



The e-Prescribing Landscape: Promises and Realities

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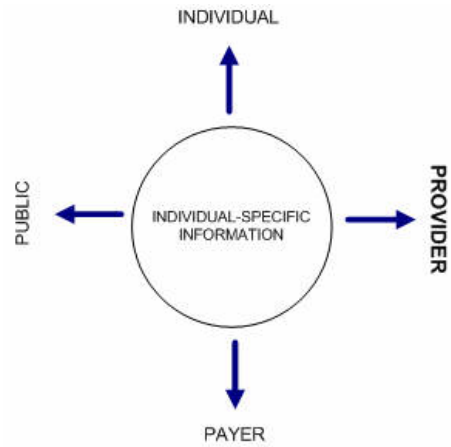
Five topics



I will address the first three topics:

- Why the wave of enthusiasm
- What has been accomplished so far
- The “building blocks” for a solution
- The opportunity
- The task ahead

On whose behalf?



Why?



- Improve quality and safety of care
- Effectiveness (e.g., adherence)
- Cost / choice (e.g., drug trend)
- Efficiency of current health care practices
 - Patients and their families
 - Practitioners
 - Payers
 - Public
- Opportunities for new and better business models

Progress



Since this map was constructed, everything is more or less "green"

Katrina



KatrinaHealth.org



Background

- Rapid and unique collaboration to create a medication history for individuals displaced by the hurricane
- Estimated 1 million were displaced; 40% used one or more Rx
- 150 public and private organizations
- 5000 queries (mainly from pharmacists); 1500 were met with data

Lessons Learned

- The need was apparent
- The capabilities were there – in principle
- Identity, authentication, authorization
- The best way to create a strong emergency response is to have a sustainable infrastructure in daily use
- ICERx.org – the successor to KatrinaHealth.org

http://www.markle.org/downloadable_assets/katrinahealth.final.pdf/

<http://www.volunteer-ehealth.org/frisse/katrina/>

Safe Harbor: eRx



- Authority under the Medicare Modernization act
- Applies to necessary items used only for e-prescribing, including hardware, connectivity, support, training, other services
- The definition of e-Rx may many other data items required for safe and effective e-prescribing - labs, allergies, decision-support (not clear)
- Any amount of such goods and services can be provided 100% by appropriate donors, including hospitals providing services to their medical staffs, prescription drug plans and pharmacies, group practices
- Donors cannot select recipients in ways that directly or indirectly take into account volume or value of services of referrals.
- Commercial messaging does not appear to be allowed.
- This rule has no sunset date

Safe Harbor: EHR



- Authority through the Safe Harbor section of the Social security act - 1128(b)(3)(E) to the OIG and 1887(b)(4) to CMS
- Applies broadly to software used for electronic health records but must include an electronic prescribing component. Includes billing and administrative functions, services, and others.
- Unlike the pure e-Rx safe harbor, hardware and software cannot be contributed
- Systems must meet HHS standards for interoperability (certification)
- Recipient must pay 15% of the donor's cost for the donation.
- Covers those people and organizations providing covered services, health plans, and related individuals
- Protected recipients are physicians
- Donors cannot make their donations on the basis of recipient behavior that *directly* is related to volume or value of referrals to the donor or other related business relationships.
- This rule sunsets at the end of 2013.

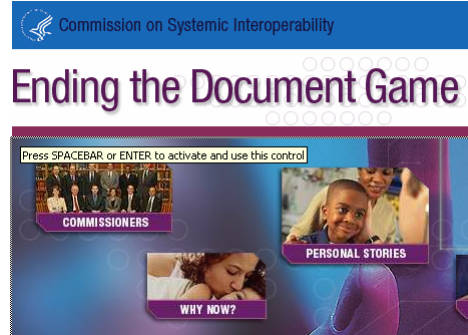
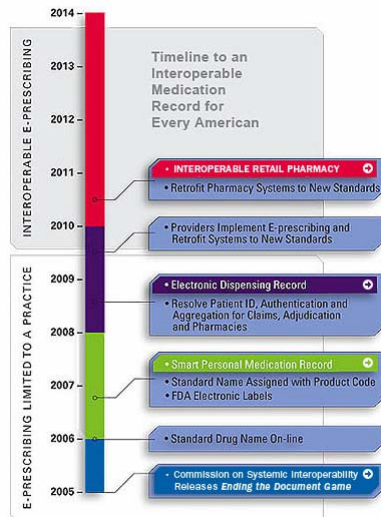
MMA



