



IMPACT OF E-PRESCRIBING IN 2020

¹Pratibha R. Adnaik*, ¹Rahul S. Adnaik, ²Priyanka S. Gawarkar

¹Anandi Pharmacy College, Kalambe Tarf Kale, Tal Karveer, Dist Kolhapur

²Smt. Kashibai Navale College of Pharmacy, Kondhwa (BK), Pune

ABSTRACT

The past several years have witnessed an explosion in the automation of healthcare practices and medicine. Efforts to modernize the health care system have accelerated over the last few years. Today, prescribers (physicians and others who have the authority to write prescriptions) make their prescribing decisions using whatever medical, medication, and eligibility information are known or available to them. The current system of prescribing and dispensing medications has widespread problems with safety and efficiency. Experts predict that a shift to electronic prescribing (e-prescribing) systems could avoid adverse drug events, which is life-threatening. Electronic prescribing (e-prescribing) is one such technology whose time has come. Electronic prescribing is the use of computing devices to create, modify, review, and/or transmit medication prescriptions from a healthcare provider to a pharmacy. It replaces pen and paper with automated, cutting-edge technology. Clinical decision-support tools improve patient safety by alerting prescribers to drug allergies and harmful drug interactions. And e-prescribing not only improves the process of medication dispensing, having formulary information from a patient's insurer at the point of care allows prescribers to reduce costs by choosing the most cost-effective treatment. E-prescribing has the potential to provide a bridge that will facilitate a transformation in health care delivery, which will have a remarkable impact on quality, safety, efficiency, and ultimately the value delivered by the health care system. To put it simply, e-prescribing improves quality and reduces costs simultaneously.

Keywords: - E-prescribing, healthcare, prescriptions.

INTRODUCTION

Efforts to modernize the health care system have accelerated over the last few years. Today, prescribers (physicians and others who have the authority to write prescriptions) make their prescribing decisions using whatever medical, medication, and eligibility information is known or available to them. Typically, they give a handwritten prescription to the patient or phone or fax it to the dispenser (the patient's pharmacy of choice). At any step in the process, the dispenser may need to contact the prescriber by phone for clarification or approval of the change.

The current system of prescribing and dispensing medications has widespread problems with safety and efficiency. Experts predict that a shift to electronic prescribing (e-prescribing) systems could avoid life-threatening adverse drug events. Electronic prescribing (e-prescribing) is one such technology whose time has come.

Electronic prescribing is the use of computing devices to create, modify, review, and/or transmit medication prescriptions from a healthcare provider to a pharmacy.¹⁻²

It is the computer-to-computer transfer of prescription data between pharmacies, prescribers, and payers. It is not the use of a facsimile transaction. It supports messages regarding new prescriptions, prescription changes, refill requests, prescription fill status notification, prescription cancellation, and medication history.³

E-prescribing includes, but is not limited to, two-way transmissions between the point of care and the dispenser. The definition of e-prescribing also encompasses clinical decision support to aid in safer and more informed prescribing such as access to information on drug-drug interactions, drug-allergy interactions, patient medication history, pharmacy eligibility, formulary (which specifies a patient's drug coverage), and benefits information.

E-prescribing also has enormous potential to create savings in health care costs, through the reduction of adverse drug events and in improved workflows. However, the adoption of e-prescribing technology remains limited. The inability of multiple systems to share information effectively, and the lack of a standard format and vocabulary, reduces the effectiveness and attractiveness of using an electronic system.

CANDIDATES INVOLVED IN ELECTRONIC PRESCRIBING

- Prescribers – individual practitioners,
- Clinics, hospitals,
- Provider associations;
- Pharmacies;
- Software vendors;
- Trade and professional associations;
- State and
- Federal governments.

IMPORTANCE OF ELECTRONIC PRESCRIBING (ERX) ⁴⁻⁶

Electronic prescribing is increasingly being viewed by health care systems as an important step toward improved medication safety, better management of medication costs, increased practice efficiency, and improved health care quality. Prescribers may not have access to the latest drug information or lack a complete or accurate medication list or medical history for their patient. As a result, there are possibilities for potential contraindications or duplicate therapies. Dispensers often have difficulty reading handwritten prescriptions, and frequently have little or no information about the patient's condition for which the prescription is written. Contacting the prescriber by phone to clarify what is ordered and to make changes often results in delays for the patient. Moreover, it is time-consuming for both the prescriber and the dispenser. There are disconnects between the prescriber and patient in the medication process, with little or no feedback to the prescriber on whether a prescription was filled, or what generic substitutions were made.

To address these concerns, scholars, health experts, and industry leaders have supported the switch from paper to an electronic system of prescribing.

BENEFITS TO E-PRESCRIBING: ⁴⁻⁸

The potential benefits of e-prescribing include the following,

- **E prescribing** enables real-time availability of information on the formulary, benefits, and medication history.
- Health plans and health systems save money when prescribers stay on formulary and prescribe lower-cost medications.

- It can improve medication compliance.
- The application also provides a comprehensive drug reference tool and automatically checks for drug-drug interactions between previously prescribed medications and the medication being prescribed presently.

