



Standards Insight

An Analysis of Health Information

Standards Development Initiatives

October 2004

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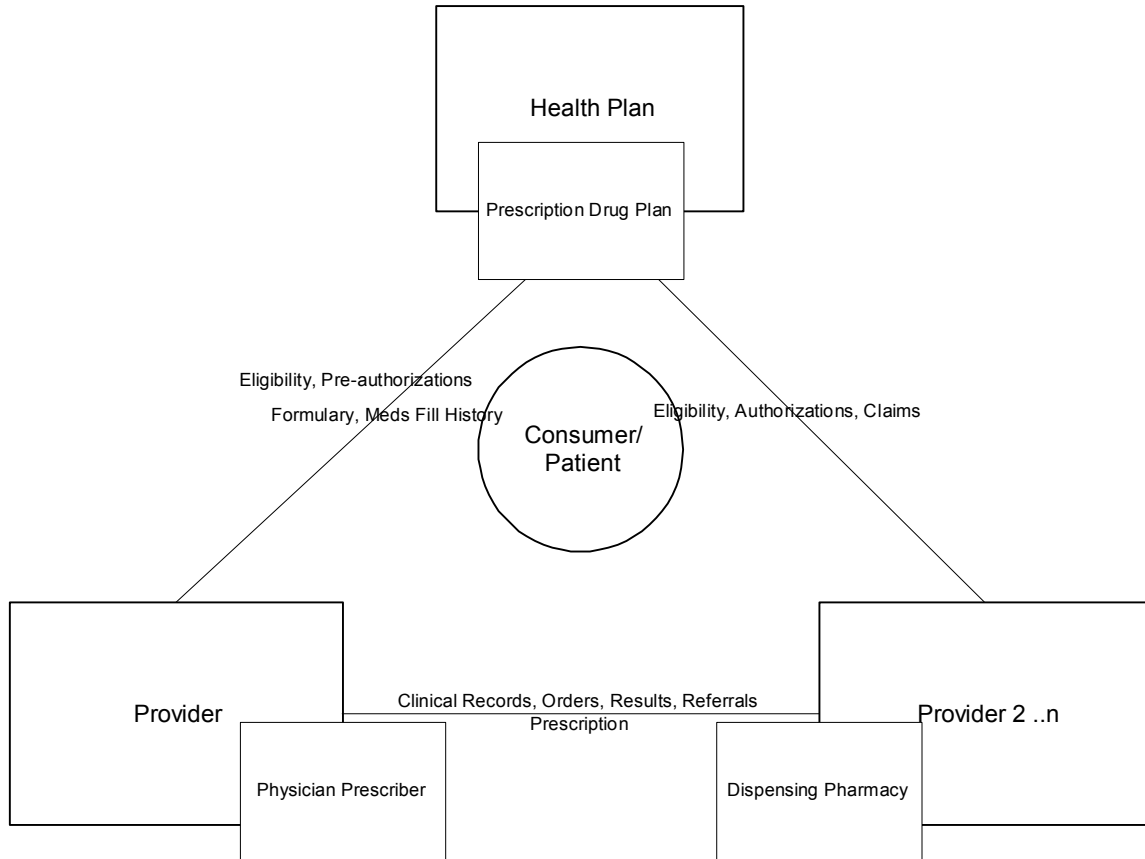
Converging e-prescribing, the EHR and the NHII

Interoperability standards remain a central focus of policy makers and the healthcare industry. The National Committee for Vital and Health Statistics (NCVHS) held a series of hearings this summer culminating in testimony from the primary e-prescribing standards developers. The Committee intends to release its first set of recommended e-prescribing standards in a letter to the Secretary of Health and Human Services (HHS) in September. Based on its announced intentions, we expect this letter to focus on basic prescriber-pharmacy transactions and recommend the use of the National Council of Prescription Drug Programs (NCPDP) SCRIPT. While this is a good start, it leaves primary policy and business issues unresolved: how do we converge e-prescribing and electronic health record (EHR) initiatives within the context of the National Health Information Infrastructure (NHII)? As we noted last month, e-prescribing is being accelerated without a plan to converge the two initiatives. This month we will look at the issue of convergence.

