



Catholic Healthcare West

Testimony
HIT Policy Committee
Privacy & Security Tiger Team
Patient Linking Hearing
December 9, 2010

INTRODUCTION/OVERVIEW

On behalf of our 41 hospitals in Arizona, California and Nevada, Catholic Healthcare West (CHW) appreciates the opportunity to submit testimony to the HIT Policy Committee's (HITPC) Privacy and Security Tiger Team (Tiger Team). CHW is the eighth largest hospital system in the nation and the largest hospital provider in California with 41 acute care facilities in California, Arizona and Nevada. In California alone, this represents 35 hospitals located in rural and urban areas, from the Oregon border to the Los Angeles Metro area. In Nevada, CHW hospitals exist in Reno and Las Vegas area; in Arizona, CHW hospitals are in the Phoenix Metropolitan region. In addition to our hospitals, CHW is proud of our network of over 10,000 affiliated physicians and more than 54,000 employees dedicated to delivering high quality care during more than four million patient visits annually. In 2009, CHW provided nearly \$1.2 billion in charity care, community benefit, and unreimbursed patient care.

CHW is proud to be a part of the healthcare ecosystem in the communities we serve and partner with physicians and other providers to create care networks. The vast majority of our facilities are not integrated, mostly due to the ban on the corporate practice of medicine in California, which prohibits hospitals from directly employing physicians. This means that, in addition to investing in hospital information systems, CHW has to ensure there is sufficient connectivity available to physician partners. In addition, CHW communities are all unique, ranging from true rural settings where there is very limited infrastructure or connectivity to urban settings with sophisticated existing networks operating a successful health information exchange locally.

CHW is committed to our mission of providing compassionate, high-quality care to all and strongly supports the use of Health Information Technology (HIT) to transform health care delivery by improving quality and efficiency while reducing costs. In 2008, CHW embarked on a \$1 billion enterprise strategy to have Electronic Health Records (EHRs) implemented in all our hospitals and clinics and provide connectivity to affiliated physicians online by 2016. To date, CHW has eleven hospitals live on advanced EHRs including Computerized Physician Order Entry (CPOE) with over 80% of orders entered by physicians. The remainder of our hospitals have a wide variety of foundational electronic records systems. CHW has 23 hospitals live with information exchange connectivity, including approximately 2.5 million patients and over 2,000 physicians.

Much like the majority of the health care community, CHW is making this tremendous investment while absorbing the enormous costs associated with the implementation of a number of other initiatives, including meaningful use, ICD-10 and 5010 revisions to

standardized transactions, which require additional resources. All these requirements amount to enormous costs, workflow changes, policy and procedure updates and the retraining of tens of thousands employees, while hospitals are struggling to survive in a changing economy amidst drastic changes in the delivery and reimbursement of care.

CHW believes patient linkage is one of the most important areas of focus within health information technology policy and the technology simply does not exist to provide patient identification at the level of accuracy that is full-proof. Fundamentally, accurate patient matching is a human-driven process, dependent on the education, training and commitment of all persons in the chain, from the front-line receptionists and admitting clerks to clinical staff to executive leadership and all the entities that touch the information, including employers and insurance providers. Though some technologies do exist to identify potential medical records to reconcile or link, many decisions for merging or linkage ultimately must be made by a person. Thus, CHW urges the ONC to conclude there is no pure technology fix to managing patient records, but rather technology should be seen as a vital tool to significantly enhance the workforce's ability to create and maintain accurate medical records. As such, CHW looks to the ONC to encourage and facilitate the development of standardized data solutions to patient matching that are aligned to the health outcome goals of improving care quality, improving access to care and reducing the cost of care. Accurate patient linking and safe records exchanges across diverse health care participants are vital to reaching these health outcome goals.

CHW PHILOSOPHY

To achieve the full potential of technology, CHW believes Electronic Health Record (EHR) implementation must be viewed as a systemic clinical change process, not just the creation of an electronic version of existing practices. Fundamentally, successful EHR implementation and data integrity is dependent on successful human workflow strategies through performance requirements of front-line staff through the data chain championed at the system executive level.

