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## Inside the Southeast Michigan ePrescribing Initiative

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*Despite clear evidence of its benefits, widespread adoption of electronic prescribing (ePrescribing) has been slow. The vast majority of prescriptions are still written by hand, a process plagued with errors and inefficiencies. The Southeast Michigan ePrescribing Initiative (SEMI), a collaborative effort of employers, health plans, physician groups, and others, was launched in 2005 to speed the adoption of ePrescribing. SEMI has accomplished much in 4 years, enrolling more than 3000 physicians who have transmitted nearly 9.5 million electronic prescriptions while improving patient safety and winning over physicians. (Drug Benefit Trends. 2009;21:23-26)*

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Of the 4.5 billion prescriptions dispensed each year in the United States, the vast majority are still written by hand.<sup>1</sup> This paper process is prone to errors because of such rudimentary factors as illegible handwriting and communication inefficiencies as well as the inability to gain access to critical clinical data at the point of prescribing, such as drug history.

According to the Institute of Medicine (IOM) report "Preventing Medication Errors," at least 1.5 million preventable adverse drug events occur each year—mistakes that cost the health care system a conservative \$3.5 billion annually.<sup>2</sup> To reduce the likelihood of these errors, improve clinical decision making, and increase health care system efficiencies, the IOM has recommended that physicians and pharmacies implement electronic prescribing (ePrescribing) by 2010. A study by the Center for Information Technology Leadership has estimated that ePrescribing could save the

nation's health care system \$27 billion per year.<sup>3</sup>

Despite the clearly defined benefits, adoption of ePrescribing has been slow primarily because of the cost and time required to make the transition to the new technology. Although the rate of adoption has accelerated over the past few years, estimates are that fewer than 20% of clinicians currently use ePrescribing.<sup>1</sup> To spur the adoption of ePrescribing, stakeholders have been implementing various projects and initiatives to assist clinicians in the transition to ePrescribing. Although their scope and operating process may differ, these programs all share the common mission of improving patient safety, increasing efficiency, and decreasing costs.

An example of such an initiative that has achieved impressive results is the Southeast Michigan ePrescribing Initiative (SEMI). While the primary objective of this employer-driven initiative is to encourage the adoption of ePrescribing in the greater

Detroit metropolitan area, SEMI has also been analyzing the effect of the technology on patient safety and prescription drug costs. SEMI's multi-phase plan has integrated community outreach and financial incentives with training support to drive the expansion of ePrescribing in its target area. Since its inception, SEMI has enrolled more than 3000 physicians, who have transmitted nearly 9.5 million electronic prescriptions (SEMI internal data). In large part because of SEMI's success, Michigan now ranks fifth among states in the adoption of ePrescribing.<sup>4</sup>

### Benefits of ePrescribing

Simply stated, ePrescribing is a process by which prescription information is electronically transmitted from the physician directly to the patient's pharmacy. At the point of prescribing, the physician has access to the patient's medication history and to relevant insurance coverage information. The ePrescribing system alerts the physician if it detects a potential adverse drug reaction to the medication being prescribed (eg, drug-drug interactions or drug allergies). With real-time access to information, the physician can modify the prescription to avoid potential adverse effects. Any issue regarding the use or cost of the medicine can be discussed with the patient while he or she is still in the examination room and before the prescribing process is completed.

Because ePrescribing is an integral component of electronic medical records, many of the transcription errors that occur with handwritten pre-

