



**Testimony of Hank Fanberg, CHRISTUS Health
To the Meaningful Use Workgroup
Of the HIT Policy Committee Meeting
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Good morning Mr. Chairman, Committee members and noted guests. My name is Hank Fanberg and I am the Director of Technology Advocacy for CHRISTUS Health. Thank you for the opportunity to address the meaningful use workgroup of the policy committee today.

CHRISTUS Health is an International Catholic, faith-based, nonprofit health system comprised of almost 350 services and facilities, including more than 50 hospitals and long term care facilities, 175 clinics and outpatient facilities and dozens of other health ministries and ventures. CHRISTUS services can be found in over 60 cities in Texas, Arkansas, Iowa, Louisiana, Missouri, Georgia, Utah and New Mexico in the United States, with additional locations in Mexico.

To support our health ministry and the nearly 9,000 independent physicians on our medical staffs, our information management profile consists of eight data centers (primary, backup and regional hubs), 2500 servers, almost 500 IT staff, supports more than 600 host based applications, 16,000 desk top devices, 30,000 users, 9,000 physicians on its medical staffs, and 2500 servers across the enterprise.

With several facilities, notably those in Texas and Louisiana located in hurricane strike zones, CHRISTUS has extensive experience in dealing with weather related disasters and the havoc rendered to people, property and the provision of care. Three CHRISTUS hospitals were ground zero for Hurricane Rita and as a New Orleanian I experienced Katrina firsthand and can speak to the cruel impact of chaos and uncertainty. It is partially due to the storm related evacuation of three hospitals and the transfer of thousands to other hospitals that we fully grasp the power and potential of health information and

information and communication technology in care provision not just during natural disasters but for use every day, all of the time.

CHRISTUS Health believes healing takes place in the communities we serve as well as within the walls of our hospitals. We believe in the person centric care model and continuously strive to place the consumer/patient at the core of our efforts. This means establishing a trusted healing relationship with individuals, their families and social support systems. Since 2006, one of our most effective efforts to assure this occurs is the establishment and creation of our “promotura” or community health worker program. I will elaborate on the impact of the community health worker program a bit later.

In 2007, CHRISTUS Health engaged in a focused effort to understand the trends shaping the future in order to ensure that the ministry would be appropriately positioned to continue its healing mission. This task force identified three overarching trends they felt would have the greatest impact in shaping the future of healthcare delivery and therefore, how we must respond. The three trends are:

- I. Consumer Empowerment
- II. Globalization and
- III. Technology

We find ourselves at an inflection point where the network society and knowledge economy enable new opportunities for the organization of the production of products, services and methods to deliver health care. Two of these three trends are the focus today’s discussion.

CHRISTUS Health believes that to be able to continue to provide care we must adopt a person centric model that leverages health IT and Information and communication technology to ensure a continuous and ongoing relationship with the individual based upon the sharing of health information and understanding what it means so actions can be taken. This frequently means changing behaviors. The team must include all providers and the individual. To continue to develop our capability to do this, CHRISTUS expends more than \$50 million a year on its health IT infrastructure, including patient portals, mobility platforms, clinical information systems, computerized order entry, and supports more than 800 separate applications from a single data center and network operations center. We produce more than a terabyte of data each day. Data storage, access and who controls the data are issues that need discussion and consensus. Not only must we engage the consumer, we have an obligation to use

technology that is accessible to all and not just those with broadband access and computers at home, and we need to assure that individuals understand what it is they need to do. This goes beyond the deployment of technology to a trusted relationship. The high tech of the HITECH Act requires high touch else we risk not being successful. Ultimately it's about relationships, trust and shared understanding to influence behaviors of all – the care team as well as the individual.

Using Technology to Reduce Re-admissions

While this hearing is on consumer engagement broadly, I was asked to speak to how EHRs, PHRs, and other information technology are being used to support strategies to reduce readmissions. Ultimately we are trying to change the tires on a vehicle in motion as we strive to deliver the right care, at the right time, in the right setting to the right party. I will speak to the role of technology in reducing preventable readmissions, and then take up some of the specific questions posed by the committee.

Reducing unnecessary re-admissions is not a new activity. Hospitals have worked on this for years. What is known about preventable readmissions?

