

Written testimony for the Implementation Workgroup of the HIT Standards Committee
by
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I would like to thank the Implementation Workgroup of the HIT Standards Committee for inviting me to participate in the Providers Panel.

When I was asked to participate in this panel discussion and submit this written testimony 7 days prior to the meeting on October 29, 2009, I reflected on what my role should be. I looked at the various presenters and their expertise and what they brought to the Implementation Workgroup meeting. I felt that I would have the greatest impact if I presented my real-life experience as a physician in a small practice who has been using computers in the healthcare field for over 26 years. As a board-certified family physician who recited the Hippocratic Oath more than 30 years ago at my graduation from medical school, I felt it important for me to keep the focus primarily on the people I pledged to serve, my patients. To that end, I felt that I have always based any process or implementation with my patients in mind and how it would affect the delivery of care to my patients. If I remain focused on the primary purpose of delivering the best medical care to my patients during this testimony, I will be helping the Implementation Workgroup understand why their work is so important for the patients and their health providers in the communities in which they serve.

I also realized that I represent physicians in small practices and all U.S. physicians who have implemented electronic health records or will be soon be considering implementation. Let me describe our practice (Skyline Family Practice) and thereby give you an idea of my experience. I came to Front Royal, Virginia with my young family back in 1984 after having served in the Public Health Service as a National Health Service Corps physician in northeast North Carolina for 2 years. Back then (in North Carolina), I was able to implement what was the best computer system (available for small practices) at the time. It was a non-networked IBM PC with an 8086 processor with green screen CRT that was barely able to do the medical billing program we installed. When I came to Front Royal, I joined a full-service family practice that included obstetrics. At that time we were able to implement a medical billing program for our 4 physician practice with a "tower PC" with a whopping 10 MB Winchester hard drive running on an obscure operating system known as RMCOS. We even set up an intra-office messaging system using WYSE terminals as our practice grew. I left that practice in 1991, to work full time as an emergency room physician. However, I realized my love of service to patients and their families and the continuity of care delivered as a family physician. So, based on my prior experience with computers, I opened my solo practice in 1994. I went "live" with a fully integrated system including an EHR, appointment scheduler and medical billing. Back then, my choices for an EHR were narrowed down to 2 programs, Practice Partner and Medicalogic. I went with Practice Partner (which, at that time was an MS-DOS program, using Windows for Workgroups 3.11 on a Novell NOS with a whopping 1 gigabyte SCSI hard drive!). As a testament to Practice Partner with its integrated and evolving group of products, I have not changed from that EHR vendor since 1993 when I bought the trial version. Let's fast forward to 2009 to describe Skyline Family Practice, from an IT perspective.

Skyline Family Practice is now a 3 physician practice with over 12,000 registered patients. We have hardwired PC's in every room of the office except the bathrooms and the reception area! As mentioned above, we use Practice Partner (most recent version fall 2009; now a McKesson

product). On the clinical side, all aspects of clinical care are as electronic as possible. This includes:

- a lab interface (with a regional lab),
- digital EKG and spirometry.
- on-demand patient education (within the EHR)
- electronic prescribing to (and from) pharmacies (local and national pharmaceutical warehouses)
- use of voice recognition software for free text entry when progress note templates are inadequate
- real time use of both custom knowledge bases and internet knowledge bases

On the front office side, we have an appointment scheduler with the EHR. We have an automated appointment reminder system that calls patients before their appointment so that they can confirm or cancel their appointments or leave a voice message. From the billing side, we submit claims electronically and receive remittances electronically and have the payments with adjustments applied automatically. On the communication side, we have a website that provides resources for our patients. Besides educational items, the patients can register, do virtual online visits, request refills or appointments and communicate to the physicians securely. Additionally, they can pay their bills online. A recent process enhancement allows the patient's to do their medical history online before their office visits. This program (Instant Medical History) uses branching logic which enables patients while online to progress quickly through adjustable questionnaires from an extensive medical knowledgebase. Their histories are then securely downloaded for entry into the EHR for their upcoming visit. This allows the staff and physicians to focus on the patient's needs rather than waste precious time in documentation. We will soon be implementing a web interface for even more increased communication with our patients so that they will be able to review their medications and selected portions of their history directly from their EHR chart. Additionally, other physicians (i.e. emergency room physicians and hospitalists) will also be given limited access to review lab and medications.

