



## Standards Insight

### An Analysis of Health Information

### Standards Development Initiatives

*February 2004*

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## Impact of e-Prescribing on Interoperability Standards

### Introduction

Last month we offered a Washington-centric outlook for interoperability initiatives in 2004. Here we will focus on the initiative with the highest potential impact: electronic prescriptions (e-prescribing). At the onset we should postulate that the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (DIMA) refocuses interoperability priorities towards e-prescribing, ambulatory care and the physician practice environment.

Although DIMA does not require e-prescribing, it does require that the Department of Health and Human Services (HHS) designate the interoperability standards that must be used if a physician chooses to e-prescribe.<sup>1</sup> Moreover, DIMA authorizes incentives from prescription drug plans (PDPs) to participating physicians. Like computerized provider

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<sup>1</sup> Strictly, DIMA e-prescribing provisions apply to electronic prescriptions for Medicare beneficiaries. However the e-prescribing and benefit card standards to be adopted by HHS are to be “compatible” with standards established under Title XI Part C of the Social Security Act (aka HIPAA Administrative Simplification). HIPAA interoperability standards, although not yet extended to clinical data, would apply to all covered entities.

order entry in the inpatient environment, e-prescribing pulls through the requirements for an electronic medical record system. Standards developers and accelerators will respond to the challenge of linking patient data, including the benefit card, and required prescription and clinical data among physicians, pharmacies, plans and payers. This shift in care setting will reshape priorities for standardizing the electronic health record from the inpatient to outpatient care setting. Now that the "voluntary" e-prescribing provisions have become law, there is a new dynamic - how to make sure it works and how to "sell" it in terms of the return on investment.

## **The Role of the eHealth Initiative**

We will use the framework of the eHealth Initiative (eHI) annual meeting held last month in Washington to examine the issue of e-prescribing. E-prescribing is one of the eHI's three major areas of focus for 2004.<sup>2</sup> The eHI, a public policy forum for advocating the use of IT to improve health care, is a leading force in e-prescribing. To its credit, eHI is clear in identifying the problems it is trying to solve. Thus there were frank reports, presentations and discussions concerning e-prescribing at its meeting. Now that the "voluntary" e-prescribing provisions have become law, there is a new dynamic – how to make sure it works and how to "sell" it. There is some concern that the "industry" may have oversold the benefits of e-prescribing or understated its complexity. The last time out of the box in the "dot com" era, e-prescribing failed. If you recall, physicians were reluctant to adopt e-prescribing without integration into other clinical systems and a proven return on investment (ROI). The eHI is attempting through studies and analyses to identify barriers and the means to overcome them in order to assure the success of e-prescribing this time around.

To this end, eHI has set up two e-prescribing working groups to address the issues of 1) Design and Implementation and 2) Incentives.

### ***Design and Implementation***

The Design and Implementation Workgroup is further divided into six sub groups addressing prescriber usability, communication, other functions, clinical decision support, implementation and vocabularies and standards. The working assumption is that e-prescribing will roll-out in two phases as outlined in the law: electronic transmission of prescription information to pharmacies and physicians and the actual prescriptions from physicians to pharmacies. Phase two will include implementation of a more advanced system using individual patient data, such as the medications list, and clinical and administrative decision support. DIMA assigns the National Committee for Vital and Health Statistics (NCVHS) the responsibility of recommending the standards necessary to enable e-prescribing systems by September 2005. This is a natural extension of their role in recommending patient medical record standards under HIPAA.<sup>3</sup> DIMA also set

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<sup>2</sup> In addition, eHI is focusing on Connecting Communities for Better Health (a program to distribute \$3.9 million in grant money to local or regional networking projects) and the Healthcare Collaborative Network (a national demonstration project to show the value of standards in connecting health enterprises).

<sup>3</sup> Standards for the drug benefits card are to be adopted in consultation with the National Council for Prescription Drug Programs and also be compatible with HIPAA standards, closing the loop back to NCVHS and clinical interoperability standards.

January 2006 to begin demonstration projects and adoption of final standards by 2008. Many of the anticipated benefits of e-prescribing will not occur until the second phase and this could take place well after 2008. One of the perversities of such government standards initiatives, of course, is that they freeze market solutions in place.

