



E-Prescribing in California: Why Aren't We There Yet?

Introduction

Electronic prescribing (e-prescribing) refers to the computer-based generation of a prescription, electronic transmission of the initial prescription to a pharmacy, and exchange of any renewal requests and responses between the prescriber and pharmacist. It also includes the communication of pharmacy eligibility and benefit, formulary, and medication history data from payers to prescribers.

Despite the technology's potential to improve quality of care, increase efficiency, improve patient safety, and reduce costs, a 2008 report outlined California's low adoption rate.¹ According to another report, California had the highest administrative costs associated with dispensing drugs for Medicare beneficiaries, \$13.18 per prescription.² Despite the technology's potential to control costs, only 1,811 providers were actively e-prescribing and only 1.4% of total prescriptions were routed electronically to pharmacies.³ Persistent barriers, including costs to implement the technology, fees associated with using e-prescribing networks, and disruption of workflows, hindered broader adoption.

Since the report's release, there has been renewed effort on the part of the federal government and the private sector to promote the use of e-prescribing and health information technology in general. This issue brief revisits the 2008 report, "Getting Connected: The Outlook for Electronic Prescribing in California," and examines the e-prescribing landscape and California's progress in the intervening years.⁴

Current Status of E-Prescribing in California

In 2010, more than 22 million prescriptions in California were sent electronically between providers and pharmacies. This represents an increase in the percentage of prescriptions routed electronically from less than 2% in 2007 to 16% in 2010.⁵ More than 14,000 providers now prescribe electronically. Despite these increases, the vast majority of prescriptions continue to be routed via paper and processed manually. In the Surescripts 2010 annual Safe-Rx rankings, which measure states' levels of e-prescribing activity, California ranked 45th nationwide for the second year in a row.

According to "California ePrescribing Gap Analysis," a report prepared by Cal eConnect, California's governing entity for health information exchange, factors contributing to the state's continuing low rate of adoption include:⁶

- **Low overall use of e-prescribing.** Only 16% of prescriptions eligible to be prescribed electronically actually are.⁷
- **Low use by solo and small provider practices.** Only 25% of providers route prescriptions electronically to pharmacies; the majority of these providers are affiliated with large health systems.
- **Low participation by independent pharmacies.** In 18 counties, less than 70% of independent pharmacies are capable of receiving prescriptions electronically.

- **Limited availability and use of pharmacy benefit and medication history information.** Only 18% of office visits involved a provider looking up a patient's prescription eligibility and benefit information, and only 10% of visits involved a provider having the patient's medication history available.

Regulatory Environment

Federal Incentive Programs

Since 2008, the federal government has launched several incentive programs to encourage broader adoption of e-prescribing. The Medicare Improvements for Patients and Providers Act (MIPPA) established incentives and penalties for eligible Medicare providers. The program provides a reimbursement bonus to providers that switch to e-prescribing, while providers that do not use the technology will have their payments reduced beginning in 2012.

The federal program with the potential to significantly drive adoption over the next several years is the Health Information Technology for Economic and Clinical Health (HITECH) Act. It created programs under Medicare and Medicaid that provide incentives for the adoption of certified electronic health record (EHR) technology, including e-prescribing.⁸ Under HITECH, eligible professionals qualify for incentive payments ranging from \$44,000 to \$63,750 if they demonstrate "meaningful use" of EHR technology. The stage 1 meaningful use requirements related to e-prescribing include:⁹

- Implementation of drug-drug and drug-allergy interaction checks
- Generation and transmission of permissible prescriptions electronically
- Maintenance of active medication lists
- Maintenance of active medication allergy lists

- Implementation of drug formulary checks
- Implementation of medication reconciliation for patients received from another care provider or setting

Electronic Prescribing of Controlled Substances

Until two years ago, the Drug Enforcement Administration (DEA) prohibited the electronic prescribing of controlled substances (EPCS). This restriction excluded an estimated 10% to 11% of total prescriptions nationwide.¹⁰ It also created significant workflow challenges for e-prescribing providers as they were forced to maintain parallel processes — a paper one for controlled substances and an electronic one for non-controlled drugs.