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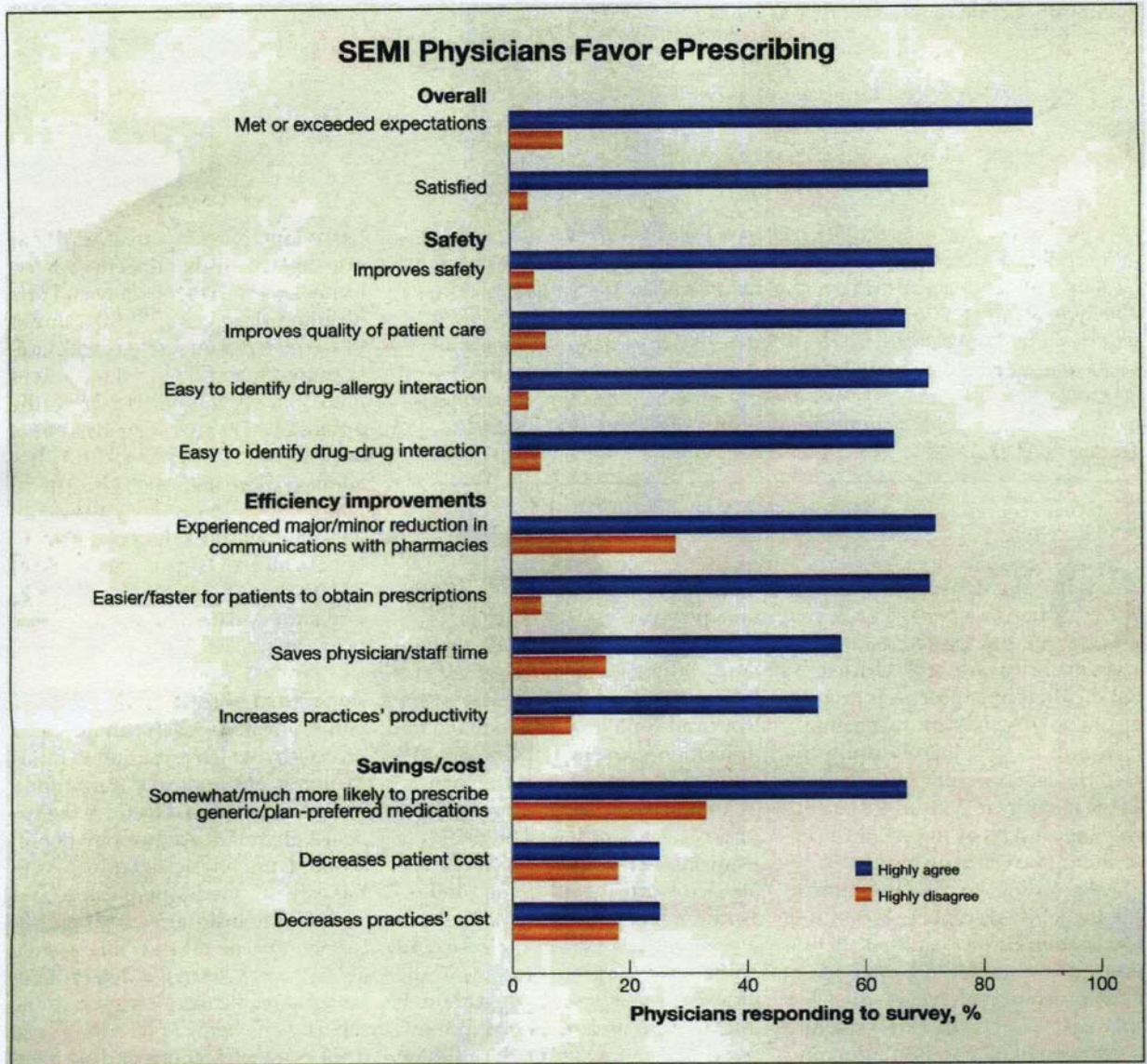


Figure. Physicians are more likely to identify safety benefits and efficiency improvements than cost savings. Findings are from the SEMI ePrescribing Survey, conducted by Haldy McIntosh & Associates, January 2008. (SEMI, Southeast Michigan ePrescribing Initiative.)

scriptions are eliminated, improving patient safety by providing physicians with clinical information concerning drug effectiveness and safety. Also, because the ePrescribing process facilitates dialogue with their physicians, patients gain a better understanding of the medication's purpose and the importance of following the prescribed drug therapy.

