



Maximizing the Value of Meaningful Use Investments: Achieving the Patient-Centered Care Objective through Interactive Communication Systems

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This paper analyzes the need for long-term, integrated planning for hospitals contemplating IT acquisitions to satisfy preliminary meaningful use requirements, with a focus on the use of interactive communication tools to advance patient-centered care objectives. The financial incentives available to hospitals are substantial. The America Recovery and Reinvestment Act ("ARRA") allocated \$135 billion dollars to support the modernization and improvement of healthcare delivery, with almost \$26 billion dollars specifically designated to support the modernization and integration of healthcare information technology ("HIT") through Medicare and Medicaid incentive payments over the next five years. The aggregate funding available to individual hospitals will be as high as \$10.4 million, with a per-hospital median value of \$3.8 million, with Medicaid participators eligible for approximately twice this sum.² Hospitals that demonstrate meaningful use of certified electronic health records ("EHR") (or EHR modules in the aggregate), consistent with the statutory purposes of ARRA, will be entitled to these payments, provided that the threshold requirements are met.³ Hospitals that do not meet the requirements of meaningful use will be penalized following the conclusion of the incentive period in the form of decreased Medicare reimbursement.

It is the provisional nature of the regulations which has resulted in tremendous confusion. Indeed, the HITECH Act imposes a tight timeline on the sweeping transformational program. Despite the best efforts of the Department of Health and Human Services (to which authority for the program has been

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² The estimated per-hospital payments are provided by HHS in the proposed regulations. Medicare and Medicaid Programs; Electronic Health Record Incentive Program; Proposed Rule, 75 Fed. Reg. 1843, 1935, 1980, 2002 (proposed Jan. 13, 2010)(to be codified at 42 C.F.R. 412, 413, 422, and 495)(hereinafter referred to as "CMS Proposed Rule").

³ For the purpose of determining hospital eligibility for Medicare-side incentives, eligible hospitals generally include those that qualified to receive Medicare reimbursement or a qualifying MA organization (a treatment facility organized as an HMO as otherwise defined by statute). CMS Proposed Rule, 75 Fed. Reg. at 1848. Children's Hospitals have no patient volume requirements for Medicaid-side participation. *Id.* at 1930. For hospitals opting to participate in both the state-administered Medicaid program and the CMS-administered Medicare incentive program, the proposed rule calls for co-extensive Medicaid and Medicare meaningful use requirements. *Id.* at 1852. Thus, if a hospital is a meaningful user of certified EHR for the purposes of the Medicare program, it will be a meaningful user for the purpose of Medicaid participation as well, provided that the hospital meets state requirements for participation. HHS estimates that approximately 5011 of the nation's hospitals will be eligible to receive funding. *Id.* at 1962.

delegated), it is a timeline to which adherence is difficult given the legally-imposed process requirements in federal rulemaking. Only months away from initial eligibility (with respect to disbursements to Medicaid-eligible hospitals), the process for identifying and acquiring relevant technology, determining the potential for certification, and use of the technology in a manner sufficient to satisfy the regulatory prerequisites is yet undetermined. Focusing compliance plans on the specific proposed criteria is an exercise in futility: the criteria will almost necessarily change in composition when the applicable rules are issued in final form.⁴

In addition, the criteria will be subject to supplementation, either through legislative action or rule modification. The Proposed Rule establishes a three-stage approach to program implementation.⁵ Conceptually, Stage One establishes the criteria for meaningful use. Stage Two and Stage Three will focus on the nature and extent of use.⁶ This proposed staging implies design rigidity that will necessarily yield to implementation realities. Whatever the final Stage One criteria will be, they will represent a compromise between the understandable need of HHS to meet the lofty objectives of ARRA and the understanding that overly-aggressive initial criteria will render the program unworkable for most health providers. Thus, if the initial Stage One criteria do not sufficiently define requirements sufficient to generate patient-engagement and care control, which they likely cannot, the criteria defined in subsequent stages will certainly include the acquisition and use of such technological tools, even if that requires continuous regulatory adaption over the five-year MU period⁷.