In June 2010, the DEA issued an Interim Final Rule allowing e-prescribing of controlled substances.¹¹ To do so, prescribers must adhere to stringent requirements including:

- Using e-prescribing software certified for EPCS
- Completing an identification proofing process
- Using "two-factor authentication" every time a prescription for a controlled substance is created

Pharmacy information systems and e-prescribing software are also required to comply with extensive audit requirements.

E-Prescribing Standards

As with any form of electronic information exchange, standards are critical for efficient communication. The standards community has been active in developing and broadening the adoption of e-prescribing standards. The National Council for Prescription Drug Programs (NCPDP) developed the SCRIPT standard to facilitate the exchange of prescription information among

prescribers and pharmacies. Version 10.6 of the SCRIPT standard offers the following benefits:¹²

- Enhanced drug codification using RxNorm to allow for more accurate drug selection
- Greater SIG codification to enable greater consistency in specifying medication directions for use
- Support for Schedule II-V controlled drugs
- Consolidation of medication history information from different sources into a single medication history list and inclusion of medication history source
- Greater support for e-prescribing in long-term and post-acute care facilities

NCPDP also developed a standard to enable the exchange of complete, accurate, and up-to-date patient pharmacy eligibility and benefit, formulary, and medication history information between health plans, pharmacy benefit managers (PBMs), and prescribers. The NCPDP Formulary and Benefit Standard 1.0 includes:¹³

- List of drugs considered to be “on formulary” and alternative drugs for those that are not
- Any limitations affecting the patient’s benefit coverage
- Cost to the patient for various drug options

According to Surescripts, the most widely used e-prescribing network in the country, many of the problems associated with the proper routing of prescriptions between prescribers and pharmacies, especially prescription renewal requests, stem from incomplete or inaccurate data in prescriber and pharmacy directories. These directories contain information critical to the electronic processing of prescriptions such as names, addresses, fax numbers, and other identifiers. Surescripts has initiated a Directory Renovation Project (Directories 5.0) to improve directory data integrity, ensure accurate selection of a prescriber or pharmacy, and ensure the accurate routing of messages.¹⁴ Enhancements

will include standardization of key location information based on US Postal Service standards and the ability for a prescriber to be associated with multiple organizations and locations.

While standards have evolved to keep pace with industry needs and technology, implementation of currently available standards varies greatly across vendors, pharmacies, health plans, and pharmacy benefit managers. The resulting “mosaic” limits the improved functionality that the standards introduce. Until there is universal adoption of current standards, prescribers and pharmacies must maintain myriad electronic and manual workflows based on the capabilities of their software, as well as the capabilities of the organizations with which they exchange prescription-related information.

Continuing Implementation Challenges

Elements key to successful adoption of e-prescribing include:

- Software that is easy to use
- Availability of accurate, complete, and up-to-date information
- Use of advanced features and functionality (e.g., clinical decision support)
- Effective integration of technology into clinical workflows
- Technical support and training

However, as in 2008, persistent barriers continue to limit the wide-scale adoption of e-prescribing. Transaction fees are prohibitively expensive for many independent pharmacies. Many e-prescribing systems are still difficult to use and “alert fatigue” is still a common complaint among providers. Eligibility and benefit, medication history, and formulary information are not consistently available for all insured patients. When available, the information is often incomplete or out-of-date.^{15–17}

Figure 1. E-Prescribing Processes

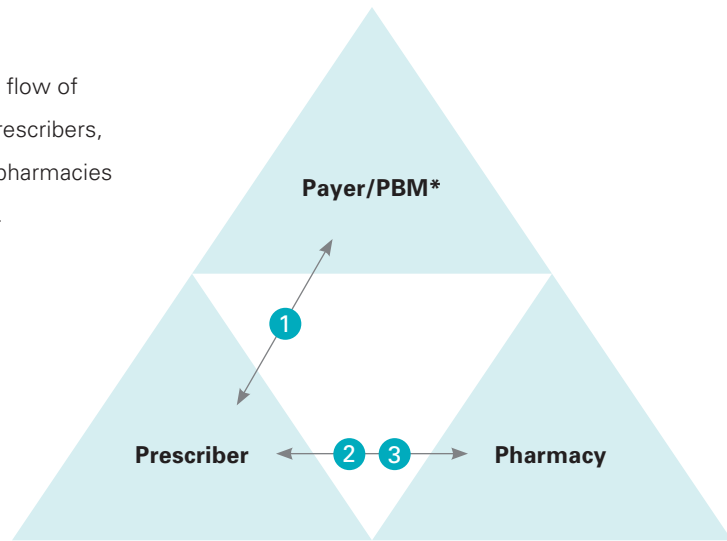
The challenge of e-prescribing is coordinating the flow of information between the three main players — prescribers, payers/pharmacy benefit managers (PBMs), and pharmacies — during the three main e-prescribing processes.

