Second Annual Florida 2008 Electronic Prescribing Report

FLORIDA CENTER FOR HEALTH INFORMATION AND POLICY ANALYSIS

AGENCY FOR HEALTH CARE ADMINISTRATION

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AHCA

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Better Health Care for All Floridians

Acknowledgements

Executive Summary

Introduction

The 2008 Florida Electronic Prescribing Report provides a general assessment of the status of electronic prescribing (e-prescribing) in Florida in 2008. It presents a review of Agency for Health Care Administration (Agency) activities to promote e-prescribing, highlights of other public and private e-prescribing initiatives, aggregated Florida e-prescribing metrics using data provided by national organizations and recommendations for next steps in 2009. This report is mandated in s. 408.0611 Florida Statutes which provides that the Agency shall disseminate information to promote the adoption of e-prescribing.

E-prescribing enables the electronic transmission of prescriptions as well as access to a patient's medication history by prescribing physicians at the point of care. It improves prescription accuracy, increases patient safety and reduces costs. Accessing patient medication history through e-prescribing systems enables the physician to better coordinate patient care with other treating physicians, and enhances the disease management initiatives of payers and providers. E-prescribing creates efficiencies and provides cost savings to all participants including physicians, pharmacies, health purchasers and patients.

Electronic Prescribing Highlights in 2008

Several important public and private sector developments took place in 2008 that will impact e-prescribing over the next several years. In the public sector, the Medicare Improvements for Patients and Providers Act of 2008 established incentives for the use of e-prescribing by Medicare prescribers beginning in 2009; the Drug Enforcement Administration issued proposed rules for the e-prescribing of controlled substances; and the Centers for Medicare and Medicaid Services published additional e-prescribing standards applicable to Medicare Part D. In the private sector, ePrescribe Florida created a vendor registration process and the Certification Commission for Health Information Technology expanded certification of e-prescribing tools. In addition, national e-prescribing organizations, payers, and professional associations produced educational materials and tools available to physicians on their websites. Together, these developments have resulted in increased physician use of e-prescribing over prior years.

Agency e-Prescribing Outreach Strategies

In 2008, the Agency continued its collaboration with the private sector to develop and expand its strategies to accelerate the adoption of e-prescribing in Florida. With the assistance of data provided by national e-prescribing organizations, the Agency developed metrics for tracking quarterly trends in e-prescribing in Florida metropolitan and non-metropolitan areas, including comparison of Florida rates to national e-prescribing rates. The Agency has worked with the Department of Health to distribute Florida Medicaid e-prescribing tools in Duval County and provided information to encourage their use in other counties. In addition, the Agency has developed educational materials to encourage Florida physicians to take advantage of the Medicare incentives and is working with the private sector to distribute the materials. The Agency has also developed a consumer brochure on e-prescribing that explains e-prescribing basics and the benefits for patients. The Agency held three public meetings of the State Electronic Prescribing Advisory Panel during 2008.

Metrics

The Agency has developed and published a set of key indicators, or metrics, for tracking e-prescribing adoption rates in Florida. E-prescribing metrics can be viewed on the Agency's website, www.fhin.net/eprescribe. These metrics enable the Agency to gauge progress by region in the state and in comparison with national rates. Metrics collected and reported quarterly include:

- Counts of new and refill e-prescriptions
- E-prescribing rate (percent of estimated total possible)
- Patient medication record request rate (of estimated total possible)
- Activated pharmacies by geographic region
- E-prescriptions per e-prescriber
- Patient medication record requests per user
- Trends in ratio of requests made to records found
- Medicaid e-prescriptions, e-prescribing rate, and prescribing clinician rate

The amount of e-prescribing relative to all prescriptions that could have been e-prescribed is the *e-prescribing rate*. The annual e-prescribing rate increased from 1.6% of prescriptions in 2007 to 4.3% in 2008 in Florida. The annual rate at which physicians used e-prescribing tools to request a medication history, the medication record request rate, was 5.5% of all prescriptions. This indicates that the use of clinical applications, such as requesting a medication history, slightly exceeds the use of the e-prescribing software to transmit prescriptions electronically.

The monthly e-prescribing rate in Florida was 6.9% in December 2008 compared to the national e-prescribing rate, projected to be 7%. E-prescriptions from Florida represented 6.7% of the 80 million electronic transactions in the nation in 2008. In comparison, the retail prescription volume for Florida in 2007 equaled 6.7% of the total number of retail drugs filled at pharmacies nationwide.[1] These statistics indicate that Florida is generating e-prescriptions at about the average national rate.

Florida Electronic Prescribing Clearinghouse

The Florida Electronic Prescribing Clearinghouse, **www.fhin.net/eprescribe**, is a portal developed by the Agency that provides users a single point of access for e-prescribing information. It is designed to meet the requirements of Section 408.0611, F.S., and provides information on developments and trends in e-prescribing, with an overall goal of promoting the adoption of and improving the quality and effectiveness of e-prescribing in the state. The website presents the advantages of e-prescribing, e-prescribing software products and vendors with links to their products, provides links to federal, state and private-sector e-prescribing websites to provide guidance on selecting an appropriate e-prescribing product, and offers e-prescribing resources, such as news and research articles.

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[1] Kaiser Family Foundation, StateHealthFacts.org. Retrieved from
http://www.statehealthfacts.org/profileind.jsp?ind=265&cat=5&rgn=11. January 2009;

State Electronic Prescribing Advisory Panel

In 2007, the Agency formed the State Electronic Prescribing Advisory Panel (Panel) and invited representatives of the relevant stakeholder organizations to participate as appointed members of the Panel. The Panel includes representatives of healthcare practitioners, health care facilities, and pharmacies; organizations that operate e-prescribing networks; organizations that create e-prescribing products; and health information organizations. New members, representing the Florida Office of Drug Control and a State University, were added in 2008.

