

eHealth 301: Electronic Prescriptions

ePrescribing Reduces Healthcare Costs and Medication Errors

Overview

- ❖ ePRESCRIBING IS AN APPLICATION OF HEALTH INFORMATION TECHNOLOGY THAT ALLOWS PRESCRIPTIONS TO BE TRANSMITTED ELECTRONICALLY, REDUCING MEDICATION ERRORS, INCREASING EFFICIENCIES, AND LOWERING COSTS.
- ❖ IN 2006, THE INSTITUTE OF MEDICINE REPORTED THAT AT LEAST 1.5 MILLION PREVENTABLE ADVERSE DRUG EVENTS OCCURRED IN THE UNITED STATES.
- ❖ THE CENTER FOR INFORMATION TECHNOLOGY LEADERSHIP (CITL) CALCULATES THAT WIDESPREAD USE OF ePRESCRIBING SYSTEMS COULD PREVENT 130,000 POTENTIALLY FATAL MEDICATION ERRORS ANNUALLY.
- ❖ IF ALL MEDICARE PRESCRIPTIONS WERE TRANSMITTED ELECTRONICALLY BY 2010, FEDERAL HEALTH EXPENDITURES COULD BE REDUCED BY UP TO \$29 BILLION OVER THE NEXT DECADE, ACCORDING TO THE GORMAN HEALTH GROUP.
- ❖ WHILE ePRESCRIBING HAS INCREASED OVER THE LAST SEVERAL YEARS, ONLY TWO PERCENT OF PRESCRIPTIONS WERE TRANSMITTED ELECTRONICALLY IN 2007; CONGRESS PASSED LEGISLATION WITH INCENTIVES TO PROMOTE ePRESCRIBING. NOW, STATE POLICYMAKERS NEED TO PROMOTE THE TECHNOLOGY AND MEDICAL PRACTICES NEED TO EMBRACE IT.

ePRESCRIBING – DEFINED

Electronic prescribing, or ePrescribing, is the practice of transmitting prescriptions back and forth electronically between the clinical setting where they are prescribed and the pharmacy where they are filled. ePrescribing expedites new prescriptions and refills, eliminates medication errors due to illegible handwriting, provides instantaneous drug safety checks to flag contra-indications, and automates patient billing and insurance processing.

Analysis

Imagine a world in which doctors can instantaneously see whether the medication they are prescribing you is the appropriate dosage and has no contra-indications that could harm you. Imagine never having to worry that you will receive the wrong medicine simply because your doctor's handwriting was illegible to the pharmacist. Imagine doctors and clinicians spending less time on administrative paper shuffling and having more time to provide you care.

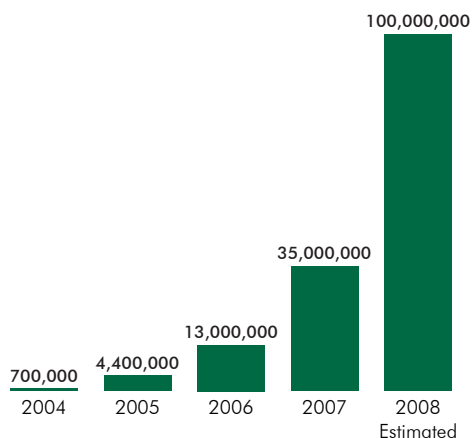
Health information technology can transform our healthcare system, dramatically reducing costs, improving quality and delivery of care, and saving lives. It can change the way clinical facilities operate, providing patients with the most efficient and effective treatment possible.

In our eHealth 101 report, AeA analyzed the benefits of widespread use of electronic medical records (EMRs). Our eHealth 201 report looked at the potential of telemedicine, or remote healthcare delivery, in expanding access to healthcare. In this eHealth 301 report, we examine the benefits of ePrescribing, or the use of electronic prescriptions.

Instead of having doctors handwrite prescriptions, which makes it easy for a pharmacist to misread the drug name, dosage, and instructions, ePrescribing allows the electronic transmission of new prescriptions and refills from the doctor's office to the pharmacy. ePrescribing is a proven means of reducing medication errors that are harmful and even fatal. It reduces healthcare costs by improving efficiencies and frees up time for doctors to spend with patients.

ELIMINATING THE PAPER PRESCRIPTION

(ePrescription Transactions in the United States)



Source: Pharmacy Health Information Exchange, operated by Sure Scripts

Reducing Harmful and Fatal Medication Errors

In 2006, the Institute of Medicine reported that at least 1.5 million preventable adverse drug events occur annually in the United States. The most basic and widely recognized way this happens is when a hand-delivered or faxed prescription is misread because the handwriting is illegible.

So the first step in reducing these errors is simply to eliminate paper from the prescribing process. By exchanging prescription information with pharmacies electronically, ePrescribing dramatically reduces the risk of medication errors.