**PROCESS 1:
Prescription Generation**

Prescriber requests and receives a patient’s information from the payer or PBM through an e-prescribing network. Using the network, the e-prescribing application provides access to patient information from multiple external sources, including a history of medications prescribed by other providers, prescription drug benefits, and formulary information (including generic medication alternatives).

Benefits:

- Access to third-party sources of current and previous medications improves accuracy of a patient’s medication list.
- Comprehensive medication lists help improve prescriber decisionmaking and patient medication adherence.
- Comprehensive medication lists feed into electronic clinical decision support features, such as alerts notifying the prescriber about potential adverse reactions.
- Access to formulary and benefit information improves efficiency by reducing callbacks from pharmacies to resolve coverage issues.
- Access to pharmacy benefit co-pay information and generic alternatives lowers patients’ out-of-pocket costs and may improve adherence for patients who forgo medications because of cost.



**PROCESS 2:
Prescription Transmission and Fulfillment**

Prescriber electronically sends the prescription to the patient’s pharmacy of choice. The pharmacy’s information system receives and processes the electronic prescription, including ensuring that patient and prescriber information on the prescription matches information the pharmacy system has. Pharmacy staff then processes each medication prescribed, manually filling in required information such as medication name, quantity, and patient instructions.

Benefits:

- Medication errors due to illegible paper prescriptions are eliminated.
- Operational costs are minimized due to less follow-up with prescribers and less data re-entry.
- Workflow is streamlined with fewer interruptions from phone or fax communications.

**PROCESS 3:
Prescription Renewal**

After all of the refills authorized on the original prescription have been used, the pharmacy creates and transmits a renewal request to the prescriber. The prescriber then electronically approves, makes select changes to the renewal, or denies the request. The success of the renewal process depends on the pharmacy’s ability to match the renewal request with the original prescription using its prescriber directory to ensure that the request is sent for the correct patient to the correct provider at the correct practice location.

Benefits:

- Patient’s electronic health record is updated with the new medication history information.

*Payer/PBM information comes from pharmacy claims sent by the pharmacies and adjudicated by the payer/PBM.

Prescription renewals remain an issue for many providers and pharmacies. Many providers report problems with mail order pharmacies that fax, rather than electronically transmit, renewal requests. Although able to receive prescriptions electronically from a practice, many local and national pharmacies do not consistently request renewal authorizations electronically, and sometimes send multiple requests for the same prescription using different means even after the provider has responded electronically. Similarly, pharmacists report that providers often approve electronic requests by fax or phone.¹⁸ These breakdowns in the renewal process result in inefficiencies that make it more difficult for both parties to ensure that a prescription is filled.

While the DEA's rule change removed regulatory barriers to the e-prescribing of controlled substances, implementation has been limited as e-prescribing software vendors and pharmacies have only recently begun to support EPCS. It is also not clear whether the regulations, designed to eliminate parallel paper and electronic processes, will in fact introduce new workflow obstacles.

Opportunities to Advance Adoption

California has come a long way since the advent of e-prescribing, but the state still has a long way to go to reach universal adoption of the technology. There are many opportunities to accelerate the adoption of e-prescribing across the state.

Increase participation of independent pharmacies.

Generally, fewer independent pharmacies are capable of receiving electronic prescriptions compared to other community pharmacies. Independent pharmacies are slower than other pharmacies to adopt e-prescribing due to cost (transaction fees, software), lack of technical resources, and impact on workflow. Financial and implementation assistance in the form of grants, technical support, and training can help address these barriers. Priority should be given to those non-participating pharmacies with high-impact potential, such as ones

located in underserved areas and serving high numbers of Medi-Cal patients.

Improve the availability and usefulness of patient data.