CHW's experience has shown the implementation of a robust EHR system is really a three phase process:

- 1) Laying the foundation: Includes redesigning patient care workflow processes and information hand-offs, designing and implementing new computer technologies, training and educating nurses and physicians and establishing required management and oversight functions to ensure patient safety and privacy;
- 2) Managing with information: Provides new opportunities for improving care that are available with better data to strongly focus on continuous quality improvement; and
- 3) Transforming clinical care: Ultimately realizes the benefits of data and information accuracy to reduce care variability, improve patient safety, care quality and overall efficiencies in the care process.

CHW strongly supports the use of technology to increase connectivity among health care providers and increasing access to high quality of care, while strictly guarding the safety and security of protected health information. In doing so, CHW agrees the overreaching goal of Health Information Exchange (HIE) is to enhance patient care by making health information available across the spectrum of providers while protecting the privacy of that information. To do this, clear and comprehensive policies are being developed to strengthen existing protections and address gaps as they present themselves, building upon new and emerging technologies and identifying new opportunities for patients to control their information. The ultimate goal is a transformed health care delivery system, incorporating a wide continuum of providers to improve workflow, clinical decision support and health outcomes.

MANAGING PATIENT RECORDS

Accurate patient identification verification is a critical issue that has serious patient safety and health care quality implications. Inaccurate patient identification poses huge risks, providing a false sense of security in medical records that have incomplete or incorrect patient information. Patient matching requires a cumbersome process to accurately match each patient based on demographic information, including patient name, date of birth, Social Security Number (SSN) – if it is provided – and/or street address and gender. This process is done manually by staff with help from technology that looks at records to identify potential matches based on deterministic and probabilistic algorithms. The algorithms are able to estimate the probability of potential linkage, but many of the records must be manually reviewed before a match is confirmed. Even with this technology in place, CHW’s experience mirrors the national duplication rate of 8-12%, with our lower error rates correlating to our most sophisticated systems.

During the day-to-day work of assessing patient linking, a reviewer can arrive at one of four conclusions:

- 1) Positive matches, where patient records are linked and really belong to the same patient;
- 2) False-positive matches, where patient records are linked, yet really belong to different patients;
- 3) False-negative matches, where patient records are not linked, yet really belong to the same patient; and,
- 4) Negative matches, where patient records are not linked and really belong to different patients.

Of course, pure positive or negative matches are helpful for the maintenance of “clean” records. However, false-positives and false-negatives are intrinsically bad and can lead to life threatening situations with misleading, erroneous, or omitted records.

Solving patient matching issues is primarily important for direct patient care delivery, and is also critical for the administration of healthcare services in an increasingly complex infrastructure. Patient matching becomes proportionately more difficult the

larger the entity is and the more it is separated from the patient. For example, a physician practice with limited number of patients and a small staff assigned to maintain patients' records is more closely connected to a patient than a hospital, made up of different departments with different systems, all charged with maintaining a singular record for each patient. As entities expand outside hospitals and direct providers, the issue of patient matching becomes more and more complex. HIE presents an even bigger challenge, both in the case of directed exchange, or "push messaging" where the patient is known and directing the exchange, and more significantly in cases where there are more complex exchange patterns, such as query for records, which by nature depends on patient matching accuracy and efficiency to work.

CASE STUDY – DEMOGRAPHIC DATA QUALITY PROJECT

To illustrate the tremendous amount of work associated with "cleaning up" patient records, the Demographic Data Quality Project (DDQP) was undertaken by a Health Information Organization (HIO) in which CHW is a participant. Note that this effort took place in just one of CHW's many markets. The HIO has provided exchange capabilities to providers within one community for fourteen years. Throughout that time, the HIO operated with little manual reconciliation of patients or effort to eliminate duplicates, simply relying on the built-in tools provided by the vendor as well as various trained people at the end points to match and "clean up" where possible. Various sources fed clinical data into the HIO, which was then delivered to participating providers as either matched or unmatched to a unique patient in the master community patient index.