The Agency is also a member of ePrescribe Florida, a private initiative working to increase e-prescribing.

Members of the Panel and ePrescribe Florida have assisted the Agency in developing metrics that describe trends in e-prescribing adoption, its impact on patient care, and cost savings.

Conclusions and Recommendations

The implementation of e-prescribing is likely to be the first large scale system for electronic health information exchange to be implemented in the United States. It is projected to be available for millions of patients within the next few years. Two developments that will drive the expansion of e-prescribing in the near term will be the availability of Medicare incentives for e-prescribing beginning in 2009 and the certification of e-prescribing systems that qualify for the Medicare incentives. It is important that Florida capitalize on these opportunities to accelerate e-prescribing in 2009 through greater educational outreach and participation of Florida Medicaid.

At its January 28, 2009 meeting, the State Electronic Prescribing Advisory Panel recommended that the Agency take the following steps during the next year to further accelerate the adoption of e-prescribing in Florida:

1) Continue to track and report e-prescribing and medication history metrics on a quarterly basis. Comparable Florida Medicaid prescription statistics should be included. The information should be posted on the Agency's website as part of the Florida Electronic Prescribing Clearinghouse, and on its performance dashboard to obtain maximum visibility.

2) Work with the Office of Drug Control, Florida Medical Examiners, and Florida Medicaid to conduct a study of drug overdose deaths and hospitalizations that will examine utilization patterns in claims data for the purpose of better understanding the potential of e-prescribing to prevent doctor shopping.

3) Intensify outreach to educate and encourage Florida physicians to qualify for the Medicare e-prescribing incentive payments. The Agency should include e-prescribing in programs to promote adoption of electronic medical records and coordinate efforts with the Health Information Exchange Coordinating Committee.

4) Identify and address barriers to pharmacy participation including workflow, cost and environmental factors related to the participation of independent pharmacies and legal, policy, or technical issues related to enabling pharmacist access to patient medication information. Encourage the participation of state professional pharmacy associations, pharmacy colleges, and other University researchers, in addressing barriers and demonstrating the benefits of e-prescribing.

5) With the support of e-prescribing stakeholders, the Agency should begin to disseminate information on e-prescribing to the general public. The Agency should cooperate with

professional associations to identify physicians and other champions who can speak to the general public about the benefits of e-prescribing and what patients should expect to gain from physician e-prescribing.   The Agency should include consumer e-prescribing information on its consumer website, FloridaHealthFinder.gov.

6) Explore the feasibility of expanding Florida Medicaid prescription data sharing to enable e-prescribing physicians to access a Medicaid recipient's medication history at the point of care and integrating e-prescribing functionality within multi-payer health information exchange solutions in which Florida Medicaid participates.

7) Support emerging national standards for "fully informed" e-prescribing that require health plans and vendors to electronically transmit medication history, formulary and benefit information to e-prescribers and pharmacies.

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Section 1. Introduction

In 2007, the Florida Legislature passed HB 1155, which directed the Agency for Health Care Administration (Agency) to collect e-prescribing information and disseminate that information through the Agency's website in order to facilitate and promote the adoption of e-prescribing. Section 408.0611, F.S. provides that the Agency is to collaborate with stakeholders to create an electronic prescribing clearinghouse and coordinate with private sector e-prescribing initiatives. The Legislature also directed the Agency to prepare an annual report on the progress of e-prescribing implementation in Florida. The first annual report was published in January 2008 and may be read on the web at http://www.fhin.net/eprescribe/ePandHIEinFL/Florida2007ePrescribeReportFinal4Feb2008.pdf

This second annual Florida 2008 Electronic Prescribing Report provides a general assessment of the status of e-prescribing in Florida in 2008. It presents a brief overview of e-prescribing, e-prescribing benefits, and the contents of the e-prescribing clearinghouse. It reports highlights of e-prescribing developments in 2008. It next presents public and private initiatives including Medicare incentives for e-prescribing, the proposed Drug Enforcement Administration rules for e-prescribing of controlled substances, and an update of ePrescribe Florida activities. The report provides quarterly metrics on e-prescribing in Florida through 2008, based on statistics provided by national e-prescribing companies. It concludes with a review of Agency strategies to promote e-prescribing and key recommendations for future steps in 2009.

1.1. What is Electronic Prescribing?

E-prescribing makes use of health information technology that enables the electronic transmission of prescriptions and access to the medication history by prescribing physicians at the point of care. It improves prescription accuracy, increases patient safety and reduces costs primarily because of the critical health care information it makes available to the physician or other prescribing practitioner.

As defined by the National Council for Prescription Drug Programs, e-prescribing comprises two functions: 1) Two way [electronic] communication between physicians and pharmacies involving new prescriptions, refill authorizations, change requests, cancellation of prescriptions, and prescription fill messages to track patient compliance; and 2) Potential for information sharing with other health care partners including eligibility and formulary information and medication history."[2]

E-prescribing systems are a form of health information exchange that integrates prescribed medication data from multiple stakeholders, including pharmacy benefit managers, payers, and pharmacies. Through these systems, medication histories are available for prescriptions that were originally prescribed on paper. E-prescribing systems enable practitioners with authorized access to view medication history information at the point of care for coordination of patient drug therapy and improved quality of care. E-prescribing systems also provide practitioners with a secure means of electronically accessing health plan formulary and patient eligibility at the point of care.

