

E-Prescribing

The Path to Physician Adoption of HIT
White Paper

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Adoption of Health Information Technology by physicians in the US has progressed at a very slow pace. This observation holds true for both inpatient and ambulatory technology. A KLAS survey from 2006 reported only 17% of participating facilities of greater than 200 beds had implemented a Computerized Physician Order Entry (CPOE) solution.¹ On the ambulatory side, a 2007 government survey indicated approximately 29% of physicians were utilizing an EMR system.² Many reasons are cited for the lack of demonstrable progress in physician adoption, including technophobia and aversion to change as well as disappointment with application performance and lack of compelling return on investment (ROI) data. Cost becomes even more a factor in the ambulatory setting, where initial capital investment and system maintenance costs are seen as undue financial burdens on already struggling physician practices.

A confluence of developments in the specific Healthcare Information Technology (HIT) area of “e-prescribing” has opened the door for wider general adoption of HIT. For the purposes of this paper, an e-prescribing solution is the component of the EHR that involves the transmission, using electronic media, of prescription or prescription-related information between a prescriber, dispenser, pharmacy benefit manager or health plan, either directly or through an intermediary.³

In order to see broader physician adoption of any aspect of HIT, the industry must recognize and respond to the factors that both inhibit and enhance a change of this significance. An October 2006 report by the Office of the Assistant Secretary, Health and Human Services (HHS) documented three groups of benefits and barriers to physician adoption of EMR: 1) financial, 2) technical and 3) practical.⁴ The financial barriers included lack of capital and time, complex contracts,

and Total Cost of Ownership (TCO) concerns. The corollary potential financial benefits noted were reduction in staff and transcription cost, increased charge capture, and increased revenue. Physicians also identified a number of technical concerns as barriers to adoption, including the complexity of evaluating, selecting, and using an EMR application; inadequate training and lack of a migration plan; and inadequate technical standardization. Practical concerns centered on privacy, productivity, and value. In the HHS report, there was an obvious overlap of technical and practical benefits that included improved access to information and clinical guidelines, which the physicians believed led to improved decision-making and reduction in medication errors. Physicians also cited additional benefits in the area of workflow, specifically, enhanced drug-refill capacity, reduction in chart pulls, and improved phone call/message turnaround time. These improvements ultimately allow for more time with patients and higher patient satisfaction.

A study in the July 2008 issue of *New England Journal of Medicine* reported the results of a nation-wide EHR survey.⁵ It confirmed the very low adoption rates with 4% of physicians utilizing an advanced, fully functional system and 13% using a basic system. The survey provided insight into some characteristics of adopters vs. non-adopters with specialty (primary care), medical group size (large), structure (hospital/medical center owned), and locations (Western US) as positive correlations for adoption. Financial concerns were again listed as a significant deterrent, including capital cost and inadequate ROI. The following chart captures the full range of barriers and their unique level of significance to the survey population.

Table: Barriers to the Adoption of Electronic Health Records*

Variable	Any Electronic-Records System (percent)**	No Electronic-Records System (percent)	P Value
Amount of capital needed			
Major barrier	47	66	<0.001
Minor barrier	30	22	
Uncertainty about return on investment			
Major barrier	33	50	<0.001
Minor barrier	34	31	
Resistance from physicians			
Major barrier	27	29	0.37
Minor barrier	42	42	
Capacity to select, contract, install, and implement			
Major barrier	26	39	<0.001
Minor barrier	45	42	
Concern about loss of productivity during transition			
Major barrier	35	41	0.02
Minor barrier	42	40	
Concern about inappropriate disclosure of patient information			
Major barrier	14	17	0.09
Minor barrier	43	45	
Concern about illegal record tampering			
Major barrier	14	18	0.007
Minor barrier	42	46	
Concern about the legality of accepting electronic records from a hospital			
Major barrier	7	11	0
Minor barrier	27	33	
Concern about physicians' legal liability			
Major barrier	11	14	0.02
Minor barrier	34	38	
Finding an electronic-records system to meet needs			
Major barrier	38	54	<0.001
Minor barrier	38	32	
Concern that the system will become obsolete			
Major barrier	27	44	<0.001
Minor barrier	44	40	

*Percentages were calculated with the use of a multivariable logistic-regression model. Variables included in the model were medical specialty (primary care vs. not primary care), the number of years since graduation (1 to 9, 10 to 19, 20 to 29, or ≥30), clinical setting (hospital, private office, or others), and region (Northeast, Midwest, South, or West). Separate models were fitted for each of these questions.