### ***Incentives***

In addition to solving the technical and implementation problems, adoption of e-prescribing will require a sound business case. Various estimates of the costs to acquire and operate basic and advanced e-prescribing systems vary from under \$10,000 to over \$25,000 per physician, per year depending on functions and scale. Studies indicate that there are some economic benefits for physician practices, particularly in more advanced systems. These can include clerical efficiencies for both physicians and their staff. But many of the benefits accrue to payers, e.g., formulary compliance and more effective drug utilization, and to patients, e.g., fewer adverse drug events and better continuity of care. Based on current market penetration, one would not expect an overwhelming number of physician practices to automate their prescribing and clinical record systems without a stronger ROI than exists today. It was refreshing to note that the eHI members understand that loan and grant programs do not substitute for a sustainable business model and ROI.

DIMA makes those PDPs that participate in the Medicare program responsible for setting up e-prescribing programs, however it does not require the Medicare program or physician participation. Because DIMA requires use of the benefits card and provision of extensive benefit information to participants, including formularies, as well as a medications therapy management program, it is likely that all participating PDPs will use electronic prescription programs to meet these requirements. If PDPs do offer e-prescribing, they must conform to the law and use the designated standards. If required for Medicare, such standards will be the de facto standards for any e-prescribing system without further “recommendations” or endorsements. Physicians may or may not elect to use the e-prescribing system but the law authorizes the PDPs to pay incentives to those physicians that participate.

There are two models for implementing an e-prescribing system: a central model controlled by the PDP with web access by patients, physicians and pharmacies and a distributed model in which physicians can merge their electronic medical record systems with e-prescribing services from the PDP. The former minimizes system costs to physicians and may be best suited for the initial phase. The latter requires interoperable ambulatory EHR systems but enables real time clinical decision support and integration with other patient data, alerts and reminders. It also requires the higher investment, cited above, by the physicians or their “partners”.

It is unlikely that payers, public or private, would underwrite all of the costs of an e-prescribing and ambulatory EHR system based on preliminary results of an eHI study. CMS has indicated an interest in providing some “quality differential” for e-prescribing, e-lab results and e-reminders (the Leapfrog Physician Leap) initially through demonstration projects. However, these are not designed to cover the full costs of the system. DIMA instructs HHS to prepare changes to the Stark provisions that prevent

hospitals and other healthcare organizations from providing payments or other value to physician referrals. Even so, the payback to hospitals for subsidizing IT investments is questionable if it does not result in more closely aligning physicians and patients to the institution. Pharmacies and pharmaceutical companies have perverse incentives to promote prescriptions. Yet it is probably the combined value of meeting patients' needs, improving physician practice efficiency, some differential payments and support by a core health system that will fund e-prescribing and ambulatory EHR systems. Secondary use of the data, whether by CMS, other health insurers or the pharmaceutical industry, adds another economic dimension, complicated by privacy rules and intended use. It would certainly be a significant contribution if eHI can figure out the equation and make the business case.

There are valuable decision support services that can be built on "available" prescription data even in the absence of a "complete" electronic medical record. These "monitoring systems" could provide alerts and reminders to physicians regardless of other data the physician has about the patient. This is an alternative model to each physician having a decision support system, which in turn is based on having a complete electronic medical record. Such a centralized services-based system could act as a transition from basic e-prescribing functions to more fully implemented universal EHRs. One of the concerns expressed at the eHI meeting was that physicians would rely too heavily on computerized systems. A third-party alert sent when data are available, would in and of itself be useful without creating a singular reliance one might have on a comprehensive EHR system. To the extent that the PDP has basic patient demographic and encounter data and (presumably) all the prescription data, there is the ability to generate alerts, contraindications and reminders. Working through the economics and clinical benefits of this (not mutually exclusive) model would be useful.

## **Conclusion**

Now that e-prescribing is law, the HCIT industry must be committed to ensuring that it is a success. But the issues are more encompassing than e-prescribing. We are fundamentally building the National Health Information Infrastructure (NHII) from e-prescribing out. The interoperability standards we seek for the electronic health record are inexorably intertwined with ambulatory and physician practice systems. Yet those systems are arguably different in scale, requirements, function, clinical processes, workflow and costs/benefits than are the hospital centric EHR. The new Commission on Systemic Interoperability was authorized by DIMA to develop an interoperability roadmap which will be key towards demonstrating how e-prescribing, enterprise EHR systems, and secondary uses can all be part of an interoperable NHII.

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