Despite the transitory nature of the proposed regulations, hospitals are not without recourse in their efforts to integrate the requirements of meaningful use into long-term plans for the acquisition and use

⁴ For instance, in its formal comment to the Proposed Rule, the statutorily-created HIT Policy Committee strongly recommended the reintroduction of patient educational resources in Stage 1 criteria. In addition, a collaboration of consumer and patient organizations, including the AARP, the AFSCME, Center for Democracy and Technology, Center for Medicare Advocacy, Consumers Union, Healthwise, National Consumers League, National Family Caregivers Association, National Health Law Program, National Partnership for Women & Families, SEIU, Summit Health Partnership for Research and Education, Inc. and Children's Partnership submitted a joint comment to the CMS Proposed Rule, emphasizing the need for inclusion of criteria specifically designed to support patient engagement and patient satisfaction survey requirements, rather than the mere digitalization of paper health records, and that such criteria should be included in the Stage 1 Requirements. Letter Comment from Consumer Partnership for eHealth, CMS-0033-P (Medicare and Medicaid Programs, Electronic Health Record Incentive Program) (March 15, 2010).

⁵ CMS Proposed Rule, 75 Fed. Reg. at 1852.

⁶ *Id.*

⁷ HHS leaders cannot now provide detailed forecasts as to the planned criteria for Stage Two and Stage Three compliance. In an ONC Listening Session on April 6, 2010 regarding the IT Strategic Framework, further discussed below, Paul Tang (Vice Chair of the HIT Policy Committee and Co-Chair of the HIT Policy Committee Meaningful Use Workgroup) noted that the specific content of later-stage criteria must necessarily depend upon the program's initial success in achieving the overarching goals. Comments of Paul Tang, HIT Policy Committee Strategic Plan Workgroup, Listening Session Draft Transcript, p. 20 (April 6, 2010).

of HIT. While the emergence of “guarantees” and detailed forecasts may create the illusion of certainty in planning, hospitals will be better served by understanding the ultimate transformative goals of the stimulus funds. With respect to the patient-centered care objective, ARRA is premised upon the proven fact that improved patient communication and engagement results in better clinical outcomes. The capture, storage, and access of clinical health data alone does not equate to meaningful use. How the information and data is interpreted and shared with the patient is the key to reducing errors and improving outcomes. Unfiltered and unexplained raw clinical data cannot be interpreted by most patients. Genuine patient engagement requires an evaluation of the ways patients typically comprehend information. The use of multiple methods of communication, in conjunction with data-sharing, is the only way to achieve real patient-centered care.⁸ As aptly stated by one of the Meaningful Use Workgroup members, if a key purpose of the emerging regulations is to *“Provide patients and families with timely access to data, knowledge, and tools to make informed decisions and to manage their health”* – sufficient attention also needs to be paid to creating not only provider incentives and data exchange mechanisms, but the decision logic and visualization tools that help patients to understand the data. As the discussion about meaningful use continues, the focus must remain on the ultimate user—the patient.” Thus, the emphasis that HHS has placed upon understanding and advancing patient interaction comes as no surprise.

While new technology will no doubt play a role in defining and achieving meaningful use as the requirements develop, a wiser and more cost-effective choice is the facilitation of patient communication through the expanded use of existing technologies: technologies that can inform, educate and empower the patient to take an active role in his or her own care. Technology cannot alone accomplish ARRA’s grand goals for care transformation, but technology designed to promote patient engagement can lay the groundwork for more efficient and productive conversations between patients and care providers. This technology is already available. And, given that video-based communication offers greater patient comprehension and accessibility in this video era, hospitals already have at their disposal the most effective tool for patient engagement and communication: the in-room television. When integrated into the hospital data system, the television interactively delivers patient information, education, and engagement tools, all through an integrated mechanism that tracks patient use, documents levels of patient understanding, customizes education delivery, and facilitates patient control.

⁸Testimony of Patricia Flatley Brennan, RN, Ph.D, FAAN, Meaningful Use Workgroup member and April 20, 2010 Meeting Panelist. Dr. Brennan emphasizes the importance of data delivery in the proper context, along with educational materials in order to promote self-management.