**The category includes both fully functional and basic electronic health records.

Table taken from *New England Journal of Medicine*.⁵

Of those physicians who have adopted either a full or basic system, the feedback was very positive and confirmed the potential benefits cited in the HHS study.

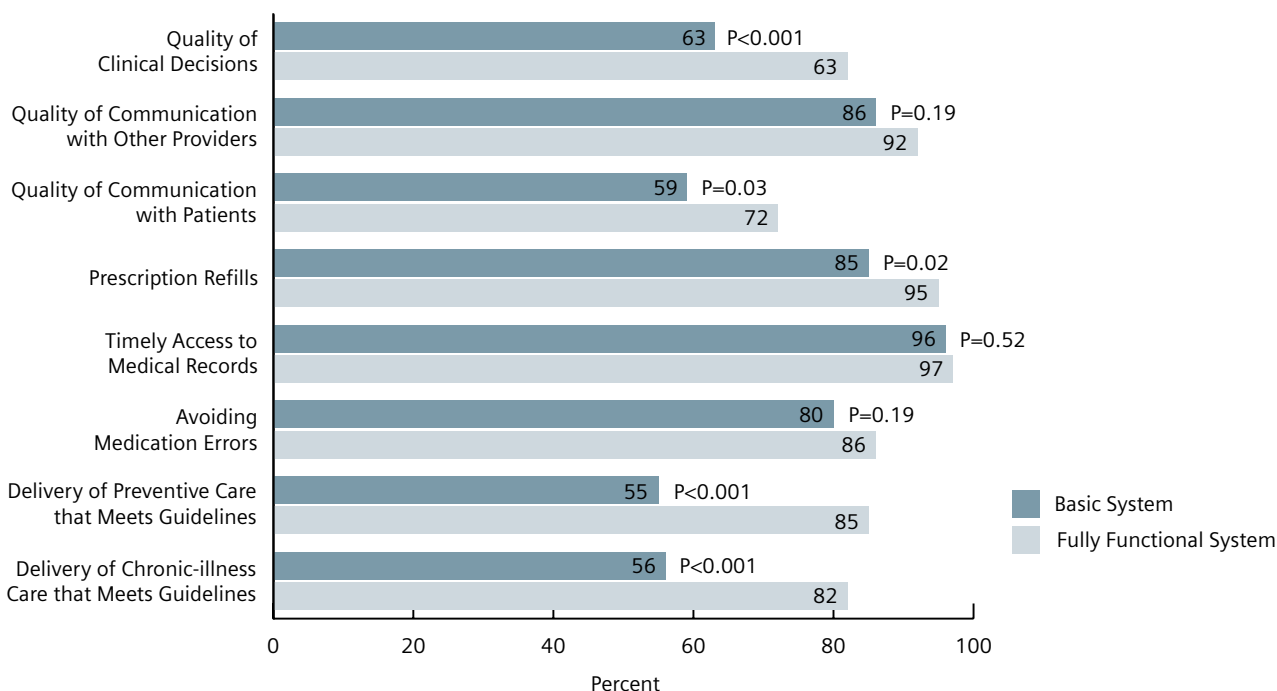


Chart taken from *New England Journal of Medicine*.⁵

Despite these positive findings, approximately 70% of US physician remain non-adopters of any form of EHR technology. An evolving focus on e-prescribing, may present the best opportunity to successfully introduce acceptable, valuable technology into the broader physician community. Success in this focused, manageable area could open the door to broader adoption of both ambulatory and inpatient components of the EHR.