But ePrescribing is about much more than just eliminating paper. The Center for Information Technology Leadership (CITL) calculates that widespread use of ePrescribing systems could prevent 130,000 potentially fatal medication errors annually. Many of these would be prevented for reasons that have nothing to do with poor handwriting.

ePrescribing systems automatically check for contra-indications – factors that increase the risk that a certain drug will harm a patient. For example, the prescribed medication may react adversely with a patient's allergies or with other medications they are taking. If something is amiss, the system flags it and alerts the doctor, offering alternative treatment options. This includes not only the drug itself but the dosage – the system flags overly high doses and suggests alternatives that are in line with more generally accepted usage based on the patient's weight and other factors.

These automated systems provide clinical decision support to prescribing physicians. The number and complexity of pharmaceuticals available on the market today is advancing rapidly, making it incredibly difficult for physicians to be fully informed on all of the latest developments and treatment alternatives, particularly for patients on multiple medications. ePrescribing systems not only flag potentially dangerous interactions but also suggest more effective and appropriate medications and dosages.

Before

HECTOR ABUEG, M.D., INC.
BOX 340 PHONE (216) 583-1983 CONNEAUT, OHIO 44030
NAME David Van Slyke AGE _____
ADDRESS _____ DATE 7/2/92
Rx
Propofol 10mg
#360
SS: i tab TID
REFILL _____ DR. [Signature]

Source: Allscripts

Saving Time for Physicians, Pharmacists, and Patients

ePrescribing streamlines or eliminates the tedious tasks and processes that follow a prescription as it travels from physician to pharmacy to patient. Physicians' offices and pharmacies no longer need to trade phone calls and faxes back and forth to clarify illegible, incorrect, or ill-advised prescriptions.

Efficiencies accelerate as prescription information is entered only once by the physician, eliminating the potential of transcription error by nursing and administrative staff. Doctors enter these prescriptions either on computers or – more ideally – on mobile handheld devices such as PDAs.

ePrescribing is not only more efficient because it is paperless. Physicians can prescribe more quickly and effectively due to the instantaneous clinical decision support. This includes contra-indication alerts, generic alternatives, and formulary compliance. A formulary is a list of prescription drugs that an insurance plan will cover. It may change at any time, but can be updated in real-time on an ePrescribing system.

The efficiency gains are not limited to new prescriptions. Pharmacies can send electronic refill authorization requests instantaneously and securely to a physician's office instead of making time-consuming phone calls. Physicians or authorized staff can then return approvals or denials with the instantaneous click of a mouse. Prescriptions are waiting for patients when they arrive at the pharmacy. All of this leaves more opportunity for both physicians and pharmacists to focus their time on face-to-face patient care.

ePrescribing is also a natural complement to widespread use of electronic medical records. Coupled with ePrescribing, the effectiveness of EMRs in a clinical setting is further enhanced. ePrescribing information can be seamlessly integrated with a patient's EMR to ensure that clinical staff see a patient's entire medication history on the screen when prescribing. New prescriptions and refills are automatically logged into the EMR for future reference.

After

EAST CLINIC
1234 Main Street, Anywhere, IL 60001
(847)537-4800
ALAN DOCTOR MD
IL 1111111
DEA #AD111119
Name DEBRA DOLLARS DOB 08/21/1953
Address 27 NORTH COMMERCIAL DRIVE, LIBERTYVILLE, IL 60044
Acetaminophen-Codine #3 300-30 MG TABS # 30
[Generic for Tylenol/Codine #3]
Quantity, (thirty tabs)
TAKE 1 TABLET EVERY 4 TO 6 HOURS AS NEEDED FOR PAIN.
 May Substitute
 May Not Substitute
Doctor Signature
Signature of Prescriber
Written: 01/16/2001 Refills Authorized 0 Times TS: 439 C-III

Lowering Healthcare Costs

Every benefit to ePrescribing mentioned so far ultimately lowers healthcare costs for everyone. A study by the Medical Group Management Association estimated that administrative tasks associated with processing paper prescriptions, largely through wasted staff time, cost medical practices on average \$15,700 a year per physician. Lack of instantaneous notification of formulary compliance and available generic alternatives drives costs up even further, either because more pharmacy-to-physician phone calls are made or because the more expensive prescription is filled.

Another potential cost savings of ePrescribing is reduction in medical errors. The primary means of trying to lower the cost of malpractice lawsuits in healthcare has been tort reform – limiting the amount of damages a patient can receive. But the far more effective way to curb malpractice costs is to reduce medical errors in the first place, and ePrescribing gives doctors effective tools to do just that.

These cost savings extend beyond physicians, pharmacies, and patients. If all Medicare prescriptions were transmitted electronically by 2010, federal health expenditures could be reduced by up to \$29 billion over the next decade, according to The Gorman Health Group.

A RAND Corporation study found that up to \$346 billion could be saved annually through widespread use of EMRs linked to ePrescribing. Though this includes savings from reduced errors and increased efficiencies, the greatest savings result from allowing researchers to tap into the vast pools of aggregated data – detached from personal identifying information – to analyze trends, detect patterns, identify promising treatments, and flag dangerous ones.

ePrescribing State-by-State

The adoption and use of ePrescribing systems varies greatly across the United States. For the previous three years, SureScripts, an association of chain drug stores and community pharmacies, has tracked the growth of ePrescribing on a state-by-state basis through its Pharmacy Health Information Exchange, the largest network to link electronic communications between pharmacies and physicians.

