

Enabling Electronic Prescribing and Enhanced Management of Controlled Medications

Principal Investigator:	Carrow, Grant, Ph.D.
Organization:	Massachusetts Department of Public Health
Mechanism:	RFA: HS07-006: Ambulatory Safety and Quality Program: Improving Quality through Clinician Use of Health Information Technology (IQHIT)
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Summary: Expansion of electronic prescribing (e-prescribing) to cover federally-controlled substances (e.g., narcotics, stimulants, sedatives) is expected to increase access to needed medications and reduce risks of prescription fraud. The goal of this project is to foster the safe and productive adoption of e-prescribing of federally-controlled substances through the design, implementation, and evaluation of a safe, secure, and efficient system for electronic transmission of controlled substance prescriptions by ambulatory care clinicians at the point-of-care. It will help inform the U.S. Drug Enforcement Administration (DEA) as it implements the recently-promulgated Interim Final Rule (75 FR 16236) governing the electronic prescribing of controlled substances (EPCS).

The project team, led by Dr. Carrow and the Massachusetts Department of Public Health (MDPH) Drug Control Program, is partnering with health information technology solutions providers DrFirst, Inc. and Emdeon to design, implement, and field-test a system for e-prescribing controlled substances in a contained ambulatory care environment. Concurrently, the project is developing and testing a data interface between the e-prescribing system and the Massachusetts Prescription Monitoring Program (MA PMP) to monitor nonmedical use and abuse of federally-controlled medications while supporting enhanced patient-clinician communication, medication access, and safety of patients with chronic medical conditions.

Specific Aims:

- Develop, implement, and verify a system of safe and secure electronic transmission of prescriptions for federally-controlled substances in an ambulatory care setting. **(Achieved)**
- Develop and test the interfacing of this e-prescribing system with the Massachusetts PMP to monitor prescription fraud and nonmedical use of controlled medications. **(Achieved)**
- Conduct systems process and outcomes evaluations of the improvements to patient care, risk reduction, patient and clinician benefits, patient safety, and information privacy and confidentiality that are expected as a result of this system. **(Ongoing)**
- Develop and implement a plan for dissemination of findings. **(Ongoing)**

2011 Activities: Activity continued to expand the EPCS system among the study's participating prescribers who had received cryptokeys (hard tokens) and transmitted at least one EPCS. In addition, the project team:

- Worked with the prescribing and pharmacy application vendors about complying with the DEA's Interim Final Rule (IFR) on EPCS;
- Addressed operational issues associated with the initial version of EPCS software developed by DrFirst,

the prescribing application partner in the project;

- Facilitated discussions with pharmacy application vendors on securing data for the information technology security expert and the MA PMP;
- Distributed followup surveys to the second group of providers who received cryptokeys; and
- Monitored the American Institute of Certified Public Accountants' efforts to develop guidelines for CPA firms that are conducting third party audits of prescribing and pharmacy applications.

The rigorous requirements of the IFR (promulgated 2.5 years after the start of this project), the complexity of the EPCS system, and interdependency of the various software applications contributed to various challenges to achieving compliance with the IFR. The prescribing memorandum of understanding was signed and received by MDPH in April 2011. The DEA required the project team to make a good-faith effort to come into compliance with the IFR and the team worked with the prescribing and pharmacy applications to encourage that outcome. Due to the additional time required to meet the IFR mandate, the project is using an 8-month no-cost extension to complete the project. As last self-reported in the AHRQ Research Reporting System, the project is now completely on track and budget spending is on target.

The project team developed manuscripts, posters, and presentations to disseminate information about the project and broaden the understanding of EPCS and the IFR. These included a poster session titled "Electronic Prescribing of Controlled Medications: Results of a Demonstration Project," presented at AHRQ's 2011 Annual Conference in September, and an article titled "[Prescribers' Expectations and Barriers to Electronic Prescribing of Controlled Substances](#)," published in the *Journal of the American Medical Informatics Association* in September. As the project approaches its conclusion in 2012, the primary focus will be on the development of the final report and on the identification of findings from implementing and using the EPCS system. Providers who do not have the opportunity to extend their use of the current system to electronically prescribe controlled substances will receive communication from the project team congratulating and thanking them for their participation in the study and the contributions that their efforts made to the industry. The communication will advise them of the project's conclusion and share information on lessons learned. The project will continue to monitor developments in other areas of the country as limited rollouts of EPCS emerge and will identify opportunities to gather additional empirical information on the current model.

Preliminary Impact and Findings: Findings that have been made available throughout the course of the project include: 1) the results of the prescribing provider survey conducted in the first quarter of 2009, which examined provider use of e-prescribing and perceptions of EPCS in their daily practice of medicine; 2) the requirements of the DEA IFR on EPCS; and 3) the challenges, both technical and operational, of introducing EPCS into medical practices and the pharmacy community within the DEA's parameters. Analysis of additional findings is underway and will be available in the final report.

Target Population: Adults

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve the quality and safety of medication management via the integration and utilization of medication management systems and technologies.

Business Goal: Implementation and Use