Rationale for convergence

There are two principle reasons why e-prescribing must converge with EHR systems. First, e-prescribing is a subset of EHR system functionality. The clinical benefits of e-

prescribing depend heavily on access to patient data and its use within a decision support process. The RAND study showed EHR based e-prescribing systems were statistically more likely to meet their sixty recommendations than the stand-alone e-prescribing systems.¹ The RAND authors and Health Level Seven (HL7) have agreed to integrate the e-prescribing functional recommendations into the HL7 EHR System Functional Model.



E-prescribing as a special case of the EHR within the NHII Figure 1

Second, convergence is necessary to avoid duplication of infrastructure, software and services. It is apparent that e-prescribing is a specific subset of a provider to provider to health plan data exchange. (See Figure 1). Existing systems are organized as networks and services connecting prescribers, plans and pharmacies, generally within a single state's jurisdiction. None of the local health information infrastructure (LHII) pilots, to our knowledge, is focusing on e-prescribing nor are the current e-prescribing infrastructure solutions being extended to medical record exchange. This is not to say that one could not move to encompass the other but this is not yet happening. In their April 2004 e-prescribing study, the eHealth Initiative (www.ehealthinitiative.org) did recommend applying lessons learned in e-prescribing to interconnecting EHR systems.

¹ Bell et. al. May 2004 at www.healthaffairs.org/webexclusives)

The two initiatives are running on parallel tracks but the e-prescribing train has left the station. It is useful to review the known timeline for e-prescribing compared to the EHR and NHII roadmap.

- The Office of the National Coordinator for Health Information Technology (ONCHIT) planned to release an RFI for private consortia to propose an NHII model this summer. Presumably evaluations and pilots could occur in 2005 – 2006 and run parallel to the nine currently funded local health information exchange pilots.
- HL7 is advancing its EHR system functional model and beginning to work on care setting profiles that could inform reimbursement policy. HL7 is also developing EHR content standards, which could be available for trial use in 18 months.
- This fall, HHS plans to issue a notice of proposed rulemaking (NPRM) for Part D participation by prescription drug plans, potentially including preliminary e-prescribing standards as recommended by NCVHS. Unless HHS skips ahead of NCVHS recommendations, the NPRM will only include the basic prescription messages discussed above.
- Although some e-prescribing pilots may begin in 2005, they are not officially slated until 2006, following full recommendations by NCVHS. Adoption is slated for 2008 and full use in 2009.

If all of the pilots and demonstrations run to conclusion and evaluation, formal opportunities for convergence based on these results will not occur until beyond 2006. What happens in the interim? Will this freeze the respective market growth and standards development efforts or are their alternative paths?

E-prescribing is in production use

Unlike interconnected EHR systems, there are existing e-prescribing solutions and “de facto” standards in use. It is not clear how many of the 3 billion prescriptions are currently created and transmitted as electronic transactions. Estimates range from 15 to 25 percent for the former, that is creating the prescription in a computer system, to 5 to 10 percent for the latter, the difference being the number printed out and faxed. SureScripts and ProxyMed can deliver e-prescriptions to retail pharmacies in approximately 80 percent of the states. RXHub has 30 software vendors that support its formulary and medications history services. NCPDP SCRIPT messages for new prescription and renewal requests are ANSI standards and widely accepted within this nascent e-prescribing space. NCPDP Telecom standards are being adopted for claims transactions between pharmacies and payers. Business roles and relationships between prescription drug benefit managers, health plans, prescribing physicians and dispensing pharmacies do exist. The trend toward full electronic exchange is clearly upward and the addition of the Medicare population in 2006 becomes a tipping point.

One is tempted to ask why Medicare shouldn’t simply adopt these “standards.” We have working e-prescribing models so why do we need new standards and demonstration

projects? The issues are not so much technical as business and policy-based. Among these are concerns that some of the standards and solutions are proprietary. Thus RXHub has felt compelled to commit to advancing its medication history transactions, based on NCPDP SCRIPT and HL7 formats, for ANSI accreditation through NCPDP. Moreover, the “system” is not complete and there are many work-arounds and, again, proprietary solutions such as SureScript’s routings and RXHub patient identification methods. Finally, the business models may not be acceptable to Medicare or comply with the Medicare Modernization Act (MMA). For example, the influence of drug manufacturers and their rebate programs might not be transparent enough or the formulary choice broad enough to be embraced as public policy.

On the flipside, if the Centers for Medicare and Medicaid Services (CMS) plans to publish new business rules for prescription drug plans and select “new” open e-prescribing standards, the current adoption of e-prescribing systems will slow until the industry knows what new requirements will emerge.