Defining the Meaningful Use Goal of Patient-Centered Care

The patient-centered care goals imbedded in the HITECH Act represent both the culmination of more than a decade of federal research and the first step toward healthcare transformation. The HITECH Act specifically defines patient-centered care as a mandatory goal of HHS use of stimulus funds. In addition, many of the other statutory objectives are related to patient-centered care or patient engagement. This goal results from the federal government's effort to research and understand the benefits, both social and financial, of healthcare delivery whose success is measured by reference to meeting the patient's needs and expectations. Architects of the concepts imbedded in the HITECH Act have emphasized that health information technology is intended as a driving force in the transformation of the health system to a patient-centered model.⁹ Patient-centered care takes center-stage in the ONC proposed Health IT Strategic Framework¹⁰, setting forth a vision for a "learning health system that is patient-centered." This Framework will guide all federal priorities, including those within the auspices of meaningful use. Not only is patient-centered care an objective: in many ways, it is the paramount objective of the HIT stimulus funds.

It is easy to lose focus on the ultimate objectives of HIT funding when scrutinizing only the proposed Stage One criteria for meaningful use. The specific criteria attached to the Stage One Meaningful Use Goals of patient engagement and the related goals inherent to "improving quality, safety, efficiency, and reducing health disparities" set forth an admittedly incomplete framework. To the extent that the initial criteria lacks express focus on HIT designed to ensure patient-centered structure and outcomes, it is more a reflection on the perceived lack of supportive technology than a shift in priority. In its initial rejection of the related requirement for patient-specific information and education at the point of care, the CMS Proposed Rule notes that such HIT-supported education "is a critical component of patient engagement and empowerment."¹¹ In April, the Meaningful Use Workgroup of the HIT Policy Committee conducted a meeting to explore the purposes and priorities of patient engagement in defining its recommendations to the HIT Policy Committee, reaffirming the centrality of patient-centered care to the

⁹ Karen Davis, President, Commonwealth Fund, Briefing by the Commonwealth Fund and the Alliance for Health Reform (December 2006).

¹⁰ The purpose of the Health IT Strategic Framework is to define the overall federal objectives for HIT and to unify the separate federal efforts towards the government's defined objectives for HIT. The original Framework, adopted in 2004 under President Bush' Executive Order, and entitled "The Decade of Health Information Technology: Delivering Consumer-centric and Information-rich Health Care," represents the first national effort to coordinate federal support for the nationwide-adoption and use of electronic health records. The HITECH Act called for the amendment and reissuance of the Health IT Strategic Framework under the authority of the Office of the National Coordinator for Health Information Technology. A pre-decisional draft was disseminated for comment and discussion on March 23, 2010. The final form of the Framework is expected to be submitted to the HIT Policy Committee in mid-May.

¹¹ CMS Proposed Rule, 75 Fed. Reg. at 1857. In its proposal to postpone the applicability of such criteria to later stages (but not omit them without running afoul of requirements set forth in the HITECH Act), CMS proposes that further work is necessary.



regulatory framework. Entitled “Creating a Vision for Engaging Patients and Families through the Meaningful Use of Health IT,” the Workgroup is exploring the scope and nature of criteria necessary to embrace the patient-centered care model.

In addition, the Agency for Healthcare Research and Quality (“AHRQ”), the research arm of the HHS, has launched a comprehensive review of all studies and reports pertaining to the effects of HIT on patient-centered care. As a basis for assessing both the incentives for and barriers to the use of HIT in promoting patient-centered care, AHRQ is using the Institute of Medicine (“IOM”) definition of patient-centered care: “Care that is respectful of and responsive to individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions.” It is one of six health care quality measures recognized by the IOM. The results of this systematic review will ultimately inform the research and development efforts, as well as the specific Meaningful Use criteria designed to promote patient engagement and control. CMS will necessarily identify ways in which existing technology can be used – and measured – in connection with patient-centered care delivery. As a result, technological tools that engage and empower patients will play a role in the defined meaningful use criteria, if not in the first stage, in the latter stages.