E-prescribing is available at little cost as a stand-alone application for practitioners who do not have an in-office electronic medical record system. It provides a potential first step toward adoption of electronic health information systems. Because e-prescribing is one of the

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[2] John Mack, "Ready or Not: Gearing Up for the Expansion of ePrescribing," *Pharma Marketing News, Vol. 3, #6.* Retrieved from http://www.pharma-mkting.com/news/pmn36-article01.pdf on January 31, 2008.

cornerstones of clinical electronic medical record systems, and is fully operational today, it can be an important digital bridge for physician practices in Florida that do not have an electronic medical record (EMR) system.

When physicians use e-prescribing systems to send prescriptions electronically, the prescriptions are transmitted through secure, private networks. The e-prescribing system transmits information through the use of encrypted telecommunication transmission channels that ensure secure, bi-directional, electronic connectivity between physician practices and pharmacies. A major benefit of the electronic transfer of the prescription is the elimination of errors caused by miscommunication of the handwritten paper prescription. This one benefit leads to the prevention of fraud and abuse that currently occur due to a lack of secure prescription delivery to the pharmacy and the inability to audit the paper-based prescribing process.

Pharmacy networks are a crucial part of the e-prescribing system and are integral to the overall success of e-prescribing in Florida and the nation. These networks connect pharmacies, physicians and pharmacy benefit managers (PBMs). PBMs are third party companies that administer drug benefit programs for employers and health insurance carriers.

The major pharmacy network in the United States is SureScripts-RxHub. SureScripts and RxHub were separate companies until July, 2008 when the two companies merged in the interest of a more unified force to promote and utilize e-prescribing. The merger of company networks, operations and websites are ongoing. SureScripts was founded in 2001 by the pharmacy industry. It operates the Pharmacy Health Information Exchange which supports the electronic transmission of prescription information between physicians and pharmacists. More than 95% of all pharmacies in the United States are now certified on the Pharmacy Health Information Exchange. SureScripts-RxHub is working to establish strategic partnerships with pharmacies, physicians, boards of pharmacies, quality-focused health organizations and physician associations.

Through its work with community organizations, SureScripts-RxHub is promoting the awareness and acceptance of e-prescribing. SureScripts-RxHub does not develop, sell or endorse specific e-prescribing software, but does work with vendors that supply electronic health record (EHR) and e-prescribing applications to connect their solutions to the Pharmacy Health Information Exchange. SureScripts-RxHub also certifies e-prescribing software by specifying the standard technical format for transmitting prescription information and testing each vendor's electronic connections to the network. Certified products can be viewed on the SureScripts website at http://www.surescripts.com.

RxHub was also founded in 2001 and operates the National Patient Health Information Network which enables physicians to access patient prescription eligibility, benefits, formulary, and medication claims history at the point of care. Information is transmitted securely over a standardized channel and is subject to strict privacy controls consistent with applicable federal and state laws, as well as Health Insurance Portability and Accountability Act (HIPAA) requirements. Clinicians are then able to transmit electronic prescriptions to the pharmacy of the patient's choice. SureScripts-RxHub ensures electronic connectivity among payers, physicians, and pharmacies for the purpose of managing healthcare costs. Information on RxHub is available on the web at: http://www.rxhub.net.

Section 2.   E-prescribing in 2008

Several important public and private sector developments that will impact e-prescribing over the next several years took place in 2008. Highlighted below are significant events, activities, and developments that occurred in Florida and the nation over the past year.

2.1.   Private Sector Events and Activities

In the private sector, changes in the pharmacy network landscape occurred with the merger of SureScripts and RxHub. Other private sector initiatives included the release of draft e-prescribing certification criteria from the Certification Commission for Healthcare Information Technology, the release of promotional tools on the GetRxConnected and LearnAboutePrescriptions websites, and the completion of the vendor registration process by ePrescribe Florida for the first group of successful registrants.

- **Merger of SureScripts and RxHub**

In July 2008, retail pharmacies and leading pharmacy benefit managers announced the merger of the two leading health information networks in the pharmacy industry, SureScripts and RxHub. Representing the largest pharmacy networks in the U.S., the merger creates a nationwide network combining the complementary capabilities of the two organizations.

- **Certification Commission for Healthcare Information Technology**

In September 2008, the Certification Commission for Healthcare Information Technology (CCHIT) announced its intention to certify stand-alone e-prescribing systems. The certification of stand-alone systems will assist physicians and other prescribers to qualify for the Medicare e-prescribing incentives program that began in 2009. CCHIT currently certifies ambulatory products that contain the advanced e-prescribing capabilities called for in the CMS incentive. CCHIT will use a subset of the ambulatory certification criteria to apply to stand-alone e-prescribing systems.

On December 22, 2008 CCHIT published a first draft of its 2009 e-prescribing certification criteria and test scripts. An invitation for comments on the newly released certification criteria and test scripts was requested from the healthcare community as published on their website. The public comment period was open until January 21, 2009.

- **GetRxConnected**

In March 2008, the American Academy of Family Physicians, the American Academy of Pediatrics, the American Academy of Nurse Practitioners, the American Academy of Physician Assistants, the American College of Cardiology, the American College of Obstetricians and Gynecologists, the American Osteopathic Association and the Medical Group Management Association announced their support for e-prescribing and launched a promotional web site, www.GetRxConnected.com, where physicians can follow a step-by-step process designed to help them transition from paper-based prescribing to e-prescribing.

