
<td>Hospital Corporation of America</td>
</tr>
</tbody>
</table>

### Advocate Sponsors

- American Hospital Association
- American Organization of Nurse Executives
- Caritas Christi Health Care
- Cerner
- CNA
- CRICO/RMF
- GE Healthcare
- National Association of Chain Drug Stores Foundation
- 3M Health Care
- Vanderbilt University Medical Center
- Ventana
- VHA
- Virginia Mason Team Medicine

### Table Sponsors

- Accenture
- Beth Israel Deaconess Medical Center
- Blue Cross Blue Shield of Massachusetts
- Cambridge Health Alliance
- Children's Hospital Boston
- Massachusetts Medical Society
- Fluidnet
- Foundation for Informed Medical Decision Making
- Lippincott Williams & Wilkins
- MedicAlert Foundation
- Medical Group Management Association