Taken as a whole, and along with the input of health care advocates and industry experts, the principles of patient-centered care to be achieved through meaningful use include, at a minimum, the following:

- Dissemination of information to patients about their care, their care options, and their ability to influence the direction and nature of their care. This encompasses more than the mere requirement of “access” to information. It requires an affirmative effort to place information into the hands of patients in a format they can understand.
- Effective patient education tailored to the needs of individual patients, with due attention to relevant demographic and socio-cultural considerations. “Effective” education will require well-designed and understandable educational materials delivered at the most useful time, and in the most accessible form, during the treatment process.
- Adopting a treatment atmosphere that stimulates and encourages patient interaction and engagement across the continuum of care.
- Defining outcome success by reference to each patient’s needs and objectives.

The “patient-engagement” goal reflects a three-fold federal priority: 1) that patient-centered care is, in and of itself, a desirable ideological outcome; 2) that patient-centered care yields better care outcomes because of increased diagnostic accuracy and increased patient adherence to care plans; and 3) that outcome benefits are achieved by reference to the patient’s definition of a “good outcome.” The technological role in patient-centered care is also premised upon well-documented research: a) technology facilitates both the reality and perception of patient control; b) facilitates an environment



where patients can better understand their illness profile, treatment options and care agenda; and c) delivers patient-engagement results in a manner that ultimately improves efficiency of care delivery by better-focusing the nature of patient interaction provided by care providers.

Achieving the Meaningful Use Goal of Patient-Centered Care by Leveraging Existing Technologies

Probably the most effective tool for translating and conveying electronic health information to patients is already present in every hospital room: the television. Not every patient will have the facilities or ability to navigate complex technological delivery systems. But, even the most vulnerable patients have the ability, and generally the desire, to interact with the television in the patient room. Already recognized as a tool for conveying information to patients in the hospital, interactive television-based communication represents the most logical and powerful tool for conveying and translating EHR data to patients in a form and manner designed to stimulate engagement in hospital care. Interactive Systems turn the patient TV into a two-way communication tool instead of simply a passive viewing device – allowing the measurement of engagement and receipt of direct patient feedback throughout the care journey. Conveyance of patient educational content through video significantly improved knowledge-enhancement as compared to alternative (and generally more costly or time-intensive) forms of education.¹² Research supports the effectiveness of information delivered by television in promoting the core objectives of meaningful use. Many healthcare thought leaders have agreed that the use of video is the best way to inform and educate all participants in the healthcare experience (caregivers and patients) and the TV is a logical, underutilized tool for that delivery. Indeed, HIT policy advisors have acknowledged that video-based solutions, integrated into the hospital data system, can meet the patient engagement requirements of meaningful use.

Analysis of the difficulty to extend EHR integration benefits directly to patients uncovers two of the principle advantages of television-based information delivery. First, in order to achieve the regulatory objective of patient-centered care, the information must be shared in a manner that is understandable and useful to the patient. Second, the information must be received in a de-formalized care environment that empowers the patient to control their own care plan and ask questions about the care aspects they do not understand. A television-based interactive solution addresses both dimensions of the patient engagement challenge. It has the ability to a) translate educational information and patient data into a form that is easily accessible and useable to the patients; and b) deliver the information via a platform

¹² One comparative study on educational forms in increasing “knowledge” of patients relative to sexual behaviors and STDs found the impact of video was “significantly greater than the impact of other interventions targeting knowledge.” Cheryl G. Heaton, DrPH and Peter Messeri, Ph.D., *The Effect of Video Interventions on Improving Knowledge and Treatment Compliance in the Sexually Transmitted Disease Clinic Setting*, 20 J. Am. Sexually Transmitted Disease Assoc. 70 (Mar./Apr. 1993). The value of such communication has been discussed with the Meaningful Use Workgroup. During their listening session on April 20, 2010, one panelist noted the value of television-based communication by emphasizing research showing television to be the most influential means for communicating with and influencing the behavior of teenagers.