- **LearnAboutePrescriptions**

Information about physicians that e-prescribe or pharmacies that accept e-prescriptions is available from the www.LearnAboutePrescriptions.com website launched by SureScripts-RxHub in 2008. The easy-to-use site provides information by a search of city or zip code.

- **ePrescribe Florida**

In June 2008, Florida's e-prescribing stakeholder collaborative, ePrescribe Florida, announced the first group of e-prescribing solutions and vendors to register with ePrescribe Florida by meeting its process and review criteria. Each registered vendor must provide a validation of its e-prescribing solution's functionality against a set of e-prescribing and patient safety criteria. These include alerting prescribers to potential drug-to-drug and drug-to-allergy interactions during the prescribing process. Registered vendors must also be in conformance with Medicare Part D e-prescribing standards for presenting patient formulary, benefit and medication history information, and electronically transmitting new prescriptions and refills.

2.2.   Public Sector Initiatives and Developments

In the public sector, the Centers for Medicare and Medicaid Services (CMS) released a final e-prescribing standards rule. The passage of the Medicare Improvements for Patients and Providers Act of 2008 established a new Medicare incentives program that began in 2009 and CMS published final rules to implement the program as required by the Act. In addition, the U.S. Drug Enforcement Administration (DEA) issued, for the first time, proposed regulations to permit the e-prescribing of controlled substances.

- **DEA Rule on E-prescribing of Controlled Substances**

On June 27, 2008 the DEA proposed rules to give practitioners the option to write electronic prescriptions for controlled substances. The proposed changes to 21 CFR Parts 1300, 1304, 1306, and 1311 would permit pharmacies to receive, dispense, and archive the electronic prescriptions. The DEA emphasized that the proposed regulations would be an addition to, not a replacement of, existing rules.

The DEA proposed rules specify system specification requirements that affect prescribing practitioners and other registrants, e-prescribing vendors, pharmacies and pharmacists, among others. The DEA opened the proposed rules for public comment until September 25, 2008 and received more than 500 comments to their proposed rules.

- **Final Rule for Medicare Part D e-Prescribing Program**

On April 2, 2008, the Centers for Medicare and Medicaid Services (CMS) issued a final rule to adopt additional uniform standards for medication history, formulary and benefits, and fill status for the Medicare Part D e-prescribing program. These initial standards build on the foundation standards that were established in the e-Prescribing and Prescription Drug Program final rule published on November 7, 2005. The foundation standards identified standards for electronically transmitting eligibility information from the Part D sponsor to the prescriber or dispenser and for transmitting prescription information between prescriber and dispenser.

- **Medicare Incentives for E-prescribing**

The Medicare Improvements for Patients and Providers Act of 2008 (MIPPA), was enacted in July 2008 to promote adoption and use of e-prescribing. The federal legislation will allow incentive payments to eligible professionals who are "successful prescribers" as defined in the Act. Prescribers will be eligible for incentive payments beginning January 1, 2009 and may have disincentive payments beginning in 2012. To participate, a qualified e-prescribing system must be used.

On October 30, 2008, CMS issued a final rule that implements the Electronic Prescribing Incentive Program. The e-prescribing quality measure, formerly included in the Physician Quality Reporting Initiative (PQRI), will now become the measure used for the incentives program.

Section 3.   Benefits of Electronic Prescribing

E-prescribing has many potential benefits that continue to be studied and documented as e-prescribing is increasingly implemented. There are three distinct types of benefits:

- Security including prevention of prescription drug fraud and abuse;

- Efficiencies and cost savings; and

- Improved patient safety and outcomes.

Each of these benefits is derived from both the accessibility of the medication history to the prescribing physician at the point of care and from the electronic transfer of the prescription.

3.1.   Added Security Features

Eliminating paper and handwritten prescriptions from the prescribing process can significantly reduce fraud and abuse through alterations made to the paper prescription, as shown in Figure 1. In this example, a paper prescription for head lice written to a Medicaid recipient was altered to include 190 tablets of Vicodin, a controlled substance. The error was discovered when the pharmacist returned the prescription to the prescribing doctor with a note about his illegible handwriting.

Figure 1. Medicaid Prescriptions Altered to Include a Controlled Substance
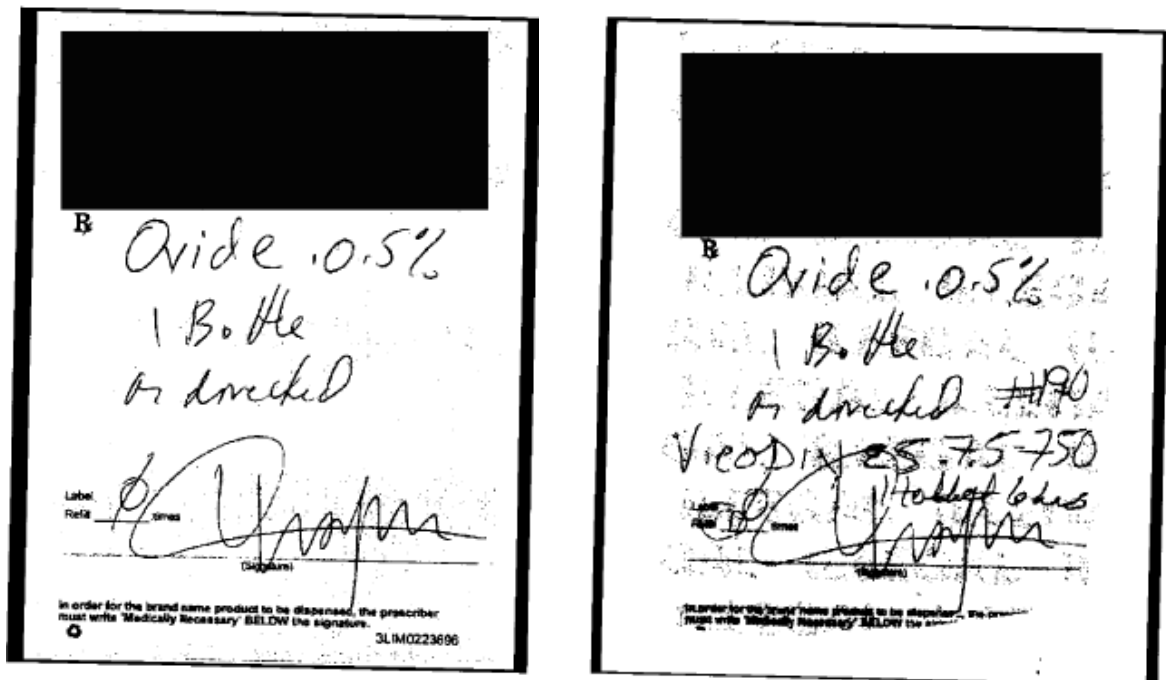
E-prescribing provides a complete audit trail of every electronic transaction in the e-prescription process, from the act of e-prescribing in the physician's office to the pharmacy filling the prescription, to the patient picking up the prescription. Prescribing practitioners and pharmacies