- Requires eRX applications to conform to standards set by Secretary of HHS
- Mandated formation of a Commission on Systemic Interoperability
- Two types of standards:
 - Foundation standards
 - Initial standards
- Five pilot site studies
 - Rand (with New Jersey)
 - SureScripts, LLC (multiple sites)
 - Achieve Healthcare Informaiton Technologies (long-term care)
 - Brigham and Womens
 - University Hospitals Health System (Ohio)
- Summary report due April 2007
- Regulatory impact due April 2007

See 70 FR 6256 (February 4, 2005) and 70 FR 67573 (November 7, 2005), to be codified at 42 CFR 423

CSI: Medication History



Foundation Standards



NCPDP Telecommunications	HIPAA standard for eligibility communications between retail pharmacy dispensers and payers/PBMs.
ASC X12N-2701/271	HIPAA standard for eligibility and benefits communications between dentists, professionals, institutions, and health plans.
NCPDP SCRIPT Standard Version 5, Release 0:	Provides for the exchange of new prescriptions, changes, renewals, and cancellation notifications. Each function has varying degrees of industry experience.

Initial Standards



Formulary and benefit	NCPDP is developing a standard using RxHub protocol.
Medication history	Status, provider, patient, coordination of benefit, repeatable drug, request, and response segments of SCRIPT.
SCRIPT fill status	Informs when a script is given to the patient. Not yet generally used.
Structured & Codified SIG	Indication, dose, dose calculation, dose restriction, route, frequency, interval, site, administration time and duration, stop
Clinical drug terminology	Standard names for clinical drugs; links from clinical drugs to their active ingredients, drug components, and most related brand names.
Prior authorization	Requires header information, requester, subscriber, utilization management, and other relevant information for prior authorization requests

Our history



E-prescribing is a field strewn with the carcasses of “successful programs.”

Private Sector



- Tufts Health Plan of Massachusetts and Advance PCS / Caremark (2002) 100 clinicians
- Blue Cross Blue Shield of Massachusetts (2003) - 3,400 physicians
- Rhode Island (2003) - eRX pilot
- Florida (2003?) - Medicaid Pilot with Gold Standard Multimedia
- Wellpoint (2004) 19,000 physicians- primarily administrative
- Maryland (2004) - CareFirst Blue Cross Blue Shield - Dr. First - 500 physicians
- Michigan (2005) Southeast Michigan eRx initiative. 17,000 physicians invited
- Delaware (2005) - 100 physicians
- Nevada (2005) - 5,000 physicians Allscripts
- Pennsylvania (2005) - \$26m - up to 6,000 physicians
- North Carolina (2006) - up to 1000 physicians
- California (2006) - LACare - 100 physicians (much more to come in California)
- New Hampshire (2006) - 100% eRX by 2008; claim 75% of state physicians already use EMRs
- National ePrescribing Patient Safety Institute (2006) - "free AllScripts" for two years

Safety



- Medication history at every point of contact will decrease adverse drug events
 - Prescribing
 - Dispensing
 - Transitions in care – e.g., medication reconciliation
- Medication history in structured format will automate clinical decision support as a safety net
 - Drug-drug
 - Drug- lab
 - Drug-disease
 - Drug-age
- Aggregate information valuable for public health and post-market surveillance

History: requirements



A passive history requires

- Structured identifier (e.g., eligibility request, demographic data)
- Authentication and authorization
- Sources of information (e.g., SureScripts, RxHub, others)
- Matching – get all the information about the right patient but no information about any other patient
- Currency – (e.g., RxFill message, claims retracted)
- Data organization – duplicates, “sig”
- Data presentation – (e.g., claims, NCPDP, NDC, RxNorm)

A few questions

- What is the current performance of medication history requests from organizations like RxHub and SureScripts?
- How can this performance be enhanced?