THE PRESCRIBING PROCESS

The overall prescribing process is much more complex than simply writing a prescription and dispensing the prescribed medication for a patient. E-prescribing systems use a variety of devices and methods; among the most popular are handheld devices, tablet computers, and desktop computers. System infrastructure may be based entirely on the device, or a server located in the local environment or remotely through an application service provider (ASP) environment. Each of these technologies brings its benefits and challenges to the e-prescribing process.

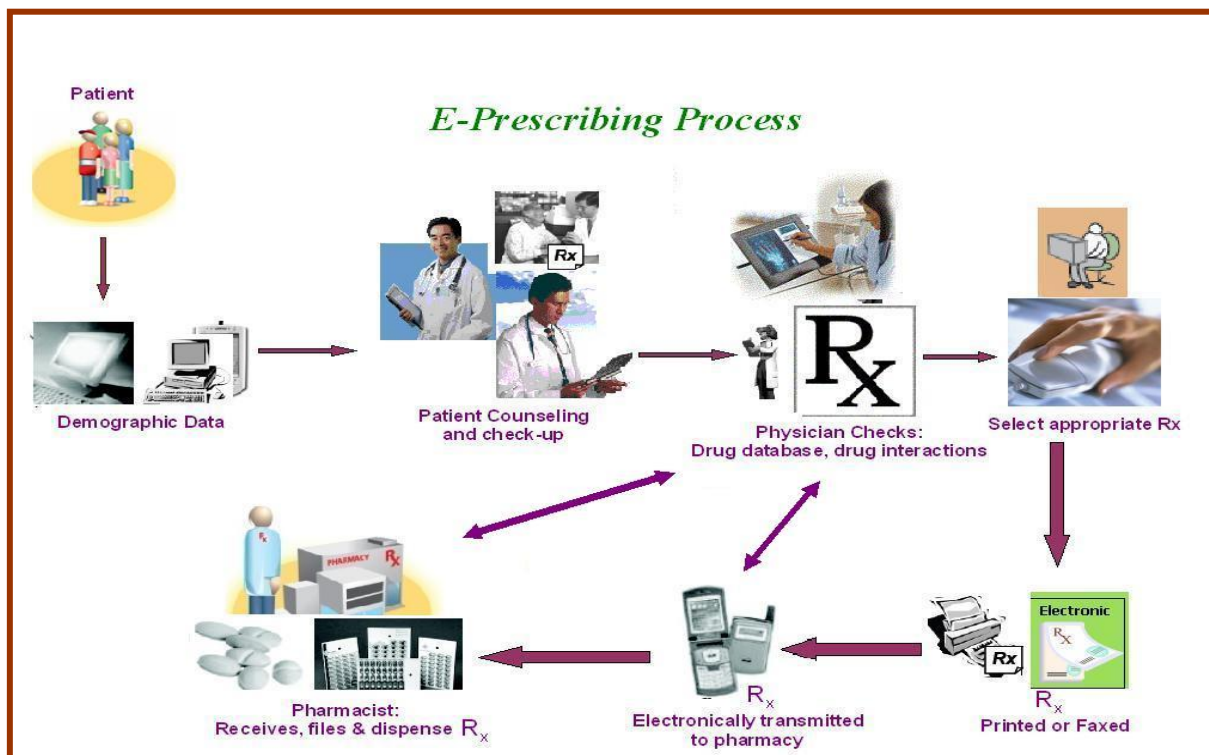


Figure No. 1: E-Prescribing Process

How is an E-Prescribing System utilized? ⁹

E-Prescribing systems can be utilized on a broad range of hardware options including handheld devices, desktop and laptop computers, tablets, and mobile phones with Internet

access. Depending on provider workflow, certain hardware options may be more suitable than others. Regardless of which hardware option is chosen, ordering and managing prescriptions in a clinical setting, the E-Prescribing system generally involves several main steps:

- **Sign on.** To maintain the security of the system, user sign-in is required. Identify patient. The patient must be selected from the electronic system, but proper selection depends on accurate and updated information from EHR, practice management systems, and health insurance carrier databases.
- **Review current patient data.** The provider must review the patient's current and past medication data, based on information from other providers and pharmacies.
- **Select medication.** A provider may either work with a patient's current medication, (i.e. change does refill a prescription, discontinue medication) or choose a new medication either by selecting from a pre-determined list, or searching for specific drugs based on search results, warnings, and/or favorites.
- **Sign the prescription.** Sign one or more prescriptions filled out either by the provider or other authorized staff. Prescription transmission. The prescription is sent to the pharmacy, either via fax or electronically.