One of the questions from the workgroup addresses the implementation of interfaces with challenges and successes. Our first challenging and ongoing interface is that of interacting with the world of paper. The outside world has made little progress since 1994 when we opened. Even though we have a fax server that receives and sends digital faxes, we continue to be challenged by the outside world's ability to generate a huge number of faxes. (For information, on how we have dealt with this, please refer to the article, "How to cure a bad case of Fax-orrhea", Journal of Family Practice Management, March 2005, <http://www.aafp.org/fpm/20050300/76howt.html>). This deluge of incoming paper continues to be a problem. Luckily, we have efficient methods to scan relevant patient related data into the patient's chart. Even after all these years, we still had lingering "paper metastases" across the office including some paper charts which essentially consisted only of consents of various types, etc. However, I am happy to say we got rid of the paper charts in 2007 as we move toward a paperless practice. A daunting problem for physicians who are considering implementation of an EHR is how they interact with the paper world. Thankfully, many other healthcare systems are moving toward paperless ways of communicating with physicians. Interfacing with those other health systems (referral physicians, community hospitals and tertiary centers) will need a consistent standard to allow physicians to import relevant health data into the patient's chart. Dealing with paper continues to be one of the "interfaces" that drive many practices to distraction and can make them incredibly inefficient with ever mounting costs.

A question was raised by the workgroup about how the workgroup might mitigate problems and accelerate adoption of interoperable health information technology in order to improve health care quality and cost-effectiveness. As you have noted, the challenges seem nearly

overwhelming to the small practice contemplating implementation of an EHR. Even for large medical groups/practices, the challenges are significant (given their economy of scale). Hospital systems are distracted by many other operational needs and requirements. Some hospital systems frankly ignore the importance of interoperability with smaller practices. Other systems decide on an EHR which they will support with a "take it or leave it" approach. In other words, either you get that EHR the hospital system supports or you will be left out to fend for yourself. Sure, helping hospital systems finance the interfacing with all practices who have certified EHRs will help. However, more important would be having a standard communication interface for clinical data.

Besides paper, perhaps the most difficult interface that was developed for us occurred back in 1998 when we decided to implement a laboratory interface. We decided to stay with our regional lab even though this was going to be a learning process for us both. Thankfully, they helped underwrite the costs involved in configuring and testing the interface with our EHR. After months of developing the appropriate translation files to read the ASTM file format, we developed an interface that worked. At that time, the lab would put the files on a 3.5" floppy disc which was delivered by courier. Upon receipt, we then were able to load the appropriate lab into the appropriate patient chart of the EHR. We affectionately called this our "sneaker net" since the fears of using the Internet (for FTP file transfers) due to HIPAA loomed. We have since switched over to a real-time internet based HL7 bidirectional interface with Piedmont Medical Lab (which is the same lab). Based on our experience and discussions with many other practices, I am acutely aware of the possible pitfalls that interoperability interfaces bring to small practices. The interface process is different for each laboratory company. Even if they use the standard ASTM format, they interpret it in different ways and use a different terminology for individual lab tests. This then requires separate identifiable costs and processes to configure those interfaces. This is obviously a strain on any practice but in particular a small practice. Sometimes even the same laboratory company will have regional differences in how they implement a lab interface for their particular customer. It is important that a single standard for laboratory data be selected nationally. Additionally, there should be an implementation guide that prevents variation within the standard with standardized terminology.