No component of the EHR has received more attention over the last few years than e-prescribing. The attention is coming from government, private industry, insurers, and specialty organizations, and is closely linked to the broader medication safety initiatives. With this attention have come programs designed to address the core barriers to adoption.

The Medicare Improvements for Patients and Providers Act (MIPPA) was enacted in July 2008. This statute authorized CMS to create an incentive program to stimulate the deployment and utilization of e-prescribing technology. Starting in 2009, participating Medicare providers will receive an annual incentive payment totaling 2% of all Medicare billed

charges for that year provided they e-prescribe using a qualified system in at least 50% of the eligible prescribing opportunities. The American Academy of Family Physicians Center for Health Information Technology estimates the incentive payment for a primary care physician with an average Medicare practice at \$2,000/year.

State initiatives align with national trends in the promotion of e-prescribing technology. The State Alliance for e-Health, an offshoot of the National Governors Association and funded by the Office of the National Coordinator (ONC), released its first annual report in September 2008 and specifically addressed the importance of e-prescribing.⁶

“E-prescribing is critically important to the advancement of e-health. Although the necessary infrastructure and standards for e-prescribing exist across the nation, the rate of adoption has been slow. The State Alliance recognizes e-prescribing as a gateway to other advances in e-health. Therefore, the State Alliance calls on states to lead these efforts and take action to drive adoption of e-prescribing.”⁷

Some states have even taken the initiative a step further, ensuring action on the part of the healthcare providers in that state. For instance, the State of Minnesota is making e-prescribing mandatory. Minnesota law requires that “effective January 1, 2011, all providers, group purchasers, prescribers, and dispensers must establish and maintain an electronic prescription drug program that complies with the applicable standards in this section for transmitting, directly or through an intermediary, prescriptions and prescription-related information using electronic media.”⁸

Private industry, health plans, and industry organizations are coming together in unique alliances to promote the acceptance and utilization of e-prescribing technology. The Southeast Michigan e-Prescribing Initiative or SEMI is a coalition that includes General Motors, Ford Motor Company, Chrysler LLC, the United Auto Workers, Blue Cross Blue Shield of Michigan, Health Alliance Plan, Henry Ford Medical Group, Medco Health Solutions, Inc., CVS Caremark Corporation, RxHub, LLC and SureScripts®.⁹ What began as an employer-driven initiative, evolved into a highly successful multi-stakeholder effort and resulted in the adoption of e-prescribing technology by more than 3,000 physicians in a seven-county area. SEMI provided financial incentives totaling \$1,000 per provider and assistance with vendor selection and implementation. At the end of three years, 500 of the participating providers were surveyed and the following results captured:

- 90% reported e-prescribing met or exceeded their expectations
- 70% felt e-prescribing improved quality of care
- 75% strongly agreed that e-prescribing enhanced patient safety
- 70% were satisfied with the ease of drug/drug and drug/allergy testing
- >50% strongly agreed that e-prescribing saved clinician time and improved productivity
- Two out of three respondents said they were more likely to prescribe a generic or plan-preferred drug with e-prescribing