The HIO governance undertook the data quality project prompted by meaningful use and the realization that all data needed to be more accurately and uniquely matched to support Personal Health Records, create accurate longitudinal health records across a community, support medication reconciliation, and be supportive of exchange standards like XDS.b and effective Continuity of Care Documents/Continuity of Care Records (CCD/CCR). Demographic data quality is also at the heart of clinical quality initiatives and a root cause of payment delays, denials and rebilling. The project builds on the fundamental principle that clinical data must be matched to the correct patient. The project is described below:

Methodology

Like in most systems, when a clinical message cannot exactly be matched to an existing record, either a new patient record is created in the community master patient index or the clinical message is delivered to the named providers but no new patient is created, leading to duplicate patient records and suspected duplicate patient records that need to be resolved manually. Beginning in the summer of 2009, the HIO invested 3 months in assessing the magnitude of the problem and created a plan to address patient demographic data quality. The assessment determined that every entity shared responsibility for the problem, starting with patient enrollment, registration, check in, providers and the various vendors. Contributing to the issue in some locations were a lack

of training and guidelines, outdated systems, lack of standards and best practices, lack of measurement of data quality and inadequate supervision.

The HIO then identified a core Demographic Quality Team:

- Project Lead (8 hours / week)
- Data Analyst (5 hours / week)
- Subject Matter Expert (4 hours / week)
- Data Clean Up (1 FTE)
- Site administrators, interface engineers and vendor representatives

After the assessment and developing a strategy, the team began to address the training and education issues and began to identify and rank data sources according to quality of data.

Findings/Action

Below are some findings the team uncovered and the actions taken to address those system issues:

Finding	Description	Corrective Action
Intentionally inaccurate data	Routine sending inaccurate patient SSNs as 123-45-6789, a number pattern such as 999-99-9999 or 121-21-2121 for thousands of patients.	Either those sources changed or we turned off SSN for that source.
	Entering the address of the clinic itself in order to prevent mail from going to patients' homes.	Changes to the data feeds and/or education were provided to change the behavior.
Local work arounds	Use of demographic data fields to provide local work arounds to identify patients to support internal reporting projects. Also found the entering and sending of accession number in the patient Medical Record Number field as a work around to get the accession number to the recipient.	Changes to the data feeds and/or education were provided to change the behavior.
Newborns	Babies are initially given the name "BABY", plus the mother's maiden name. When the baby is given a legal name, the name might auto update to the family name, but sometimes this does not happen and a duplicative record is created the next time that baby has another visit. Although there exists a data feed from the vital records department, current law prevents the sharing of the mother's maiden name, making accurate linking challenging to impossible in some cases.	The HIO currently has 16,000 individuals with the first name BABY. A separate project is underway to address this issue.

Finding (cont.)	Description (cont.)	Corrective Action (cont.)
Name variations	Hyphenated names, names with special characters, marriages, suffixes and people using something other than their legal name all present challenges.	The HIO is working to develop some standardization on how systems should accommodate variations.
Electronic prescribing	In order for a provider to submit an e-prescription, the patient must exist in the system. In some cases when a provider could not find that patient in the system, he/she created a new patient record using minimal patient demographic data. This resulted in duplicative records and created a record that is difficult to match to the correct patient. Given the minimal information included in the record, it is difficult to tell if the two are the same patient or two different patients.	Education was provided to change the behavior.

System Solutions

The solution to clean up the data is threefold:

- 1) Manual data clean up: This role is split across three people and requires intense concentration and attention to detail and can only be performed for several hours at a time. The total effort on an on-going basis toward cleanup is 1 FTE;
- 2) Technology solution: In early 2010, the project team included the MPI vendor in the weekly calls regarding issues and by mid-year had identified a number of enhancements in the software. These enhancements are due to be installed in early 2011; and
- 3) Training: The community wide training and best practices guide will be offered to all stakeholders in early 2011 and each stakeholder will be encouraged to incorporate this material into their organization's policies and procedures. Additionally, HIO interface staff will work with feeds to address shortcomings in their software or process in order to standardize the data.

Results

The team has observed that quality feeds on itself. As duplicate patients are consolidated, fewer new duplicates are being created since the incoming data conclusively is linked to an identified unique patient. Conversations with site administrators led to changes that immediately improved the data matching. In the year since this project was established we have seen dramatic improvements; nearly a 50% drop in suspected duplicates. A 70% drop in people who share a SSN. A reduction in unidentified patients named BABY.