Working with reference laboratories on interfacing is easier than working with hospitals based on discussions I've had with many physicians over the years. True, a comparable few practices across the country that use our EHR have been able to develop interfaces with their community hospitals or health systems they refer to. As previously mentioned, the hospitals/health systems are somewhat reluctant to develop interfaces due to their own operational costs and distractions. Sometimes, hospitals will throw up acronyms or words such as "JCAHO", "HIPAA" or "STARK" to fend off the pleadings of practices to interface with their community hospitals. Some in the hospital industry and physicians alike would like to see possible government funding for hospitals to help develop interfaces with the very group that refers patients to the hospitals, the local physicians. Laboratory data is but one interoperative interface that many physicians long for. From radiology and pathology reports to discharge summaries, the relevant data is delayed in getting to the primary physician much less into the patients chart in the EHR. Many of the forward thinking health care systems are wrestling with the process of interfacing with physicians. I am happy to say that I believe our health system, Valley Health System, understands this need and is developing plans to implement lab interfaces and other interfaces with the practices that refer patients to their system.

An example of a failure of lack of clear consistent standards might be considered when thinking of the electronic submission of third party insurance claims. We suffered a significant loss of cash flow over a two-month period back in 2005 when we started submitting electronic claims. This was due to the fact that although there was a standard for electronic submission of claims, the interpretation and implementation of those standards was left up to the third-party carriers.

As a result, there were data fields that were different amongst different carriers. The delays in refining the different claims needs of the carriers caused us to nearly “go under” financially. Things are working fine now but not without that initial difficulty due to lack of fully standardized interoperability. I hope this example, highlights the need for a clear and “locked down” standard that will not be subject to interpretation or alteration by people/entities for their own needs.

One of the more recent successes of interface implementation has been that of electronic prescribing. Having been through multiple other implementations of interfaces, we elected to move forward with this process in January-March 2008 when the final beta testing was completed with our EHR. Let me describe this process to help you understand the challenges of implementation. Months before we went to E-scripts (we were the first in our community), we notified the local pharmacies of our intention to move forward so that they could set up their own end of the interface. It was interesting to note that many of the pharmacists (at that time) had only a vague notion of what this entailed. Some smaller private “mom-pop” pharmacies were nearly dragged “kicking and screaming” into this process to develop their interfaces. In their defense, as small pharmacies, they don’t have large IT departments to help them like the national chain pharmacies. When we started, we had both frustrated pharmacists and patients as the operational “bugs” were worked out of the system. In our initial naivety, we would happily tell the patient that we were transmitting our E-scripts to the pharmacist for them to pick up after the office visit. We quickly learned that there were many variables that could throw a “monkey wrench” in the process. Some of these initial problems included the multiple Internet hops to each server that had to be working out before reaching the local pharmacy. In another example, the pharmacist (who happened to be working that day) had to know to look in a certain area of their program to know that an E-script was received. There are many other issues (some software and some human interaction issues) that have, thankfully, been worked out. This ultimately was a community effort! Some of this could be (in defense of the process) the fact that we were early adopters of this efficient and safe way of getting prescriptions to the pharmacies. Also, on the plus side, we did have the advantage of a fully standardized interface that reduced many of the IT challenges, making it easier to overcome the “early adopter” challenges. The use of E-scripts is a good example of how a well written and single standard of interfacing can ultimately work well for all parties. Practices now implementing E-scripts are reaping the benefits of the early adopters with much smoother transitions to electronic prescribing.