#### Formation of SEMI

General Motors Corporation, Ford Motor Company, and Chrysler LLC, along with Michigan health plans and pharmacy benefit manager Medco Health Solutions, first came together to develop SEMI in February 2005. The primary objectives of the initiative were to improve the health and safety of the automakers'

employees, retirees, and families and to better manage health care costs. Additional stakeholders were invited to participate in order to enhance program deliverables, including the United Auto Workers, Health Alliance Plan (HAP), Henry Ford Medical Group (HFMG), Blue Cross Blue Shield of Michigan (BCBSM), CVS Caremark Corporation, RxHub LLC,

and SureScripts.

In the nearly 4 years since the program was launched, General Motors, Ford, Chrysler, BCBSM, and Medco have invested more than \$1 million to help physicians defray start-up costs and to educate physicians and others on the benefits of participating. The stakeholders were convinced that if physicians were also invested in the project's success, they would be more inclined to continue to use the system even if there were minor glitches, which are more likely to arise in the beginning stages of any new technology.

#### **SEMI's Action Plan**

SEMI's strategic plan was implemented in 3 phases. During phase 1 (2005 to 2006), HAP partnered with HFMG to pilot test ePrescribing in 8 primary care practices. The feedback from the clinical staff at these sites, combined with the positive patient response, led HFMG to quickly roll out ePrescribing to all of its 900 physicians. Thus, the ePrescribing network was created for the Detroit area. With the rollout of ePrescribing to HFMG, the value of ePrescribing could be measured because of the considerable volume of patients and prescriptions. The experience also led to the creation of physician leaders willing to serve as ePrescribing champions. These physician champions then met with other doctors to share their experiences and the value they and their patients received from implementing ePrescribing in their practices.

Phase 2 (2006 to 2007) focused on outreach to the medical community. The emphasis was on partnering with physician organizations and independent physician associations in the Detroit metropolitan area because of the implementation support they could provide to their member physicians. The physician leaders played a pivotal role in edu-

ating their peers about the benefits of the new technology. Physicians who chose to participate in the program selected the ePrescribing hardware and software that best suited the needs of their medical practice. One of SEMI's key operating principles was that physicians had to have "skin in the game" in order to solidify their commitment to ePrescribing. Rather than distributing the technology without defined expectations, SEMI provided financial support to each physician to offset \$500 of the capital expense and then provided an additional \$500 after 6 months of system use. SEMI partners, such as HAP, also conducted training programs for clinicians to ensure that ePrescribing became an integral part of the practices' operations. SEMI's initial outreach effort was extremely successful, resulting in an enrollment that reached more than 2100 physicians.

In 2007, SEMI began phase 3, which focused on recruiting additional physicians and encouraging increased use of the technology by participating medical practices that had low ePrescribing utilization rates. SEMI continued to seek partnerships with physician organizations in this phase. Outreach efforts continue to draw in new participants each month. At the end of July 2008, SEMI had a total of 3084 participating physicians writing nearly 400,000 electronic prescriptions each month.

#### **Practical Application and Efficiency Improvements**

In July 2008, SEMI reviewed its statistical database of more than 6 million electronic prescriptions written by participating physicians and found the following:

- When a formulary alert was presented, physicians changed the prescription 37% of the time to comply with medications specified by the formulary.

- More than 1.89 million alerts were sent concerning moderate or severe drug-drug interaction risks, resulting in the changing or cancellation of nearly 719,000 (38%) of those prescriptions.
- Nearly 177,000 medication allergy alerts were transmitted, of which more than 69,000 (39%) were acted upon.

Physicians typically spend more than 3 hours a day handling phone calls and extra work related to prescriptions, which can range from patient refill requests to pharmacist inquiries concerning illegible handwritten prescriptions.<sup>1</sup> ePrescribing eliminates these inefficiencies by streamlining the process. In a 2003 study by Medco Health Solutions, implementation of an ePrescribing system led to a 42% reduction in such calls.<sup>5</sup>

#### **Improving Quality of Care**

In January 2008, SEMI commissioned a survey by Haldy McIntosh & Associates to gain a better understanding of physician and staff opinions of the technology (Figure).<sup>6</sup> A total of 500 physician practices participating in the SEMI program were polled. Among the findings was that ePrescribing helps clinicians practice better medicine—suggesting that the medical community embraces the technology once it is incorporated into their daily operations.