that has the ability to create the environment necessary to effectively receive and act upon the information conveyed.¹³

Integrating Meaningful Use Objectives into Long-Term Business Plans

Properly selected and integrated into practice, the same IT that will qualify a hospital for incentive payments will continue to pay dividends beyond the five year period – in the form of increased efficiency, decreased cost and market advantage in an increasingly competitive healthcare environment. The financial benefits of patient-facing tools used in a hospital setting are three-fold. First, technology that encourages patient interaction increases operational efficiency and allows nurses to spend more time providing bedside care. Second, in an increasingly competitive hospital industry, driven increasingly by consumer influence and transparency of data, patient engagement tools unquestionably yield a higher degree of satisfaction among patients. Third, patient engagement at the point of care produces better outcomes, reduces re-admissions and discourages litigation. Not surprisingly – and not unintentionally – the statutory goals for patient-centered care align well with the developing business priorities of hospitals. Indeed, the long-term benefits of patient engagement tools are critical to the transformational aspirations of the HITECH Act: technology that improves the bottom line of hospitals will ensure the continued use of such technology when stimulus funds no longer present an independent incentive.

Patient-centered HIT offers well-supported advantages to operational efficiency and care management in hospital settings. One study by the California Healthcare Foundation reveals that the use of technology in care delivery, including the use of interactive patient systems, results in significant benefit, including a) shifting the focus of nurses from non-essential care duties to higher-level patient service; and b) increasing the efficiency of nursing operations by providing technological solutions to patient education.¹⁴ Further, research conducted by The Advisory Board confirmed the anecdotal findings of nurses reporting the substantial benefits of using interactive communication systems in patient education.¹⁵ Time spent by nurses on patient education was reduced by an average of 12 minutes per patient interaction (a reduction from a 15.3 minute average to 2.9 minutes per patient) while increasing

¹³ The context of data delivery represents an essential consideration in achieving patient engagement objectives. This is particularly true when data is conveyed to patients generally understood as “underserved.” ARQH has defined the playing-field for patient-centered care study by reference to several foundational articles setting forth the key dimensions of a consumer-centered health care system. One such article, Patient Centered Care for Underserved Populations: Definitions and Best Practices, sets forth a number of “core components” for achieving patient-centered care for vulnerable patients groups, including a) a “welcoming environment;” b) care tailored to the individual; c) “patient activation;” d) “socio-cultural competence.”

¹⁴ *Equipped for Efficiency: Improving Nursing Care Through Technology*, Report of the California Healthcare Foundation (December 2008).

¹⁵ *Original Inquiry Brief: Use of Patient Entertainment Systems for Education*, Health Care Industry Committee, The Advisory Board (September 29, 2009).

individual patient satisfaction on the accessibility of patient education from 65% to 95% after interactive system implementation. Interactive patient communication systems deliver health data within the appropriate context in order to yield beneficial use by both the patient and hospital staff.

The third advantage to the bottom-line of hospitals contemplating the extent of HIT acquisitions designed to satisfy the meaningful use requirement of patient-engagement is a lesser-understood component of meaningful use planning: the effect on litigation risk. Even at its conceptual stages, the general requirements of meaningful use, and most-specifically, the vast increase of available patient data and decreased provider control over the form of such information, have raised red flags among healthcare lawyers. The abundant incentives for informational control in order to limit risk are generally understood as one of the primary roadblocks for extensive data-sharing. The very data-sharing that is now contemplated in order to meet the requirements of Meaningful Use is likely to alter substantially the extent to which the patient record will be used in litigation. To the extent that the increased availability of patient records could increase exposure, however, the adoption of patient engagement tools will decrease, to a large extent, any increased risk.

The effective use of patient engagement tools substantially mitigates the risk of malpractice litigation in two ways. First, a properly engaged patient exercising control over his or her care, and sufficiently empowered to engage health providers in the treatment plan, will support better results and custom-tailored outcomes. Research demonstrates that improved patient communication yields better recovery from treatment, improved patient emotional health, and a reduction in tests and referrals.¹⁶ Second, patient satisfaction is increasingly recognized as the critical factor affecting patient decisions regarding filing suit. Patients that are satisfied with their care experience are far less likely to initiate a lawsuit, without regard to clinical outcome.