The HIO has learned the magnitude of most patient matching issues can only be identified at the data source with the affect propagated to the community, where mismatch trends and patterns are illuminated. The findings and solutions identified through this project illustrate the need for human change in activity and data gathering that can only be enhanced by technology. Over time, as providers adopt new systems that are compliant with meaningful use, and with appropriate training and best practices to manage patient records in the HIO, the number of duplicate records in the community master patient index will decrease.

Project Status

Item	Summer 2009	End of year 2010	Comment
Population in Medical Trading Area	300,000	300,000	Collected data electronically since 1992 via electronic feed (ADT and batch file load) and manual entry.
Data Sources			Brought on in stages from 1996 through 2010. Current participants: 2 hospitals, 2 safety net clinics, 2 large medical groups, 2 large practices, 400 Doctors total.
Total Number of Patient ID's in Community Master Patient Index	527,000	570,000	Includes duplicates, out of area patients visiting ED, and deceased patients.
Total number of suspected duplicative patient records identified based on a number of algorithms	135,000	74,500	The number of duplicates is likely larger due to complications identifying married persons and other factors
Number of patients that share a SSN	41,000	17,000	Usually due to a data source feeding in the same SSN for all members of a family.
Number of patients with the first name BABY	17,000	16,000	Since new babies are added every day, more progress is being made on this than is reflected in the number.

CONCLUSION

The emphasis of this testimony is intended to describe the patient linking problem from a provider's point of view. Clearly, patient linkage is an enormous challenge with sometimes dire consequences. Unless the issue is appropriately addressed, it could truly hamper the use of EHRs and affect the way providers can truly coordinate care as we are being asked to do under the Patient Protection and Affordable Care Act (ACA). As the Tiger Team develops recommendations to the ONC, CHW urges it to recognize the fundamental need for human intervention that should be enhanced by technological solutions. As such, CHW looks to the ONC to provide national leadership by establishing a roadmap or framework that will allow stakeholders, including providers, states, patients, consumer advocates, vendors, payers, and the federal government, to tackle this problem in a manageable way that is cost-effective, elevates best-practices and promotes interoperability.

CHW recognizes federal leadership is needed to prevent 50 states from embarking on completely different and potentially conflicting strategies. In its leadership, CHW urges the Tiger Team to recommend the ONC maintain the necessary flexibility to pursue

alternative solutions, including the consideration of a voluntary medical record identification program as a way to engage patients - and getting their consent to share information with other providers – as a way to incrementally address the larger issue. Patient linkage is complex and there will likely continue to be several practical approaches to addressing it. The federal government can facilitate solutions by providing a forum for stakeholders to share best practice solutions, alternative approaches and the outcomes analysis and the healthcare community works together to build solutions.

Finally, CHW urges the Tiger Team to advocate for the coordination of federal regulatory agencies and federal regulations to address this and other health information-related policies. CHW urges these agencies work together to reconcile the discrepancies in those regulations to provide a clear regulatory framework that stakeholders can rely on as we continue to invest resources to implement technology to elevate the quality, efficiency and reduce the cost of health care.

CHW appreciates the opportunity to submit testimony. CHW will continue to support and participate in federal and state processes, understanding the implementation of advanced EHRs and health information exchange will be a pivot point to a transformed healthcare delivery system. We hope our comments are helpful.

ABOUT CHW

Catholic Healthcare West (CHW), headquartered in San Francisco, CA, is a system of 41 hospitals and medical centers in California, Arizona, and Nevada. Founded in 1986, it is one of the nation's largest not-for-profit health care systems and the largest private hospital system in California. CHW is committed to delivering compassionate, high-quality, affordable health care services with special attention to the poor and underserved. The CHW network of nearly 10,000 physicians and approximately 54,000 employees provides health care services to more than five million people annually. In 2009, CHW provided nearly \$1.2 billion in charity care, community benefit, and unreimbursed patient care. For more information, please visit our website at <http://www.chwHEALTH.org>.