- Preventable Hospitalization is a measure of the percent of admissions for conditions for which good outpatient care could have prevented the need for hospitalization or for which early prevention can prevent complications or more serious disease as compared to the total number of admissions^{1 2}
- A recent study in the NEJM noted that 20 percent of Medicare patients were re-admitted within 30 days of discharge. Of those, some were planned, or for events unrelated to the first admission, and represent appropriate care. Some, however, were exacerbations or complications from the first admission and may have been prevented with appropriate follow-up care. Preventable readmissions must be reduced for the sake of the patients and to improve efficiency of the health system.³
- The most common causes of unplanned re-admissions are due to a handful of chronic diseases, notable, diabetes, COPD and congestive heart failure⁴
- Research continues on the best strategies to reduce readmissions, including measures to be undertaken in the hospital, at discharge, and after the patient has left the hospital. Among the effective strategies being pursued are education of the patient and caregivers while in the

¹ Agency for Healthcare Research and Quality. 2001. *AHRQ Quality Indicators—Guide to Prevention Quality Indicators: Hospital Admission for Ambulatory Care Sensitive Conditions*. AHRQ Pub. No. 02-R0203. Rockville, MD: Agency for Healthcare Research and Quality.

² Davies SM, Geppert J, McClellan M, et al. May 2001. *Refinement of the HCUP Quality Indicators*. Technical Review Number 4 (prepared by UCSF-Stanford Evidence-Based Practice Center under Contract No. 290-97-0013). AHRQ Pub. No. 01-0035.

³ Jencks, Stephen F., Williams, Mark V., and Coleman, Eric A. 2009. Rehospitalizations among Patients in the Medicare Fee-for-Service Program. *N Engl J Med* 360 (14):1418-1428.

⁴ AHRQ Quality Indicators Web Site: <http://www.qualityindicators.ahrq.gov>

hospital, enhanced discharge planning to ensure good care coordination and medication management, and monitoring the status of patients post-discharge. Reducing readmissions takes a team approach that involves the clinical care team working with the patient and family caregivers.⁵ Note that the majority of the effort in preventing unnecessary admissions occurs in the ambulatory setting, not the inpatient setting.

- Care, however, does not occur in a vacuum. Whether we recognize it or not, there are social and economic elements that are as important to successful outcomes as the actual procedure itself. How do we support the octogenarian who lives alone? Where does a homeless person go to recover upon discharge? Do we stop to make sure the patient and their support system, whomever and whatever it may be, comprehends what happened and what to do next?

How do EHRs, PHRs, and other information and communication technologies support strategies to reduce readmissions?

- To be successful, three conditions must be met:
 - Data must be collected;
 - Data must be shared; and
 - Data must be interpreted and turned into information that is used for decision making and for influencing behavior change.
- These technologies do not, on their own, reduce readmissions. They can, however, help the care team educate patients, coordinate care, and monitor patients post-discharge to improve results. A few examples include:
 - EHRs with medication lists support a focus on medication management as part of discharge planning;
 - For patients with certain conditions, such as congestive heart failure or COPD, remote monitoring post discharge can provide physiologic data that is used by the care team to manage medications and detect changes in health status before an acute episode occurs;
 - Electronic transmission of discharge summaries and instructions can facilitate coordination with primary care providers; and
 - Patient access to their health records, through a patient portal or PHR, may help with self management post-discharge.
- **Data Normalization.**
 - Sending and sharing information among multiple EMRs and PHRs requires data normalization if the data is to be meaningful. The data needs to be pertinent and easily placed into the context with all the other data elements in the EHR. Will the clinician be held legally liable for missing something that is non-normalized? Will everyone be expected to incorporate scanned documents that cannot be manipulated or used without somehow manually extracting the data? Un-normalized data can be very useful but it also introduces unacceptable levels of risk and effort to incorporate.
- Note the emphasis on communication and teamwork.

⁵ Effective strategies for reducing readmissions have been developed across a number of research initiatives, such as the Re-Engineered Discharge Project undertaken by Boston Medical Center funded by AHRQ and adopted by the Joint Commission. For a summary of effective discharge strategies, see the Health Care Leader Action Guide to Reduce Avoidable Readmissions. January 2010. Health Research & Educational Trust.

In the next section, I will speak to my hospital system's experience using the EHR and remote monitoring to reduce readmissions. In our institution, however, and across the hospital field, experience using PHRs is limited, and often focused on treating chronic disease in an ambulatory setting, rather than addressing acute episodes.

A recent study indicated that only 7 percent of Americans have used a PHR. In the same survey, 61 percent indicated that they did not need a PHR to manage their health needs.⁶ According to a 2008 survey of hospital use of health IT conducted by the American Hospital Association, only 11 percent of hospitals have an electronic system that allows patients to view their discharge summary online.⁷

The value of the PHR in reducing readmissions depends on each patient's access to and comfort with using the PHR, as well as the existence of an infrastructure that allows the hospital to efficiently populate the PHR with relevant data from the hospital stay. More experimentation and research are needed to understand when and for whom PHRs are a valuable piece of post-discharge care.