In 2007, Massachusetts led the nation in ePrescription usage: 13.4 percent of all prescriptions in the Bay State were transmitted electronically. While this is still a small number, it compares with just 2.3 percent in 2005. And Massachusetts is the only state to exceed a 10 percent usage rate. Rhode Island, Nevada, Delaware, and Michigan round out the top five ePrescribing states. In 33 states and the District of Columbia, less than two percent of all prescriptions are transmitted electronically.

MICHIGAN – WHERE PAPER KILLS LESS AND LESS

While Massachusetts leads the nation in the percentage of prescriptions transmitted electronically, Michigan is quickly moving up the ranks. The third annual Safe-Rx awards placed the Wolverine State 5th nationally in 2007, up from 10th in 2005. Michigan doctors transmitted nearly 2.5 million ePrescriptions in 2007, 4.2 percent of the total.

Much of the credit for this rapid growth belongs to the Southeast Michigan ePrescribing Initiative (SEMI), a coalition whose members include Ford Motor Company, General Motors, the United Auto Workers, Blue Cross Blue Shield of Michigan, and the Henry Ford Medical Group.

To promote the spread of ePrescribing, SEMI offers medical practices \$1,000 subsidies to help defray the initial costs of equipment, software, and training. To ensure that systems are not only installed but widely used, SEMI typically provides half of the subsidy up front and half after the practice has used the system for six months.

The results have been impressive. In 2006, the Henry Ford Medical Group reported that 80,000 ePrescriptions – 16 percent of the total – were changed due to adverse drug indications, and 50,000 were changed due to formulary alerts, increasing the use of lower cost generic drugs.

Fewer adverse drug events, increased use of generics, and reduced paperwork are lowering healthcare costs for both providers and consumers. Over 70 percent of doctors surveyed in the SEMI program reported that ePrescribing strongly enhances patient safety and quality of care.

PERCENT OF TOTAL PRESCRIPTIONS TRANSMITTED ELECTRONICALLY

TOP 20 STATES BY 2007 RANKING

State	2005	2006	2007
1. Massachusetts	2.3%	8.9%	13.4%
2. Rhode Island	2.6%	5.7%	9.1%
3. Nevada	2.4%	5.6%	7.1%
4. Delaware	0.4%	2.8%	4.2%
5. Michigan	0.2%	1.9%	4.2%
6. Maryland	1.2%	2.1%	3.2%
7. North Carolina	0.3%	1.3%	3.1%
8. Arizona	0.2%	0.5%	2.9%
9. Connecticut	0.0%	0.5%	2.6%
10. Washington	0.1%	0.8%	2.6%
11. New Jersey	0.1%	1.1%	2.5%
12. Pennsylvania	0.1%	1.0%	2.5%
13. Ohio	0.3%	1.0%	2.5%
14. New Hampshire	0.1%	0.4%	2.3%
15. Idaho	0.0%	0.1%	2.2%
16. Maine	0.1%	0.4%	2.0%
17. Louisiana	0.0%	0.2%	2.0%
18. Oregon	0.0%	0.1%	1.7%
19. Florida	0.5%	0.6%	1.6%
20. Virginia	0.3%	0.7%	1.6%

Data are rounded.

Source: SureScripts

Where Do We Go From Here?

AeA's purpose in this eHealth series is to advocate feasible technology solutions that dramatically reduce the cost of healthcare while transforming the quality through which it is delivered. Of all U.S. industries, healthcare is among the last to embrace the full benefits of information technology. Fortunately, this seems to be changing.

The national debate on healthcare policy is back in full force. Unlike in the early 1990s, a consensus is forming that something has to be done to lower costs and increase access to care. The one shining light of agreement on how to begin making that happen is to embrace cost saving and quality enhancing information technologies.

Many in the healthcare community understand the benefits of ePrescribing and the larger goal of digitizing medical records. While some medical practitioners are resistant to change, most are willing to embrace information technology. But they are struggling to figure out how to pay for the initial deployment and how to ensure that once they have invested in the technology, it will be interoperable across the network. Additionally, while all states allow ePrescribing, barriers still exist such as physical signature requirements for controlled substances.

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AeA applauds both the House of Representatives and the Senate for their strong support in passing the Medicare Improvements for Patients and Providers Act of 2008, which includes provisions that promote the use of ePrescribing.

The legislation offers a balance of carrots and sticks. It increases Medicare payments to physicians who switch from handwritten prescriptions to electronically transmitted ones. Over time, this incentive declines, and a penalty will incur which reduces Medicare payments to physicians who are still handwriting prescriptions. As the largest healthcare payer in the country accepted by most physicians, Medicare has enormous leverage to modernize the system.

We now call on policymakers at the state level to promote ePrescribing. Like the federal government, states can leverage their purchasing power as healthcare payers through state entitlement programs and state employee coverage to push for widespread adoption and utilization of ePrescribing.

AeA and the high-tech industry will continue to advocate for technological innovations that transform healthcare delivery. As health insurance providers for millions of Americans and as creators of these cutting edge technologies, the high-tech industry has an enormous stake in this debate.

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