Rethinking the standards development and approval process

The MMA instructed the NCVHS to recommend e-prescribing standards to HHS, consistent with its HIPAA recommendations, presumably including its “PMRI” recommendations.² This is the fundamental point of convergence between e-prescribing and EHR standards. In its hearings, the NCVHS was quite conscious of prior messaging and terminologies recommendations. Yet it deferred consideration of the e-prescribing standards that would overlap with the EHR space until next March. In its September recommendations there will not be recommendations concerning medication history, medical history, special instructions, drug utilization review and clinical decision support. Given the remaining time available and the lack of clear business use cases, this prioritization of effort is understandable.

If the effect of this deliberate schedule were merely to delay use of e-prescribing for Medicare beneficiaries, one can accept the trade-off versus rushing into ill-considered mandates. However, selecting interoperability standards may not be the problem and NCVHS may not be the forum for insuring convergence. To move e-prescribing, EHRs and the NHII all forward and toward convergence, we first need the business and thus functional requirements of the primary participants (providers, plans and consumers) so we can determine interoperability requirements (trigger events, content, messaging), and second we need to define a shared infrastructure (access controls, entity identification, security, directories and routing services) to support these messages. NCVHS is starting with the interoperability messages and content and trying to work back into business models and system requirements while not directly addressing infrastructure at all. To the extent that policy makers, standards developers, system vendors and buyers wait for NCVHS recommendations and the conclusion of multiple pilots and demonstrations, we may simply be freezing the initiatives. We must find a pathway to coordinating front-end

² NCVHS has sent two letters with recommendations to HHS in regards to patient medical record information (PMRI) as authorized by HIPAA. One set included messaging standards, such as HL7, DICOM, and NCPDP, and the other a set of core terminologies, such as SNOMED CT, LOINC and RXNorm. These were incorporated into the federal agencies’ Consolidated Health Initiative (CHI) program.

development decisions - in essence, moving authorization to the first step without introducing regulation and mandate.³ Moreover, delegating front-end decisions to ANSI standards developers confounds the problem. Consensus building is admirable but achievement of the requisite 90 percent agreement is unrealistic if applied to business rules, policy decisions and economic self-interests. At best, setting priorities and authorizing standards for development should be the product of genuine participation. Technical standards organizations are ill equipped to resolve competing business models and interests.

Market Driving Not Market Driven

If we agree with the strategic objectives implied in a 21st Century health system, then we must “direct” standards and products toward those ends by defining the business requirements, reimbursement models and minimal system functions, not by starting with the technical messaging standards and working back towards the business model. We must drive standards development through business requirements and implementation demonstrations rather than waiting for “authorized” standards to meet business needs.

Fundamentally CMS must break the logjam by laying out the business models for e-prescribing and the EHR that is desired for Medicare and the related reimbursement plan. Presumably CMS is addressing e-prescribing in its NPRM but what about the EHR? How will we pay for individual health records shared among interconnected providers? If business requirements are not aligned, it is highly unlikely that technical standards can be aligned. ONCHIT will have to take the CMS business model and the clout of Federal health care spending to enlist the private sector payers and plans to align their business models. This will tell plans, providers and vendors what their e-prescribing and EHR systems have to do. Rather we should let industry, e.g., Integrating the Healthcare Enterprise (IHE) or the proposed NHII consortia, figure out what it needs to meet the requirements and how it can start with existing standards such as SCRIPT and HL7. Industry should figure out solutions, acceptable risks of dead-ends, whether to map or consolidate, distribute or centralize, what existing standards to use and which new ones to develop. In turn industry will tell standards developers what is needed. ONCHIT must provide the venue for evaluating the proposed solutions, conducting trials as needed and thereby “authorizing” standards. This is the direction we are heading for the EHR but we need confirmation that e-prescribing will also converge.

³ In an article in Health Affairs, Dr. David Brailer, now the National Coordinator, outlined three tiers of activities to accelerate standards: development, authorization and certification. Inherent in development is the process of defining necessary standards. Authorization was viewed as a single body that could decide what standards to adopt. In my view, we are weakest at making the upfront development decisions, not recognizing what existing standards to “authorize.” NCVHS is acting in both roles at this point. In deciding to “authorize” an e-prescribing standard, it acts in the latter role. But by not selecting a standard, or deferring selection and its gap analysis until later, it is freezing the front-end standards development decisions as well.

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