As requested, you had asked for examples on how interfacing improved quality. Electronic prescribing has led to increased quality by reducing errors. Let me explain why this is even safer than EHR printed prescriptions. Phil Foster (name/issues used with patient’s permission) is a local jeweler in our area. When he came to me for leg cramps that occurred at night, I prescribed quinine sulfate for him and printed a clearly printed prescription. I didn’t hear back from him about whether this treatment worked or not. However, when a pharmacy sent an E-script refill request for Phil, the refill was for quinidine sulfate [note spelling difference] which is a prescription to control heart arrhythmia! The original prescription was printed plainly for quinine sulfate (we don’t handwrite prescriptions). We called the pharmacy about the discrepancy. They were mortified about their dyslexic but certainly human mistake. When I called Phil, I first asked him how his leg cramps were doing. He said (paraphrased), “You know Tripp, they [the leg cramps] aren’t any better”. I then informed him that the pharmacy had made a mistake. I told him I was sorry about this but at least his heart rhythm was protected during this time (as we both laughed somewhat nervously about this). So, an electronic interface helped avoid, perhaps, a significant “near-miss” medical mishap.

Certainly, special consideration should be taken into account for enabling providers and small practice to have interoperability necessary to achieve meaningful use goals. Back in 1994, a small nidus of users of our EHR realized the potential for interchange between physicians and their staff with other users of the EHR. Practice Partner consented and developed what is now a wonderful user group meeting for savvy users to learn how to implement their EHR. More importantly, the users are able to use their EHR in the culture they work in and in ways meaningful to all stakeholders in a practice (clinicians, staff and patients). To amplify this process of creating a culture helpful to follow users, I created an online database application for EHR end users that would allow users to network more effectively. This database, formed in 2003, now comprises over 580 practices. This group of practices is international including not only the United States, but the US territory of Guam, Canada and Vietnam. The scope of practices goes from micropractices of 800 patients and solo practitioners to large multisite/multispecialty clinics. The delivery of care represented extends from traditional practice to government supported health clinics to free clinics. Once a member of the database, users can query the database to see how others implement their EHR or use other associated programs and technologies to improve their own meaningful use. Additionally, they can participate with a file-sharing that allows them to upload or download files useful in efficient quality driven healthcare. Additionally there is a listserv which allows users to "push" questions to a large body of experienced users who can help him with any range of questions that may fall out of the purview of the normal support channels of the EHR vendor. From my experience in watching other physicians and in discussions with other physicians and practices, the implementation of an EHR triggers a true paradigm shift in the operations of an office that successfully implements an EHR. The increasing costs of an EHR aside, there are changes that occur in an office which initially drive up the costs of operation dramatically. As mentioned above, conversion from paper and getting those important documents in the paper chart into the EHR is not only a daunting task but an expensive one. The well implemented office slowly adds on all the capabilities of the EHR and how it changes office operations much like a small mouse can nibble at wheel of cheese until they've consumed the entire wheel of cheese. Failed implementations do suffer from lack of appropriate capital expenditure that hopefully the American Recovery and Reinvestment Act will attenuate. However, the unrealistic expectations of physicians and staff and inappropriate or nonexistent project management will sabotage most failed implementations.

I will say I am proud to be working with a quality initiative that involves medical research in our own office. Back in 1995, Practice Partner Research Network (PPRnet) was formed. PPRNet was a collaborative effort between the Department of Family Medicine at the Medical University of South Carolina (MUSC), and Practice Partner/McKesson and participating practices. Currently, PPRNet has 152 physician practices, representing over 760 health care providers, and approximately 1.8 million patients located over 40 states. Its members consist of 73% Family Medicine physicians, 20% of Internal Medicine physicians and 7% specialty or other type practices. Although practice-based research networks have been in existence for many years as a means of facilitating collaborative research among physicians, PPRNet is unique in that all of its members use Practice Partner's EHR system to capture their patient information. A longitudinal database of de-identified patient data is extracted from the EHRs of practices throughout the United States. This data provides the basis for PPRNet's research activities. PPRNet's design protects the confidentiality of patients and physicians and requires minimal time commitment for busy physicians. Our practice has been involved in multiple research studies over the years since the inception of PPRNET. Examples include use of antidepressants, screening for alcohol and its effect on hypertension and others. PPRNet has published over 47 peer review articles in which members are frequently co-authors. We are currently involved with MS-TRIP (Medication Safety, Translating Research into Practice) a 3-year study which looks at how an EHR (and the processes that surround use of the EHR) can improve medication safety for patients. This study, like others studies, have changed the

culture in which we practice medicine at Skyline Family Practice but more importantly, it has helped our patients.