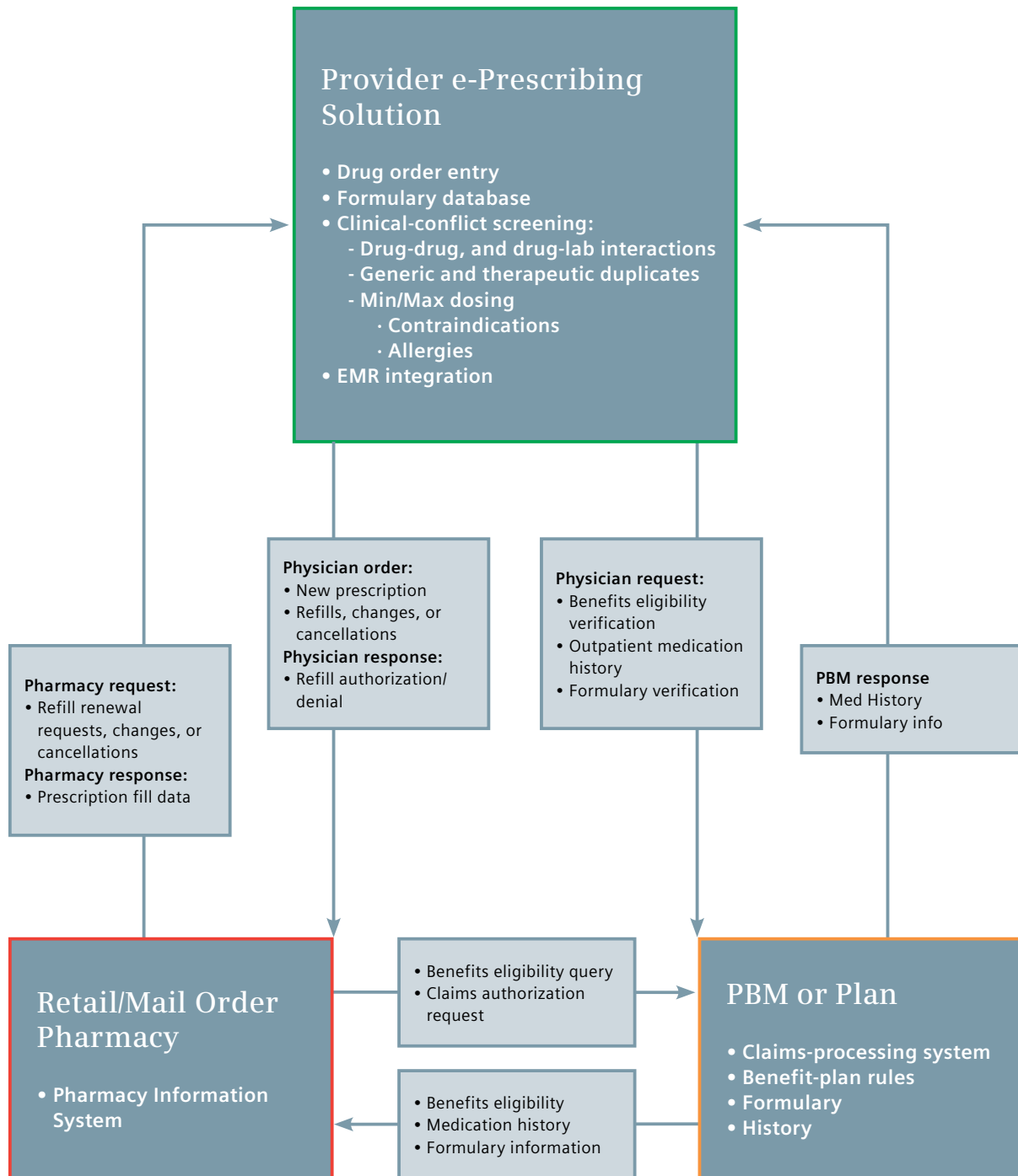
These are the kind of positive HIT experiences that will pave the way for adoption of additional technology by a previously reluctant physician population.

A number of the medical and surgical specialty organizations have made a commitment to the growing e-prescribing movement by either launching their own initiatives like the American College of Cardiology’s (ACC) e-Prescribing Initiative or by participating in the multi-specialty Get Connected E-Prescribing Campaign.¹⁰ The ACC is encouraging its members to consider adopting e-prescribing technology for a number of important reasons. They point to improvements in patient safety and convenience. They also reference data supporting a significant return on investment for those practices using e-prescribing.