The availability of eligibility and benefit, medication history, and formulary information when a provider is writing a prescription can have an impact on quality of care and reduce out-of-pocket costs. While most health plans indicate that they do make this information available, health plans can only provide this information for an estimated 72% of patients.¹⁹ Health plans and payers should ensure that this information is consistently available for all insured patients, regularly reviewed and kept complete and accurate, and delivered in a standardized way.

Accelerate adoption of standards. Currently, prescribers and pharmacies that use e-prescribing maintain both electronic and manual or paper-based workflow processes, due to the spotty implementation of e-prescribing and inconsistent reliability of electronic messaging between parties, particularly with regards to renewal requests. Accelerating the rate of adoption of e-prescribing standards, including NCPDP SCRIPT v10.6 and new directory standards, will help increase the overall adoption and use of the technology by prescribers.

Since adoption of new standards can prove challenging, pilot projects can help identify problems and questions that arise with implementation. Lessons learned can be subsequently disseminated to the broader community to help facilitate adoption. Prime candidates for pilot projects include the electronic prescribing of controlled substances and testing the new directory standards associated with the electronic processing of renewal requests.

Expand measures for evaluating performance.

Currently, publicly available e-prescribing performance measures are primarily focused on transactions, such as the number of new prescriptions or renewal requests

sent electronically. Surescripts is currently the primary source of the majority of public e-prescribing related information. There are comparatively few metrics on the impact of e-prescribing on quality of care, patient safety, or cost. For example, health plans or their contracted PBMs pay transaction fees to make patient pharmacy benefit and related information available to prescribers, yet there is little empirical evidence that prescribers are using this information to inform clinical decisionmaking at the point of care. Having a broader set of readily available and usable public performance metrics is critical to continuously improving e-prescribing processes, measuring e-prescribing's value, and creating a more transparent system.

Coordinate action. To accelerate the adoption of e-prescribing, stakeholders — including the Medi-Cal program, the California Health and Human Services Agency, Cal eConnect, regional extension centers, Surescripts, e-prescribing software vendors, pharmacies, health plans, and PBMs — must coordinate their efforts. A coordinated, collaborative approach would benefit efforts to address continuing adoption challenges, implement e-prescribing standards, and make e-prescribing performance data more readily available.

Conclusion

Successful e-prescribing depends on the continuing evolution of standards and the implementation efforts of individual stakeholders to ensure that robust and well-performing e-prescribing processes are the rule rather than the exception. The full benefits of e-prescribing can only be obtained if the goal is to successfully transmit 100% of prescriptions electronically.

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ABOUT THE FOUNDATION

The California HealthCare Foundation works as a catalyst to fulfill the promise of better health care for all Californians.

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ENDNOTES

1. Leslie, T., Sagara, L., and Wallis, K., *Getting Connected: The Outlook for Electronic Prescribing in California*, California HealthCare Foundation. November 2008.
2. *National Study to Determine the Cost of Dispensing Prescriptions in Retail Pharmacies*, Grant Thornton, LLP. January 2007.
3. *State Progress Report on Electronic Prescribing: California*, Surescripts. December 2008.
4. Leslie et al., *Getting Connected*. November 2008.
5. *State Progress Report on Electronic Prescribing: California*, Surescripts. December 2011.
6. *California ePrescribing Gap Analysis*, Cal eConnect. January 2012.
7. The rate does not accurately reflect California's use of e-prescribing, as it does not include data from Kaiser Permanente or Veterans Affairs. Kaiser Permanente, which uses e-prescribing for all of its eligible prescriptions, serves approximately 18% of the California population.
8. Medicare and Medicaid Electronic Health Records Incentive Programs, www.cms.gov.
9. On February 23, 2012, the Department of Health and Human Services issued proposed rules for stage 2 of the Medicare/Medicaid EHR incentive programs. The proposed rules generally strengthen e-prescribing use, for example, increasing the percentage of eligible prescriptions to be transmitted electronically from 40% to 65% and also requiring that these prescriptions be compared with at least one formulary. The proposed rules can be accessed at: www.healthit.gov.
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19. Excluding Kaiser Permanente and Veterans Affairs data, the percentage of patients for whom this information is available is 64%. Source: *California ePrescribing Gap Analysis*, Cal eConnect. January 2012.