Another ongoing process of PPRNET is its efforts to help each member practice improve their quality of care on dozens of important healthcare measures. Quarterly data extracts from all of the practices are compiled into a quality feedback report for each practice that is securely downloaded by each practice for their review. Some examples of the many measures include measures for improving diabetes, asthma, and heart disease, counseling for tobacco and alcohol abuse and even checking for possible inappropriate prescribing in the elderly. We can with our reports see how we measure up to fellow PPRNET members and national benchmarks for quality care. An important challenge that PPRNet has met successfully is the initial and ongoing data bridging to match individual practice nomenclature to a consistent data set. I know that such consistent extraction of information and reproducible comparisons of data using appropriate data standards is well understood by the HIT standards committee. The quality reporting each PPRNET member receives, in turn, improves the quality of care delivered.

In my experience and interaction with multiple physicians across many different practice cultures in the US, I would have to say that physicians CLEARLY and UNIFORMLY desire a single standard without variations for clinical data interchange. But any standard for interchange should be one in which THEY DON'T have to worry or think about. Instead of "PLUG-N-PLAY", the physicians with their EHR just want to "PLUG-N-PRACTICE"! Physicians and other health care providers do not need potential distractions from delivering excellent medical care. Almost ALL physicians depend on their EHR vendors to provide that interface capability and ideally would like interfaces that do not require configuration or significant set up. A proper standard would allow the practices (using an EHR) to interact with other physician offices and the hospital for more efficient and consistently reliable real-time information to better care for their mutual patients. It is my understanding that a harmonization effort, under the auspices of HHS, has already developed an extensible, consistent data structure called CCD. Further, I am aware that most of the EHR vendors (including my EHR vendor), based on HHS approval, have invested much time and resources in either preparing for or using this standard. It makes infinite sense to no longer delay what is a harmonized, widely available standard with clear "locked down" implementation guides not subject to interpretation which can help prevent problems in the future. If we keep physicians focused on their patients and delivering good medical care without having to worry about health IT interchange standards, our health care system will be better for it. The certified EHR vendors already have a certification process that includes the CCD and its architecture. TIME IS OF THE ESSENCE.

Policy and/or regulation of this process has, no doubt, been discussed. Let me give you my perspectives which are shared by many physicians. If we, as fellow citizens of the United States, honor the sanctity of the health care provider - patient relationship, then setting policy over regulation should be the priority of any government body regarding the clinical interchange of data for patient care. Regulating to manage by exception should, instead, be developing policy to manage by objective(s). Once the standard is put in place by policy, the healthcare stakeholders can get on with the business of delivering healthcare. Trying to further regulate a national health system that is already overly regulated and distracted from delivering even better health care makes no sense. Certainly, providing the ability to amplify the best aspects of patient care is what the American Recovery and Reinvestment Act is about. I very much appreciate (as a citizen, patient and physician) that the United States government has seen it a priority to help the struggling national health care system better interchange vital healthcare information amongst all stakeholders. This will help lead our country towards better health for our patients, our families, communities and nation.

In our practice, we inculcate the concept of focusing on the patient and how we may help them. Further, the concept of the "GOLDEN RULE" is a recurrent theme in our staff meetings. To "do unto to others as we would have others do unto us" is a concept the forefathers of our nation

held close to. This is the basis of the patient centered medical home that all citizens of this country should benefit from.

A consistent set of standards will allow all stake holders to help health care providers give the best, most efficient, safe and secure healthcare our nation so desperately needs. In closing, I thank the workgroup for their time and efforts on behalf of my colleagues across the nation so that they can continue to deliver excellent and meaningful care to patients across our great nation.