



Implementing electronic prescribing

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Summary Lack of computer expertise, cost, and safety and HIPAA concerns as well as resistance from the office staff have contributed to only about 15% of all physicians sending prescriptions electronically. Adoption of electronic prescribing in the office is easy and relatively inexpensive with the right software and hardware for your unique situation. This general guidance can ease concerns about implementing this new technology in the office. © 2009 Elsevier Inc. All rights reserved.

The Centers for Medicare and Medicaid Services (CMS) are promoting and incentivizing practitioners to use electronic prescribing to decrease prescription errors, improve formulary compliance, and serve as an entrée to electronic medical records (EMRs).¹ Currently, less than 15% of prescribers in the United States send prescriptions electronically²; physician practices seem reluctant to adopt this technology. This article will help to address some concerns about electronic prescribing as well as offer guidance for those looking to adopt the practice.

What is an electronic prescription?

Although software may be used to generate printed prescriptions, by true definition that is not considered electronic prescribing.^{2,3} A prescription must be transmitted from the prescriber's computer to the pharmacist's computer to be considered an electronic prescription. Although computerized physician order entry (CPOE), which is a closed system, is used in many hospitals, ERx refers to the technology for outpatient prescriptions.

Why is the change to electronic prescribing important?

Serious medication errors have dramatically decreased in hospitals, and formulary adherence has improved with

the use of CPOE.^{4,5} These measures have not been studied widely in the community setting, but the available limited studies demonstrate that when electronic prescribing is used, a reduction in medication errors is demonstrated.⁶ Errors or rule violations may occur in as many as 7% to 9% of all handwritten prescriptions because of illegibility and missing information.^{6,7} Some studies have indicated that 15% to 21% of all prescriptions contain at least one error.^{8,9} Pharmacists need to clarify approximately 1% to 5% of all prescriptions with the prescriber.¹⁰⁻¹² A decrease in this rate would benefit patients, as well as reduce the costs associated with these errors and clarifications. With almost 5 billion prescriptions written in the United States annually, even a small decrease in errors would have substantial cost and practical significance. In fact, just decreasing the pharmacist time in communication with the prescriber's office could have substantial implications. Electronic prescribing could also reduce the amount of paper used and the need for storage of traditional prescriptions, resulting in improved resource management within the health care system.

What are some pros for electronic prescription adoption?

There are many advantages to adopting an ERx system. Renewing prescriptions for established patients, electronic prescription refill requests from pharmacies, and electronic authorization for refills by the prescriber are some of the

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main advantages of ERx. The authors have recently evaluated electronic prescribing use in two geographic regions of Ohio and have documented that once prescribers adopt ERx into the standard practice flow, continued use is high.¹³ A decrease in phone calls from the pharmacies for clarification of a prescription has also been noted. Many ERx systems have refill requests sent electronically from the pharmacy to the physician's office. This dramatically decreases the burden of the "refill line" for most physician offices. Once patients are educated to contact the pharmacy regarding refills, this feature is well received by the office staff. Some electronic prescribing software allows the prescriber to see all medications that have been filled for a patient, almost in real time. This is invaluable in the case of a patient who sees multiple providers and helps verify a current medication list. This will become more meaningful when all prescriptions from all providers are in the system and available for viewing by all health care providers. Implementation of ERx in prescriber offices, if done systematically, should not negatively affect workflow.¹⁴

Two small surveys have shown that patients respond favorably to electronic prescriptions and feel that the process saves them time.¹³

What are some concerns about electronic prescribing?

Physicians have expressed concerns regarding the cost of adopting ERx, information and records security, the dependability of technology, and overregulation.³ Anecdotal evidence suggests concerns regarding responsibility and possible liability if the physician's office is notified that a patient did not fill a prescription. For example, would the physician be required to contact the patient and provide counseling if the patient did not have the prescription filled? CMS could possibly mandate that all prescribers are notified of prescriptions that are "no-fills." This has been proposed and may be implemented in the near future, increasing the administrative burden on offices and offsetting any savings from error reduction.

Of course, there are cons to adopting an ERx system. For a free-standing system, the cost starts at around \$1500.¹³ Online software that is web-based requires a licensing fee plus a monthly user fee, as well as associated hardware and internet service costs. There is a web-based electronic prescribing tool that is free to licensed practitioners but requires a subscription. Purchased software that is installed on the physician's computer usually requires an onsite server as well as offsite back up, as required by HIPAA, and may be more costly than predicted. Because most offices now have high-speed internet, this service cost may not be a new one, but adding wireless features or networking can increase the upfront and ongoing costs.

Many health care providers lack the expertise to evaluate an ERx system or know what features to look for when purchasing an ERx program. In many cases, they trust the

vendor's recommendations and do not get what they need in a system. Many practices have had negative experiences with practice management systems (PMS) or other software and are hesitant to make the investment in this technology until there is a standard, universally accepted system.

When beginning ERx in the medical office, the work flow process needs to change. Introducing these changes to an office where the staff is not particularly computer savvy causes "start-up fear" for physicians and staff.¹³

Another concern is that most ERx systems are free-standing and do not interface with the PMS. Information sharing bridges can be built to interface between the ERx system and the PMS and decrease the data input burden of a free-standing ERx system.

Unintended consequences

Pharmacists have reported receiving incorrect prescriptions caused by "point and click" computer errors, where prescribers have used a stylus to choose the medication or dose from a drop-down menu.¹³ ERx systems have added redundancy features that force the prescriber to acknowledge that the prescription is correct before the final send. This helps to eliminate this type of error.