More than 70% of respondents indicated they were very satisfied with the ePrescribing system. More than 80% of all prescriptions written by those polled were done electronically; 4 of 10 wrote electronic prescriptions exclusively.

Among the other key findings of the survey were the following:

- 70% of physicians surveyed found that ePrescribing improves the quality of care for the patients.
- More than 70% strongly agreed that the patient's transaction at the

pharmacy is faster and easier with ePrescribing.

- Nearly 65% of physicians changed at least 1 prescription in response to a safety alert.
- More than 70% of physicians polled saw a reduction in communications with pharmacies; for 40% of those surveyed, the reduction was substantial.
- More than half of the respondents strongly agreed that ePrescribing saves clinicians time (56%) and increases productivity (52%).

### Financial Benefits

The experience of SEMI has provided evidence that ePrescribing helps reduce prescription drug spending by increasing the use of lower-cost medications. At the time the prescription is being written, the physician receives cost information and suggestions of plan-specific lower-cost alternatives, such as generic options. These real-time data enable the physician to discuss the various options with the patient and to select the most cost-effective therapy before finalizing the prescription. In an analysis of HFMG, the use of ePrescribing by its 900 participating physicians saved an estimated \$4 million annually through increases in generic dispensing rates, reduced medication error rates, and improved clinical and physician work flow.<sup>7</sup>

### Michigan Ranks Fifth in Nation

In March 2008, Michigan received the Safe-Rx award for finishing fifth in a national ranking of states implementing ePrescribing. The Safe-Rx awards are given each year to the 10 states that transmit the most electronic prescriptions as a percentage of the total number of prescriptions eligible for electronic routing over the Pharmacy Health Information Exchange operated by SureScripts/RxHub.<sup>8</sup>

Michigan had been rising in the

ranks since the formation of SEMI—from 10th in 2006 to 6th in 2007. More than 90% of the 2.5 million electronic prescriptions written in Michigan throughout 2007 came from doctors within the 7-county target area.<sup>8</sup>

### Federal Initiatives

The inclusion of ePrescribing in the Medicare Modernization Act (MMA) of 2003 gave momentum to the adoption of ePrescribing. The MMA created a voluntary prescription drug benefit program under Medicare, known as Part D. Under that law, ePrescribing was mandated for Part D plan sponsors while remaining optional for physicians and pharmacies.

In 2007, federal legislation was introduced that would use financial “carrot and stick” incentives to encourage physicians to adopt ePrescribing. The measure was incorporated in the 2008 Medicare reform bill, which Congress passed in July. Under the bill, Medicare physicians will receive a bonus payment for converting to ePrescribing before 2013. Beginning in 2010, physicians who have not converted to ePrescribing will be reimbursed at a lower rate; in other words, a penalty will be imposed.

Government initiatives like the one outlined above will help facilitate the transition to ePrescribing sooner rather than later. Similar initiatives are being implemented at the state level as well. The governor of Minnesota is requiring a shift to ePrescribing by 2011. In Vermont, the state legislature is funding an ePrescribing feasibility and planning study. The Arkansas Department of Health and Department of Human Services are funding an ePrescribing initiative through the state’s Medicaid program.

### Conclusion

In the 4 years since its formation, SEMI’s comprehensive approach has

achieved impressive results in quality of care enhancements and in cost reductions. When the program started in 2005, the number of electronic prescriptions sent to area community pharmacies was just 130,000 annually, but by 2007, that number had sky-rocketed to almost 2.2 million—more than a 16-fold increase in 3 years.

The benefits of ePrescribing have been documented through research and numerous initiatives. The technology helps reduce processing errors, increase efficiencies, contain costs and, most important, improve patient safety. The success of SEMI is providing consumers in southeast Michigan with safer and more cost-efficient use of prescription drugs while facilitating faster adoption nationwide. ■

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