must be credentialed and approved before they can participate in the e-prescribing process. They also must securely log on before they can e-prescribe or receive a prescription.

Secure access is possible using a virtual private network (VPN) connection over the Internet, which creates a protected electronic channel for the safe transmission of encrypted medication information. Infrastructure technology partners, vendors and others are bound through strong contracts to ensure the authentication of users, the integrity of prescriptions, and the privacy and security of personal health information that passes through the secure networks. Unwarranted prescription activity can be identified much more readily in the electronic system through the use of embedded auditing features.

Another security benefit of e-prescribing is the additional back-up of records. Since e-prescribing software offers a robust, integrated system for accessing patient medication history, e-prescribing can also be an important tool in disaster relief, by making prescription information for patients available when paper records are destroyed.[3]

3.2. Efficiency and Cost Savings

An important study of the effect of formulary decision support available through e-prescribing was released in 2008 and found that e-prescribing increases the use of lower cost or generic medications. The study compared the change in prescriptions written in three prescription drug formulary tiers before and after an e-prescribing system was launched. The study found that clinicians using e-prescribing with formulary decision support were significantly more likely to prescribe generic medications and the potential for financial saving are substantial. The study also found that there was a modest effect for intervention by prescribers when not e-prescribing, suggesting that prescribing behavior is more affected when decision support information is provided while the act of prescribing is being performed.[4]

E-prescribing creates efficiencies and provides cost savings to all participants including physicians, pharmacies, health purchasers, and patients. Physician office personnel and pharmacy staff no longer have to spend time on phone calls and faxes to clarify prescription information and authorize or obtain authorization for prescription renewals. The costs associated with these activities are much reduced or eliminated. The result of implementing e-prescribing, is more efficient prescribing processes, more accurate medication orders, and less manual intervention and rework at the pharmacy.

Table 1 provides a summary of published research regarding the cost savings of e-prescribing.[5] Because of its ability to check formulary and benefit information at the point of care, e-prescribing can assist the clinician with prescribing an on-formulary medication or a therapeutically appropriate alternative, thus saving patients money, helping with medication compliance, and helping to ensure the appropriate regimen is provided for the patient. This in turn will help improve the quality and cost-effectiveness of care for patients with chronic conditions. Patients also benefit from not having to make separate trips to the pharmacy or face delays while waiting

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[3] For example, ICERx.org, "in case of emergency" is an online service developed for healthcare professionals assisting disaster-affected individuals. ICERx.org was created when Hurricane Katrina struck and continues operationally through the present. Through ICERx.org, authorized pharmacists and doctors can obtain records of medications evacuees were using prior to the disaster, including the specific dosages. Armed with this information, healthcare professionals will be able to renew prescriptions for evacuees and effectively assist in the coordination of care while avoiding harmful prescription errors.

[4] Archives of Internal Medicine (2008, Dec.), Effect of Electronic Prescribing With Formulary Decision Support on Medication Use and Cost; 168(22):2400.

[5] Schueth, Anthony J. (2007). *ePrescribing: Why Now?* Presentation at the 1st Annual ePrescribing Summit, Orlando, December 1-2..

for communications between the pharmacy and physician office. This is not just a matter of convenience for patients but a savings in time and travel as well.

Table 1. Practice Efficiency Studies

Study	Results
Brigham and Women's Hospital Massachusetts General Hospital 2008	$845 000 per 100,000 patients, savings from e-prescribing with formulary decision support.
Health Alliance Plan (Henry Ford Medical Group) 2006	57% of physicians believe there is a reduction in time spent by support staff.
Rand (NJEPAC) 2006	80% reduction in callbacks related to coverage issues.
SureScripts (Brown University: Midwestern University) 2006	90% physicians noted improvement in care efficiency. 50%+ reduction in time consumed to manage refill requests and pharmacy callbacks.
Health Management Technology 2003	$48,000 saved per year by a practice that automated refills.
Medco 2003	42% reduction in pharmacy calls to practice.
Tufts Healthplan 2002	2 hours per day saved per physician; 30% reduction in phone calls.
BCBS Hawaii 2000	50% reduction in pharmacy phone calls.
Kokomo Family Care 2000	42% reduction in pharmacy-related calls; 84% reduction in calls related to formulary.