The CHRISTUS Experience

CHRISTUS Health has had promising experience using technology to reduce readmissions, and plans to build on its EHR system for new initiatives.

Like other institutions, CHRISTUS has found that most successful programs to prevent re-admissions require a team approach with much interpersonal communication between the patient and care team, with an assist from remote monitoring and other information technologies.

CarePartners Program

In 2006, CHRISTUS implemented new strategies to reduce preventable hospitalizations. Two of these strategies were our "CarePartners" program and Care transitions program.

⁶ California Healthcare Foundation. Consumers Health Information Technology National Survey. April 2010.

⁷ Unpublished data from the Information Technology Supplement to the 2007 AHA Annual Survey (conducted in spring 2008).

The foundation of our 'CarePartners' program is the deployment of community health workers that work with patients after discharge. The program started by identifying high users of our emergency departments that also had high rates of admissions. Each individual was paired with a community health worker who is responsible for focusing on many of the non-clinical aspects of care – the most important being frequent communication with the individual. The community health worker makes sure the individual understands their instructions, knows how to take their medications, reminds them of appointments with their providers and makes sure they have transportation to make the appointment. Since the program's inception our community health workers helped 397 patients manage their health. These patients served by the community health workers reduced their emergency department visits by 16%, inpatient admissions by 35% and average cost of care by 43%. The electronic tools they used are text messaging, cell phone contact and data collection by the community health worker. As we continue to develop the program we continue to seek ways to automate these processes. However, communication is a critical factor in the outcomes we have achieved. Simply collecting the data is insufficient.

The important point here is that when we think about patient engagement in health IT we cannot think monolithically. We know that many families in our service area do not have a computer at home but they all have a cell phone. They may not have internet access at home but they have TVs. We need to assure that the technology tools we use are tools the individual can access and use also. It is not a "one size fits all" world.

The care transitions program allows the order set to transition with the patient when they go from inpatient to outpatient care. Care transitions increase the risk of error; therefore it is important update the order sets as the patient transfers from inpatient to outpatient. As this is a tool for the care team, automating the process and enabling electronic alerts and communication becomes important in support of care. The order set can also be used for patient education but has its greatest impact if that education is in a format the patient prefers – it may be visual, aural or written and delivered to the patient in the electronic format they prefer

Experience with Remote Monitoring

CHRISTUS Health started deploying remote monitoring devices in individual's homes more than five years ago. Initially they were used in conjunction with someone being discharged from the hospital with the need to collect physiological data under constrained conditions. Automating the collection and sending of this data to the care team provided many benefits to both the patient and care team including convenience, ease of collection and dissemination, reduced travel and increased accuracy. Our patients love the ability to generate this data from their homes. We discovered it made them feel empowered and in some control, in addition to their feeling as if they a part of the team contributing to their well being.

As mobility and connectivity capabilities increase, we expanded this program to include not just those who are home bound but those who are ambulatory and going about their daily lives. To do so, we needed different technology and found the cell phone to be the ideal tool.

Experience in Promoting PHRs.

CHRISTUS has had mixed success in promoting PHRs. Five years ago, as part of a maternity campaign, CHRISTUS distributed a PHR to more than 20,000 women of child bearing age. They could use this PHR not just for themselves but for all their family members, including their children. They could keep a record of all their children's' vaccination and inoculations. Five years ago, in Corpus Christi, Texas we developed an electronic "personal health journal" for first responders to use when a medical emergency call was made to 9-1-1. At that time, Corpus Christi deployed a municipal wide wi-fi network that stretched over more than 150 square miles. EMS is run by the city's fire department which had just installed laptops in all their ambulances. The paramedics and emergency physicians designed the data elements for this personal health journal. Turns out it was a pretty close match to the CCD/CCR. We called it a personal health journal (PHJ) and not a PHR.

What we learned from these two 'PHR use cases" is that individuals must be motivated and see value if they are to consistently use a PHR. The emergency response PHR had a specific purpose which was easy for everyone to understand. It also did not have to be updated on a continuous basis. That's why we called it a PHJ and not a PHR. Today, we are working with a local pharmacy chain to automate the population of medications into that PHJ, which is in active use.

The maternity PHR initiative was less than we hoped it would be. Less than 500 people used the PHR. We believe one of the major contributing factors was the amount of time required to manually enter data into the PHR. Perhaps we were ahead of our time. Now, much more data is liquid and it is becoming easier to auto-populate the PHR. But the issue of its use remains. And it is the physician and the hospital that are held responsible, not the patient.