History: requirements



An “intelligent” clinical decision support system requires

- Unified messaging standards across sources
- Mapping of drugs (e.g., NCD to RxNorm)
- Uniform approach to diseases (ICD-9?, ICD10? SNOMED?)

Effectiveness



- Awareness of a drug history will minimize errors
- Automated decisions support does change behavior in hospital settings
- Non-adherence is the elephant in the room
- Medications that are taken consistently can control disease and prevent hospitalization but the benefits are realized over years
- Consistent use of medications drives UP drug costs
- Adherence for some important drugs (e.g., cholesterol management) is measured in months; incur a cost with no medical benefit
- Making medication therapy more effective will require a network of care that includes the pharmacist, the patient, the prescriber, and other health care professionals

Cost / Choice



- Knowing the cost (co-pay or co-insurance where applicable) helps in decision making
- Can't know the cost of Part D beneficiaries in the donut hole at present
- Requires eligibility to be at the right level
- Requires formulary information to be accurate
- Switches to generics always safe – if there are incentives for all concerned to push this

Efficiencies



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BELL ET AL., Conceptual Framework for Electronic Prescribing

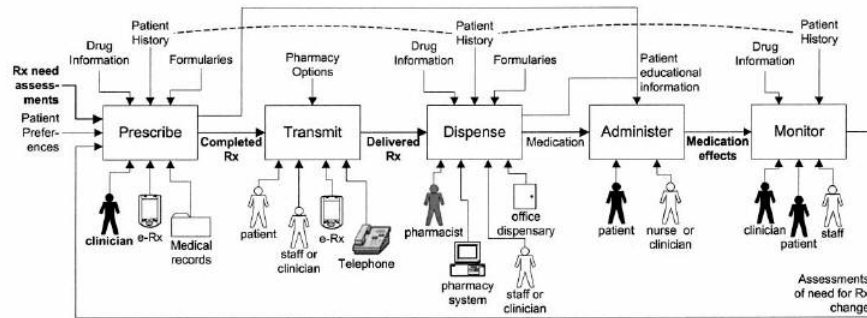


Figure 1. A function model of medication management. The major activities involved in medication management are shown as boxes. For each box, arrows on the left show the activity's inputs, those on the right show its outputs, those above show information that may influence the activity's performance, and those below show resources that the activity may occupy. This notation is based informally on the Integrated Definition for Functional Modeling (IDEF0).²⁹ In addition, the dashed lines indicate the potential unifying effects of system integration, making the same patient data available across activities. Black shading or bold lettering indicates an element that is mandatory for the particular activity. Gray shading indicates an element that is usually involved in the activity but is not mandatory. "e-Rx" is an abbreviation for electronic prescribing.

Bell, et. al. Journal of the American Medical Informatics Association 2004;11(1):60-70

Efficiencies



Tasks

- Eligibility
- Formulary
- New scripts
- Refills
- Prior authorization
- Other drug utilization review (DUR)
- Those who enjoy benefits (or suffer consequences)

Efficiencies



Status

- Eligibility – fairly consistent
- Formulary - inconsistent
- New scripts – direct transmission vs. fax?
- Refills – fill requests still primarily from phone or fax
- Prior authorization – not easily modeled
- Other drug utilization review (DUR) - inconsistent
- Those who enjoy benefits (or suffer consequences)
 - Essentially requires a new approach in the pharmacy for a low-frequency event
 - What is the “tipping point” and how to get there?
 - Most of the real time-savers are not yet fully implemented
 - Will have a significant impact in cost/ script if done right

New markets



- Adherence programs
- Retail pharmacy as a center for preventive health and disease management
- Greater choices
- New business models

Discussion



One year later – copyright, NY Times