Two factors contributing to the success of efforts like SEMI and the willingness of organizations like the ACC to promote e-prescribing technology are the technical characteristics of these solutions and the practical workflow benefits that e-prescribing technology delivers. In general, these solutions are easy to install, maintain, and use. The implementations are efficient from a time and resource standpoint and do not, as a rule, disrupt the normal physician workflow. On the contrary, e-prescribing data and workflow enhancements address a set of readily identifiable pain points common to almost every practice. These pain points include frequent medication-related phone calls either from patients or pharmacies, excessive chart pulls, lack of satisfactory medication history data, incomplete allergy and drug interaction data, and cumbersome formulary data access and management. Nearly every prescription-related event is impacted by these time- and labor-intensive manual tasks. The ACC, in its efforts to promote e-prescribing, includes references to an MGMA study estimating \$10,000/yr/physician is spent on pharmacy refill phone calls and a SureScripts survey estimating a total of \$50,000/yr/practice is spent on the med refill process. These estimates combined with the Medicare Modernization Act (MMA) e-prescribing pilot study, which demonstrated a 50% reduction in time spent on refill management, make a strong argument for improvement in both workflow and economics.¹¹

By addressing these pain points with one user-friendly, relatively inexpensive solution, the chances for more widespread adoption and subsequent ongoing use are greatly enhanced. The following diagram captures the Electronic Data Interchange (EDI) transactions that support the e-prescribing workflow enhancements.

e-Prescribing Transaction Model



■ NCPDP Standard Transactions

Health Information Technology has been available in one form or another for more than 30 years, and we find ourselves in 2009 with universal consensus that physician adoption remains low and is a significant impediment to realizing the full value of the EHR. Through a convergence of interests, an improvement in technology, and the availability of financial incentives, we are about to open a new chapter in this effort. Physicians will find the capital investment more palatable as the cost of the technology drops and government/payment incentives grow, and ROI data become more available. The explosion of the Internet and the proliferation of affordable mobile devices have reduced the level of technology avoidance dramatically. The success of pilot projects, regional initiatives, and local anecdotal experience will address concerns of privacy and productivity.

The short-term, eminently achievable goal is the widespread adoption of e-prescribing technology by the US physician community. The various stakeholders involved in the HIT discussion are, for the most part, in alignment and moving in a unified direction, which is unique in this industry. Most importantly, physicians should be able to appreciate the benefits of the technology both clinically and financially. As a result we should see broad adoption by physicians across the practice spectrum.

¹ Gale A. KLAS CPOE Digest 2008. KLAS Research. 2008.

² Hing E, Burt CW, Woodwell DA. Electronic medical record use by office-based physicians and their practices: United States, 2006. Advance data from vital and health statistics; no. 393. Hyattsville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics; 2007. Available at <http://www.cdc.gov/nchs/data/ad/ad393.pdf>.

³ 42 CFR Part 423 Medicare Program: E-Prescribing and the Prescription Drug Program, Final Rule. Federal Register. 2005;70(214):67571.

⁴ Rippen H, Vigilante K, Higgins A. Summary of the Findings Assessing the Economics of EMR Adoption and Successful Implementation in Physician Small Office Settings. US Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation; 2006.

⁵ DesRoches CM, Campbell EG, Rao SR, et al. Electronic Health Records in Ambulatory Care—A National Survey of Physicians. *NEJM*. 2008;359(1):50-60. Accessed via Epub June 18, 2008.

⁶ ACCELERATING PROGRESS Using Health Information Technology and Electronic Health Information Exchange to Improve Care. State Alliance for e-Health First Annual Report: National Governors Association; 2008

⁷ State Alliance Call to Action for NGA. National Governors Association Website. 2009. Available at <http://www.nga.org/files/pdf/0805EHEALTHSTATEMENT.pdf>. Accessed 2/23/2009.

⁸ Minnesota Statutes, section 62J.497

⁹ Employers' Leadership in E-Prescribing. eHealth Initiative Website. 2009. Available at: <http://www.ehealthinitiative.org/eRX/bestPracEmpLeadI.aspx>. Accessed 2/23/2009.

¹⁰ Get Connected E-Prescribing Campaign. American College of Cardiology Website. Available at: <http://www.getrxconnected.org/ACC/site.aspx>. Accessed 2/23/2009.

¹¹ Get Connected E-Prescribing Campaign. American College of Cardiology Website. Available at: <http://www.getrxconnected.org/ACC/site.aspx>. Accessed 2/23/2009.

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