The critical factor in a patient's determination about whether to initiate a claim against a hospital or treating physician is not the desirability of the outcome, or, in fact, whether or not the treatment involved any actual malpractice. Rather, it is the experience of the patient, and the extent of dissatisfaction with the experience, that will ultimately guide the patient's pursuit or non-pursuit of litigation. In one study, factors related to "patient characteristics, illness complexity, or even physician's technical skills" played no role in predicting lawsuit risk.¹⁷ The predictive factors relevant to lawsuit risk related to level of satisfaction, effectiveness of communication and rapport, administration of care, and extent to which the experience met the patient's expectations.¹⁸ Many lawsuits begin with the patient statement, "I was not informed or educated on what was expected." Therefore, better communication

¹⁶ Moira Stewart, et. al., *The Impact of Patient-Centered Care on Outcomes*, J. Family Practice (September 2000).

¹⁷ Hickson, Gerald, et. al., *Patient Complaints and Malpractice Risk*, 287 JAMA 2951 (June 12, 2002).

¹⁸ *Id.*

and education with measurable engagement and comprehension becomes a valuable aspect of providing better care at lower costs.

Further, the assertive adoption and use of technology designed to promote the patient experience reduces the actual incidence of adverse outcomes, and thus, reduces the incidence of both meritorious and non-meritorious claims. Patient participation as a care team member improves clinical outcomes and promotes patient's adherence to care treatment plans.¹⁹ In some cases, not only can technology assist physicians and other hospital staff in engaging patients, but can offer more effective and consistent avenues for communication than traditional methods alone. In one study, the use of an interactive program to facilitate the patient's treatment disclosures and satisfy informed consent requirements was more-effective in educating patients than traditional doctor's consultations.²⁰

In summary, traditional patient education has focused on print, and while written educational materials will continue to have value, effective communication requires not only data conveyance but also communication of information that is distilled and customized to the unique needs of each patient, delivered through an accessible medium, and designed to engage the patient and prompt sustained engagement. The patient engagement objectives of meaningful use seek to overcome the shortcomings of traditional patient communication, but raw data production will not result in meaningful engagement for the vast majority of patients. Video-based patient technology has the unique ability to facilitate deeper, customizable, trackable and measurable communication with patients, without either the limitations of print or unworkable vastness of raw data production alone.

The initial meaningful use criteria may reflect an early emphasis on the storage and transfer of raw data. But in order to accomplish the core goals of "meaningful use," the policies developed by the regulators will emphasize how the data will be shared with its owner – the patient. Patients cannot command the care process if information is not shared in a format understandable to them. And, ultimately, within the regulatory framework, the patient is the most important "meaningful user." Therefore, it is imperative that technology used and acquired in conjunction with meaningful use have the capability to equip patients to make informed decisions based upon accurate and appropriately-delivered information and empower them to act upon this information throughout the course of the clinical care process. That same technology offers substantial benefit to the bottom-line of hospitals: better clinical outcomes, reduced re-admissions, reputational enhancement, reduced litigation exposure, and increased operational efficiencies.

¹⁹ James W. Saxton, et. al., *Reduce Liability Risk by Improving Your Patient Satisfaction*, Press Ganey Paper (July 2008).

²⁰ *Computer May Offer Better Way to Get Informed Consent*, Reuters Health (April 9, 2010).



While the specific process is undefined by regulation and the criteria for demonstrating meaningful use incomplete, the ultimate objectives for healthcare transformation through use of HIT are well-established. Hospitals that embrace patient-centered care and strategically transform their patient care delivery and communication will be well-positioned to maximize their opportunities under ARRA. Generating an understanding of the function and purpose of these objectives, acquiring technology from vendors with the capacity to measure engagement and modify system particulars as the regulations evolve, and creatively use existing resources to facilitate patient communication, will place hospitals at the forefront of healthcare transformation and on a sure path to achieving meaningful use.