3.3.   Patient Safety

There are an estimated 1.5 million adverse drug events that occur each year.[6] E-prescribing systems can enhance patient safety and improve outcomes by providing more complete information about the medication history of the patient to the prescribing practitioner. This ability to share health information through e-prescribing systems enables the physician to better coordinate patient care with other treating physicians, and it supports and enhances the disease management initiatives of both payers and providers. Table 2 provides a summary of published research regarding the quality of care and patient safety impact of e-prescribing.[7]

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[6] Institute of Medicine. (2006, July). *Preventing Medication Errors: Quality Chasm Series.* Washington, DC: National Academies Press.
[7] Schueth, Anthony J. (2007). *ePrescribing: Why Now?* Presentation at the 1st Annual ePrescribing Summit, Orlando, December 1-2..

Table 2. Practice Quality and Safety

Study	Results
Surescripts (Brown University; Midwestern University) 2006	75% of physicians believed patient safety & quality of care improved. 50% of physicians perceived communication with patients improved.
Rand (NJEPAC) 2006	Medication history perceived as very useful & worth the effort.
Health Alliance Plan (Henry Ford Medical Group) 2006	85% of physicians believe e-Rx has improved the practice of medicine at their clinic. 77% of physicians believe e-Rx improves the safety of patient care. 70% of physicians believe e-Rx improves patient satisfaction.
Surescripts & Walgreens 2006	11% improvement in new prescriptions filled by patients 3 months after e-Rx implemented (variable influences patient adherence)

As more physicians adopt e-prescribing, the functionality of decision support tools that are made available to the prescribing practitioner will improve significantly. E-prescribing software not only offers a robust, integrated system for accessing patient medication history, but provides clinical decision support, such as drug-to-drug interaction alerts and allergy checks. In more sophisticated systems, practice alerts notify the clinician or other authorized user about gaps in care to permit on-the-spot counseling to the patient and corrective measures specified by treatment guidelines. These gap analysis and practice alert systems are especially effective for patients with complex chronic conditions, thereby improving patient outcomes.

Section 4.   Florida Electronic Prescribing Clearinghouse

The Florida Electronic Prescribing Clearinghouse is a collection of e-prescribing resources maintained by the Agency on its website, www.fhin.net/eprescribe. The portal provides users with a single point of access for e-prescribing activities in Florida. It is not only designed to meet the requirements of Section 408.0611, F.S., but also to provide users with important information on new developments and trends in the e-prescribing field. The overall goal of the e-prescribing clearinghouse is to promote the adoption of and improve the quality and effectiveness of e-prescribing in the state.

4.1.   Statutory Requirements

Section 408.0611, F.S. requires the Agency to create a web-based clearinghouse of information on e-prescribing that will convey the advantages and availability of information on e-prescribing products, including no-cost or low-cost products. The statute further specifies that the information in the Clearinghouse should:

- Present the advantages of e-prescribing, including using medication history data to prevent drug interactions, prevent allergic reactions, and deter doctor and pharmacy shopping for controlled substances;

- Provide links to federal and private-sector websites that provide guidance on selecting an appropriate e-prescribing product; and

- Provide links to state, federal, and private-sector incentive programs for the implementation of e-prescribing.

The Electronic Prescribing Clearinghouse can be accessed at http://www.fhin.net/eprescribe/ or by selecting "Florida ePrescribe Clearinghouse" from the top main menu on the Florida Health Information Network (FHIN) home page at http://www.fhin.net.

4.2.   Clearinghouse Implementation

The Agency rolled out the Electronic Prescribing Clearinghouse website on September 28, 2007. The clearinghouse website architecture incorporates the core requirements of the statute, as discussed above plus additional information of interest on e-prescribing. The core requirements contained in the design of the website include:

- The advantages of e-prescribing;

- Products and services, laid out in an easy-to-use table with web links;

- E-prescribing resources, categorized as general, guidance, research articles, and medication safety;

- E-prescribing initiatives and incentive programs at national, private, and state levels;

- The status of e-prescribing in the Florida Regional Health Information Organizations;

- Information on the State Electronic Prescribing Advisory Panel; and

- E-prescribing news updates.

The Electronic Prescribing Clearinghouse introduces e-prescribing as "the computer-based electronic transmission of prescriptions between health care professionals and mail order or retail pharmacies." The index page of the website is shown in Figure 2, below. Each of the menu items shown on the front page will be discussed in greater length in the sections following.