Many times, particularly in the late afternoon, the computer networks can be overloaded because some practices "batch" their prescriptions and refills and deal with all of them at the end of the day. This slowdown can result in prescribers reverting to the old ways—prescription pad and pen.

A frequent concern about electronic prescribing is the overload of information. There are many warnings built into systems for allergies, formulary adherence, drug-drug interactions, and drug-food interactions. Although these can be quite helpful and assist with the avoidance of medical errors, most clinicians find them simplistic and more than 80% of all warnings are scrolled through quickly.¹³

Additional electronic prescribing issues

Restrictions on ERx exist in some states. Although prescriptions can be telephoned and faxed to pharmacies in another state, some boards of pharmacy do not allow electronic prescribing between states. Physicians need to remember that all prescriptions, including ERx, are under the purview of the state board of pharmacy. ERx activity needs to be in compliance with board of pharmacy and board of medicine rules in your state.

In some states, the board of pharmacy must approve an electronic prescribing program before prescribers are allowed to put it to use. Vendors may not understand individual state regulations and sell software in states where it is not approved. Providers should check with the state board

of pharmacy and board of medicine to become familiar with the rules pertaining to electronic prescribing.

Another thing to keep in mind is that in 2008, the Drug Enforcement Agency determined that prescriptions for controlled substances cannot be sent electronically. This may change, but at this time, prescriptions for these medications must still be in paper form. Currently, the only three mail-in pharmacies that are set up to receive electronic prescriptions are ExpressScripts, Medco, and Caremark. If patients have mail-in prescriptions with other pharmacies, these still need to be sent in paper form.

How to start electronic prescribing

Hardware

Almost any type of computer hardware is appropriate for electronic prescribing including a portable electronic device like a laptop, notebook or tablet, a desktop, or a personal digital assistant (PDA). The software vendor may have specific equipment requirements.

In our experience, the tablet, using a wireless internet connection, was superior for prescribing at the time of service. The tablet can move with the prescriber from room to room, as did the paper and prescription pad. However, tablets have a short battery life and need to be recharged during the day. This can be avoided by keeping extra batteries on hand.¹³ Practices with an EMR and a desktop in each examination room may find this to be the best option. The PDA works for some but requires scrolling through multiple screens before finalizing an ERx because of the size of the equipment. Some prescribers have complained that the print is too small.

Software

ERx software is a rapidly evolving business and some of the best software choices may come from relatively new companies. Many offices use a web-based electronic prescribing software. If your practice does not have in-house, full time IT support, the web-based software eliminates having to house software on servers and upgrading it every time a new version comes out. Most local IT services can install a wireless network and assist with implementation of a web-based ERx application.

What features are important in an ERx application?

Allergy, drug-drug, and drug-food interaction warnings are “must-have” features. Ease of use for new patient registration and refill entry are important considerations. The real efficiency of an electronic prescribing system comes during the repeat visit of the patient who is taking multiple

medications. Rather than having to write out many prescriptions at each visit, some systems provide the ability to check a box on the medication list for a refill. Prepopulated medication lists with doses and directions, as well as the ability to build a list of medication favorites, will save time and decrease errors. Providers tend to prescribe the same medications over and over, so these features are beneficial.

Formularies that include the insurances in your area, as well as the Medicare D formularies, help cut down on call-backs from the pharmacy for nonformulary prescriptions. This also allows the provider to discuss a needed nonformulary prescription with the patient before his/her arrival at the pharmacy.

Some questions to ask when looking at software:

- How much is the initial licensing fee and what are the monthly costs?
- Is training for use of the new software provided and what does it cost?
- Is training included in the licensing/upfront costs?
- Is the training live or online?
- Is support provided with the software or is a separate service contract required?
- What training is available for new physicians and staff who join the practice at a later date?
- Does the software vendor have any active practices that can be contacted for references or a visit?

When assessing software, seek out the experience of colleagues. A visit to a similar office that already has an ERx system can be a few hours well spent. Speak with the staff as well as the prescribers to determine the pros and cons of the system in use. Would they choose this system again? What would they change about the system they are using?

Issues going forward

Don't be afraid to make a mistake. If you have chosen software that does not meet your practice needs and have only licensed it for a year, you can shop around for other services as you begin to discover what does and does not work for your office. The cost for licensing is not prohibitive for most software, so jumping in may not be a fatal error. Also, you will need a hardware upgrade every few years, so you may want to think of the software in the same light.

Taking the plunge

Training should occur as close to the start-up date as possible. Many practices have prescriber and staff training on day 1 and then start up on day 2. Many software vendors will stay with the practice for the start-up day to get things going. If there are multiple sites, it is helpful to implement them in sequence rather than starting all sites at once.

Be sure to check that local pharmacies are listed correctly in the system. Many fax numbers and addresses may have changed since the pharmacy information was loaded into the software. The pharmacies need to be advised that prescriptions will be arriving electronically; pharmacies that do not receive electronic prescriptions consistently, may not check their computers regularly for prescriptions. A call to the pharmacy to let them know you will be sending prescriptions electronically can help avoid missed prescriptions. This last part is especially important if you are the first physician in your area to start electronic prescribing. Maintaining open communication between your office and the pharmacies may help identify problems earlier and minimize frustration for all involved.

Let your patients know that you will be sending their prescriptions to the pharmacy electronically. Also, depending on your software, you may need to educate them about calling the pharmacy for refills, rather than the office. Patients should be educated about the security of electronic prescribing and the streamlined approach to managing their prescriptions. They should always be educated to double-check their prescription for accuracy and to ask questions regarding anything that is unclear.

During the first day or two of electronic prescribing, you may ask yourself why you did this. However, by the end of the first month, you will be asking yourself why you didn't do this sooner.

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