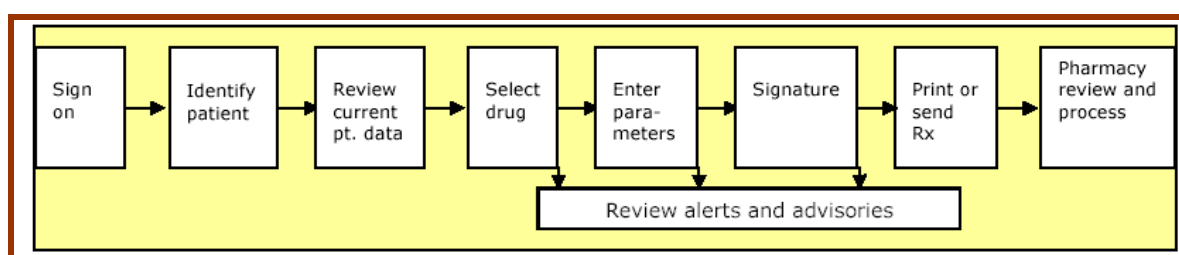


Figure No. 2: Utilization of E-prescribing process

To realize the significant benefits of e-prescribing, systems must be able to function across key steps in the drug delivery chain i.e. from writing prescriptions, to dispensing drugs, to payment. E-prescribing has the potential to drive change in the healthcare industry. Standards are the essential building blocks for the widespread adoption of electronic prescribing and other health information technologies. Developing the standards that will facilitate e-

prescribing must be the key action items to build a nationwide electronic health information infrastructure.

Principles that should be met by systems utilized for electronic prescriptions are as follows: ⁷⁻⁹

1. The process must maintain patient confidentiality.
2. The process must be able to verify the authenticity of the prescription (i.e. the prescriber initiating the prescription).
3. The accuracy of the prescription must be able to be validated, and the process must include a mechanism to prevent forgeries.
4. The process must incorporate a mechanism to prevent diversion so that the prescription authorization cannot be transmitted to more than one pharmacy.
5. The patient's choice must be protected; that is the patient must determine the practitioner to receive the prescription authority.



Table No. 1: Benefits of the e-prescribing systems:

	Potential BENEFITS
Patients	<p>Patients convenience and flexibility</p> <p>Fewer difficulties over prescription insurance coverage</p> <p>Prescriptions or medication ready for pick-up</p> <p>Therapy starts without delay</p> <p>Improved patient safety through the generation of legible, accurate prescriptions that have been checked for harmful interactions.</p> <p>Improved patient satisfaction through rapid prescription filling</p> <p>Potential for most cost-effective therapy with subsequent cost savings</p>
Pharmacists	<p>Fewer handwriting problems or issues; fewer mistakes because of misreads</p> <p>More time spent helping physicians and patients with drug therapy matters and disease-state management</p> <p>Competitive advantage over pharmacists who do not adopt e-prescribing</p>
Physicians	<p>Online notification of drug interactions</p> <p>Online access to patient's information, decision support, and health information sources at the point of care</p> <p>Less time to create an e-prescription</p> <p>Formulary adherence through checking against health plan formularies at the point of prescribing updated in real-time</p> <p>Possible financial benefit through improved formulary compliance</p>
Organizations	<p>Reduced medication cost by influencing a greater use of generics and preferred brand name drugs</p> <p>Fewer communication time and cost (physicians-pharmacies)</p> <p>Less paperwork for staff (faxes, letters, etc).</p>

SUMMARY

E-Prescribing has the potential to provide a bridge that will facilitate a transformation in health care delivery, which will have a remarkable impact on quality, safety, efficiency, and ultimately the value delivered by the health care system. Thus we can incrementally build a true electronic medical record, which, when integrated with a medical decision support system, will resolve many of the issues we currently face in the health care industry.

REFERENCES

1. <http://www.learnabouteprescriptions.com/what-is-eprescription.aspx>
2. Electronic Prescribing: Building, Deploying and Using E-prescribing to Save Lives and Save Money Foreword by Newt Gingrich and Senator John Kerry Published by the Center for Health Transformation, 2008.
3. The Institute of Medicine Reports in 1999 and 2001, "To Err is Human" <http://www.iom.edu/?id=12735> and "Crossing the Quality Chasm" <http://www.iom.edu/CMS/8089.aspx>
4. Minnesota Department of Health Fact Sheet, July 2008. Minnesota's e-Prescribing Mandate Division of Health Policy. <http://www.health.state.mn.us/e-health/eprescribing/erxfactsheet08.pdf>
5. Mandel R, Boulter P, Tufts Health Plan E-Rx Collaborative, E-Prescribing: A Bridge to the 21st Century. www.HCTProject.com
6. HIMSS– e-prescribing article under website –http://www.himss.org/ASP/topics_eprescribing.asp
7. <http://www.surescripts.com/pdf/National-Progress-Report-on-EPrescribing.pdf>
8. Petropoulou S, Bekakos M, Gravvanis, G. E-prescribing-Telepharmacy <http://www.aueb.gr/pympe/hercma/proceedings2005/H05-FULL-PAPERS-1/H05-WORD-PAPERS/PETROPOULOU-BEKAKOS-GRAVVANIS-1.doc>
9. E-Health Initiative. Electronic prescribing: toward maximum value and rapid adoption. Washington DC: Electronic Prescribing Initiative, April 14, 2004. Available at: <http://ehr.medigent.com/assets/collaborate/2004/04/14/eHealth%20Initiative%20Electronic%20Prescribing%20Report%2004.14.04%20Full%20Report.pdf>
10. <http://www.fhin.net/ePrescribe/Resources/ePrescribeProcess.shtml>