Figure 2. Electronic Prescribing Clearinghouse Home Page
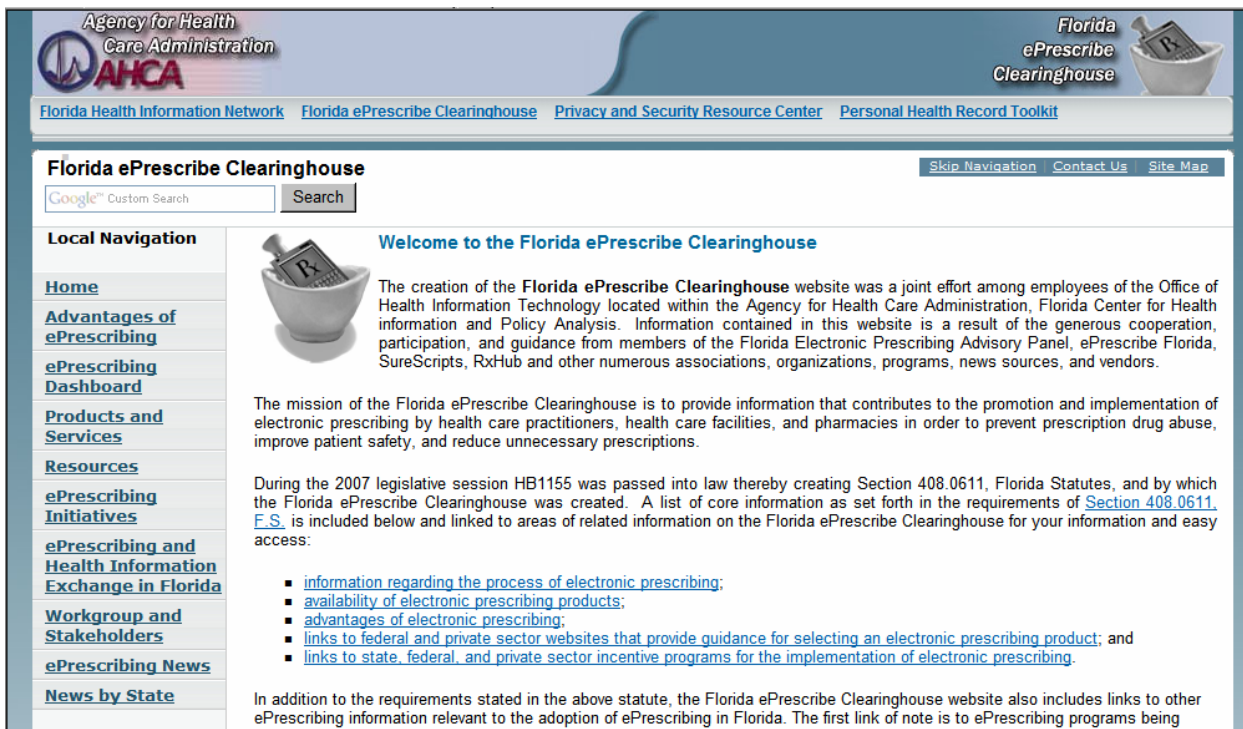
4.3.   Advantages of E-prescribing

The section of the website presenting the advantages of e-prescribing stresses the e-prescribing advantages for consumers, health care providers, and pharmacies in order to more effectively address these constituencies' needs. Some of the advantages of e-prescribing are that it:

- Prevents medication prescription errors caused by events such as illegible hand writing, look-alike or sound-alike drugs, drug-to-drug interactions, incorrect dosing, drug allergy reactions, duplication of drugs, etc. and, thereby, reduces health care and legal costs;

- Eliminates illegible prescriptions;

- Provides for real-time communications between doctors, pharmacies and patients;

- Provides critical drug alerts and patient specific information at the health care professionals' fingertips;

- Provides drug pricing information;

- Provides payer coverage and preferred drug information;

- Creates a complete patient medication history;

- Reduces fraud and crime;

- Increases health care professional work efficiency and reduces administrative costs; and

- Expedites refills.

The e-prescribing literature also documents information that supports the advantages of e-prescribing. Academic research studies cited in the website were drawn from Google scholar for access by physicians or other researchers not affiliated with a medical school library. Each area in the section for health care providers highlights significant studies, including abstracts on important research and links to these materials. In the pharmacy section, information citing the advantages of e-prescribing for pharmacists is highlighted, as well as the cost savings due to efficiencies brought about by e-prescribing. These include fewer phone calls to the prescriber about non-covered drugs, prior authorization issues or to clarify other questions about the prescriptions.

One website of interest to physicians is getrxconnected.com. It takes physicians though a technology assessment of how to "get connected" to begin e-prescribing. Some of the advantages cited include:

- Improved Efficiency: Prescription refill authorization requests are sent directly to your computer and all of your requests can be reviewed in one queue. Staff workflow is simplified, allowing for the completion of refill authorizations in much less time than by phone or fax. This frees up staff time for more important and reimbursable tasks.

- Enhanced Patient Safety: The prescription information you send is identical to the information that the pharmacies receive. The result is greater accuracy, less chance of dispensing error and fewer calls to your practice for clarifications.

- Widespread, Secure Coverage: Over 90% of the nation's pharmacies are enabled to communicate prescription information electronically with physician practices via a secure network.

4.4. E-prescribing Products and Services

The Electronic Prescribing Clearinghouse website serves as a source for e-prescribing products and vendors available to Florida's physicians. E-prescribing products and services in the market were researched including a list of registered e-prescribing vendors on the SureScripts website. Every vendor listed was contacted directly about interest in participating in the clearinghouse. Thirteen vendors expressed interest in actively participating on the website. These vendors are listed in a table with links to their company websites. The table also includes pricing information for the products and links to demonstrations that the companies might provide on their products.

In addition, an individual web page was built for each of the vendors, highlighting their e-prescribing products and services plus any research or white papers that the company wanted to make available. The web page also listed contact information for the vendor marketing or sales department, and other information that the vendor wanted to include. Finally, a link to SureScripts' listing of e-prescribing products and services is provided, which in turn includes links to these companies.

4.5. E-prescribing Initiatives and Incentive Programs

E-prescribing initiatives and incentive programs were divided into three domains; national, private-sector, and state. Each domain has an associated web page assigned to it which describes each program and provides links for more information.

