

Effective Use of e-Prescribing in Physician Practices and Pharmacies

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Summary: This project addressed the need for qualitative research about the effects of electronic prescribing (e-prescribing) on physician and pharmacy practice and communication. The potential gains from e-prescribing assume that prescribers and pharmacists have access to and make use of many of the system's available features. Limited research on the topic suggests that not all e-prescribing systems have the full range of features promoted under financial incentive programs established by the Medicare Improvements for Patients and Providers Act of 2008 and the American Recovery and Reinvestment Act of 2009. Further, even when the features are available, physician practices face barriers to implementing them effectively. Features may be implemented at the practice level, but physicians may not choose to use them. To gain the benefits from electronic transmission of prescriptions, both physician practices and pharmacies must routinely use systems enabled for two-way electronic communications. Identified obstacles in both the physician and pharmacy settings include information technology system limitations, workflow and training issues, and real or perceived regulatory barriers.

The Center for Studying Health System Change (HSC), a non-partisan health policy research organization in Washington, D.C., conducted a qualitative study exploring physician use of third-party information (i.e., medication histories, formularies, and generic medication alternatives) at the point of prescribing and physician practice and pharmacy use of electronic routing features. Information collected by the study will inform strategies for governmental and private health care organizations to promote adoption and effective use of e-prescribing capabilities.

Project Objective:

- Explore how e-prescribing features are implemented and used by physicians and pharmacies with a focus on selected features that have the potential to yield health care quality and cost benefits but that prior research has shown not to be available or used routinely by significant proportions of e-prescribers. **(Achieved)**

2011 Activities: The focus of activity in 2011 was on developing an HSC research brief titled, "Physician Practices, E-Prescribing and Accessing Information to Improve Prescribing Decisions" published by the HSC in May 2011 and a paper titled, "Transmitting and Processing Electronic Prescriptions: Experiences of Physician Practices and Pharmacies" published by the *Journal of American Medical Informatics Association* in November 2011.

Impact and Findings: While most of the practices studied reported that physicians had access to patient formulary information, only slightly more than half reported physician access to patient medication histories, and many physicians did not routinely review these sources of information when making

prescribing decisions. Study respondents highlighted two primary barriers to use: 1) tools to view and import the data into patient records were cumbersome to use in some systems; and 2) the data were not always perceived as useful enough to warrant the additional time to access and review them, particularly during time-pressed patient visits. To support generic prescribing, practices typically set their system defaults to permit pharmacist substitution of generics; many practices also used other tools to more proactively identify and select generic alternatives at the point of prescribing. Overall, physicians who more strongly perceived the need for third-party data, those in practices with greater access to complete and accurate data, and those with easier-to-use e-prescribing systems were more likely to use these features consistently.

The study team found that practices and pharmacies generally were satisfied with electronic transmission of new prescriptions but reported that the electronic renewal process was used inconsistently, resulting in inefficient workarounds for both parties. Practice communications with mail-order pharmacies were less likely to be electronic than with community pharmacies because of underlying transmission network and computer system limitations. While e-prescribing reduced manual prescription entry, pharmacy staff frequently had to complete or edit certain fields, particularly drug name and patient instructions.

The research team concluded that electronic transmission of new prescriptions has matured but that barriers to e-renewals, mail-order pharmacy connectivity, and pharmacy processing of e-prescriptions remain. Similarly, many e-prescribing systems provide electronic access to important information—for example, medications prescribed by physicians in other practices, patient formularies, and generic alternatives—when physicians are deciding what medications to prescribe. However, physician practices with e-prescribing face challenges using these features effectively. Improved data availability and usefulness, changes in technical standards and system design, along with more targeted physician and pharmacy training may be needed to address these barriers.

Target Population: General

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: Knowledge Creation