In summary, we aren't going to solve all our issues by technology alone, it's the entire ecosystem we need to be concerned with and as a part of the ecosystem the PHR must be easy to use for the individual regardless of the technology available to them and if the goal is to share that data with the clinician, its integration and into the clinician workflow and the expectations of what the clinician should do with the information must also be agreed upon.

Thank you for the opportunity to share the CHRISTUS experience in using technology to support care. Below I provide thoughts on your specific questions.

Answers to Specific Questions

a. What is the role of patient-generated data in improving health of individuals? What is the evidence?

Our goal must be to improve the patient's preparedness for self care. One of the tools to accomplish that is the PHR, but other technologies are also important.

- The evidence on PHRs is not conclusive at this time. What it shows is that the individual or a family member must be very motivated to use and maintain a PHR. In addition, many PHRs are not intuitive, just as many EMRs are not. While patient narratives and physiological data are important, some argue the most important factor is patient education and communication. Not just once but continuous, ongoing communication and education that is delivered in the individual's preferred way.
- The evidence supporting the value and impact of remote monitoring continues to grow.
- Communication tools such as text messaging and bi-directional video visits have been shown to improve comprehension, retention and make the patient feel more capable of following orders and managing their needs. However, more study for post-hospitalization methods is still needed.

b. How can patient-reported data be integrated into EHRs and the clinicians' workflow to improve care management?

- This will take careful thought to ensure accuracy and efficiency in retrieving and using the data.
- We find the medical community divided regarding the value of patient-reported data. Some of the data such as physiological measures from remote monitoring are important and welcome. Other information is viewed as potentially adding data points without adding knowledge. Many physicians are concerned about the accuracy of unverified patient entered information, and prefer to gather information through methods they believe ensure accuracy.
- Require the data to be normalized. To be used effectively and efficiently, data needs to be normalized else we create additional levels of risk that may be unacceptable to clinicians as well as the individual.

c. How can future conceptions of personal health information platforms and information tools facilitate patient-centered care, including transparency, coordinated care, patient activation, while protecting patient privacy?

Personal health information platforms will, in the future, draw data from many places. In this conception, hospital data becomes just a piece of the information controlled by the patient. Health information will need to be supported by educational materials and tools for self-management, and tailored to needs of individuals.

d. What is the role of the patient in ensuring data in EHRs is accurate?

While we believe in a patient-centered health system, and patients should be the control point of all their health information, providers have a legal obligation to maintain a medical record and must document the visit. Under HIPAA, patients can review information in the medical record and ask that it be amended, as appropriate. We must also assure that audit trails are in place and that data cannot simply be changed by any one party. Also, physician perception that person entered information is not reliable needs to be overcome.

e. What are your recommendations for meaningful use criteria for 2013 and 2015 that are achievable by a broad spectrum of providers?

The meaningful use framework needs to give providers flexibility to make incremental progress in adopting EHR systems over time. The AHA has identified a set of 34 objectives and measures that would represent the 2017 vision of meaningful use for the inpatient hospital environment. Hospitals would follow multiple paths to reach that vision, which includes the following objectives related to engaging patients and providing them with access to their medical records:

- Electronic copy of health information to patients on request

- Electronic copy of discharge instructions and procedures at discharge, upon request
- Contribute data to a PHR
- Record patient preferences
- Provide electronic access to patient-specific education resources

Some final comments: It's important to understand the key role and responsibilities of the hospitals in achieving the five national health goals promulgated by HHS/CMS/ONC. It is my personal view that like the FCC rural health care pilot program, hospitals have been overlooked as a meaningful component of achieving these goals. Many hospitals are ahead of the game. But an "HIE of One" (Patrick Rossingol, Deloitte Consulting) while an acutely accurate description is not the model promulgated by ONC. Many hospitals already have their own HIE "of one" not because of external incentives and disincentives but as a foundational component of their quality improvement and care coordination ongoing work. Many hospitals already exchange lab tests, accomplish automated electronic medication reconciliation and administration, provide medical education to its patients and their families and are at the forefront of assisting physicians adopt health IT such as CPOE and electronic medical records. Indeed, the first time most clinicians experience an EMR is in the hospital setting, not in the office setting. The RECs are not focused on hospitals, even with the supplemental funding for supporting the ambulatory side of Critical access hospitals. Hospitals are and will continue to be a crucial part of their community, of care provision, of physician involvement and in improving the quality of care, access to care and the cost of care.