Report on the ONCHIT Meeting January 25-26, 2007
NHIN prototype demo and business case.

Abstract:

Four potential prototypes for a National Health Information Network (NHIN) were demonstrated to the public on January 25 - 26, 2007. This report highlights the prototypes and their relevance to Dentistry.

Background:

The Office of the National Coordinator for Health Information Technology (ONC or ONCHIT) is the primary advisor to the Secretary of Health and Human Services (HHS) on issues of electronic health records and it directs the implementation of the NHIN. On November 10, 2005 HHS awarded four contracts to develop competing prototypes. The contractors selected were Accenture, CSC, Northrop-Grumman and IBM. On January 25-26, 2007 the contractors presented their results to the public. On January 25th the prototype were demonstrated and on the 26th there was a focus on business models, lessons learned, and participant and provider feedback.

Observations and Report:

To concretize the difference between the different prototypes I will use an automobile metaphor. Accenture's prototype was a first generation hybrid all wheel drive SUV. CSC was a Model A Ford (made in 1903), and Northrop was an Oldsmobile Tornado (first US front drive car, made in 1966). I not able to characterize IBM's effort because I did not attend its demonstration.

There was a lot of public interest around Accenture's demonstration, which was evident by the standing room only attendance. Accenture's prototype delivered, their prototype was the most well thought out and innovative. While its' competitors focused on the past and present, Accenture focused on present and future. Accenture was the only contractor who recognized the importance of data normalization via mapping to standard terminologies (Apelon was instrumental in the data standardization component).

In order to implement their vision, Accenture recognized the need to make RHIO (Regional Health Information Organization) the link between providers and the NHIN. To make this vision a reality, Accenture built the infrastructure for two RHIOs (Carespark, one of 3 RHIOs, is an already established RHIO) as well as the necessary data normalization.

Throughout their demo, Accenture focused on their ability to quickly utilize data clinically, administratively, and for bio-surveillance purposes from multiple providers based on the standardization. For example, Accenture was able to aggregate data on heart attack incidence even when one provider recorded it as a "myocardial infarction" and another provider recorded it as a "heart attack". Functionality based on standardization was consistently emphasized.

Neither CSC nor Northrop, the other two prototype demonstrations that I attended, attempted Accenture's level of sophistication in regard to mapping. For CSC's prototype, think 'Medicine meets Fancy Fax Machine'. Their demo was less than impressive in comparison to Accenture's. In CSC's view, the NHIN is merely a conduit for data exchange. In fairness, I think that CSC's prototype was the best they could achieve given the limitation imposed by their premises. Those premises were:

- Many providers are barely computerized. Furthermore, computer competence for those providers is limited.

- RHIOs as aggregators of geographically closely related providers are a great idea but not realistic in the near future for several reasons. Factors preventing RHIO formation include cost, legalities and responsibilities.
- Cost is a barrier, thus solutions should focus on providing the absolute basic and allow critical mass to drive the NHIN. Email was offered as an example. Growth, importance, and functionality can be driven by market forces and undeniable cost-benefit returns.

The NHIN sets minimal requirements to connect for data exchange but is otherwise agnostic as to what goes across, how it is aggregated, and analyzed. So, a lab report from Provider A to Provider B will appear just as Provider A viewed the data (fax machine). A PHR portal can connect to a provider's system as long as both agree to the minimal requirement. Otherwise the portal exists as a standalone. The actual data that can be exchanged or updated depends on the agreement between the parties.

Northrop's approach seemed to split the difference between Accenture and CSC. Northrop had more functionality built into the NHIN than CSC's approach but not nearly as comprehensive as Accenture's. Data normalization was limited to dictating a canonical model of the data that can be sent. Display is common since the data exchange is specified.

While all 4 prototypes chose different ways to achieve medical data exchange, they all shared some common methods and learned common lessons, including:

1. Security is difficult. Simple password protection is inadequate.
2. Patients are very apprehensive about data sharing. Patients' common questions are: Who gets to see what, when and why? Will data sharing extend beyond strict medical purposes?
3. Providers are very reluctant to allow outsiders to write data to their systems. They have trust and liability concerns.
4. Standards are crucial throughout the process.
5. Normalizing clinical data is very hard. Regenstrief Institute (creators of LOINC) cites data mapping as the largest ongoing expense.
6. Clinical data normalization is a requirement to truly share medical information.

Some non-consensus issues include:

1. Is messaging better / worse / just another alternative to document exchange (HL7 messages vs. CCR (Continuing Care Record) or CDA (Common Document Architecture)
2. HL7 v2.x messages vs. HL7 v3 messages.
3. Patient ability and extent to edit their own medical record.
4. What if any functions to include as part of the NHIN.
5. National master patient index.
6. How do we pay for all this?

The ONC will issue a report on all the demos in a month. From there a new Request for Proposal (RFP) will be issued with additional use cases to be addressed (the first round was driven by 3 use cases). These new use cases include consumer empowerment, medical management, emergency responders, and quality care metrics. The RFP is expected in the March/April 2007 time frame and the contract are expected to be awarded in June/July 2007. All successful RFP respondents are expected to build on the best of the original prototype as identified in the ONC report for the first prototype. Data comparability across providers will be a major item in this prototype (recall that Accenture was the only one to attempt large scale data mapping in the first round).

Dentistry's has no input on the next iteration of the NHIN.

Lessons for Dentistry.

Interoperability is not easy. Each of these main contractors is a huge company that used massive resources. Even so, they all claim that we are still very far from a rollout of even a basic NHIN. Of note, each contractor spent more to build their prototype than they received in grant money. No dental company is near to the contractors' size or resources. So the notion that Dentistry 'can go it alone' is nonsensical. Those who advocate such an approach should be challenged at every opportunity. Until we are invited to the participate in any NHIN, we need to follow the progress of the medical side and incorporate compatible process where we share commonality and create Dentistry unique processes where there is none and only if there is no way to adapt something from the medical side. This will allow Dentistry to have a well thought out plan for integration into the NHIN.

Final thoughts.

I am hopeful that members of the Dental Informatics community will begin the discussion on these topics. For background material, interim reports, etc. go the to HHS – ONCHIT web site locate at http://www.hhs.gov/healthit/rfi.html. Since NHIN functionality is driven by use cases, pay particular attention to the use cases. Make notes on how such use case requirements may affect Dentistry. Then begin to put ideas onto paper.

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