There are a variety of state e-prescribing initiatives. Florida has two e-prescribing initiatives of note. The first is the e-prescribing pilot program undertaken by Florida Medicaid in 2003 and the second is a collaboration of health care companies that created ePrescribe Florida. The Medicaid pilot program and further developments are discussed later in this report. ePrescribe Florida was established in 2006 to create a collaborative framework to help achieve the benefits of e-prescribing across the state. The steering committee of ePrescribe Florida includes Blue Cross and Blue Shield of Florida, Humana, AvMed, RxHub, LLC., Florida Academy of Family Physicians, the Florida Medical Association, SureScripts and Walgreens. ePrescribe Florida promotes an understanding of e-prescribing through outreach programs and education. During 2008, ePrescribe Florida registered fifteen e-prescribing vendors who met its criteria for full e-prescribing functionality and successful vendors are posted on its website, http://www.eprescribeflorida.com.

The state resources from the rest of the country are presented on a United States map that lets website users select states with active initiatives and incentive programs. Clicking on an active state brings up a window describing the initiative along with a link to that program. States with incentive programs included are also noted, as shown in Figure 3.
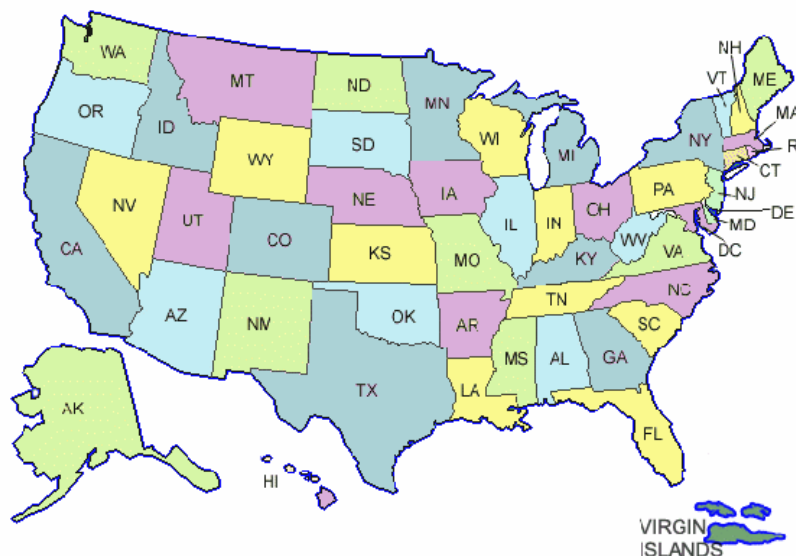
Figure 3. Electronic Prescribing Incentive

4.6.   Other Information and Future Updates

The Electronic Prescribing Clearinghouse website also includes links to other e-prescribing information relevant to the adoption of e-prescribing in Florida. The first link of note is to e-prescribing programs being used by the Florida Regional Health Information Organizations (RHIOs). Three RHIOs currently use or are planning to implement e-prescribing into their core services. The Tampa Bay RHIO uses eMPOWERx from Gold Standard, which is the same

application used in the Florida Medicaid e-prescribing pilot. In the Northeast Florida Health Information Consortium, the Duval County Health Department uses an electronic pharmacy record system, InteRx and has recently implemented e-prescribing using eMPOWERx. The Big Bend RHIO has integrated an e-prescribing function into its core services.

A second additional link on the website opens pages dedicated to the State Electronic Prescribing Advisory Panel. The opening web page lists the panel members, agendas, minutes and related materials for each Panel meeting.

There is continuing national and international interest in the growth of e-prescribing, tied not only to traditional access, cost and quality issues, but also to its role in the emerging global health information technology field. To provide support for and information about the increasing interest in e-prescribing and new technical developments and standards, links are included that provide access to current national and state news stories and media outlets. These include:

- E-prescribing news stories;
- E-prescribing news sites;
- U.S. Department of Health and Human Services, E-prescribe News Releases;
- Government Health IT News – E-prescribing;
- EPN - Electronic Prescribing News; and
- Healthcare IT.

Future clearinghouse website enhancements being planned include:

- Adding more products and content to other web areas;
- Aggregated e-prescribing news feeds; and
- Enhanced metrics design.

4.7. Metrics of E-prescribing

The Agency developed and published a set of key indicators for tracking e-prescribing adoption rates in Florida in 2008. These measures are posted on the Agency's e-prescribing website, http://www.fhin.com/eprescribe/Dashboard/FLmetrics.shtml. The metrics enable the Agency to gauge the progress of e-prescribing adoption and use by region in the state and in comparison with national rates.   Metrics are collected and reported quarterly from SureScripts-RxHub, eRxNetwork and Informed Decisions. The data include:

- Count of e-prescriptions and e-prescriptions per e-prescriber;
- E-prescriptions rate (percent of estimated total possible);
- New and refill e-prescriptions;
- Patient medication record requests and requests per clinician users;
- Patient medication record request rate (of estimated total possible);
- Activated pharmacies by geographic region;
- Trends in ratio of requests made to records found;
- Medicaid e-prescriptions, the e-prescribing rate, and prescribing clinician rate.

From the e-prescribing data submitted to the Agency, it is possible to track key indicators of e-prescribing across the state using Metropolitan Statistical Area (MSA) reporting. For example, the e-prescribing dashboard tracks the *e-prescribing rate*, or the amount of e-prescribing relative to all prescriptions in Florida. Using this indicator it was possible to chart the increase in the annual volume of e-prescriptions from 1.6% in 2007 to 4.3% in 2008. Another rate is the medication record request rate, which indicates how many times a prescriber requests prescription history on a patient using e-prescribing software. Using the MSA data, it is possible to isolate areas of the state where pharmacies are activated and ready for e-prescribing, and those areas that are not. The use of appropriate metrics to track e-prescribing provides the basis for strategic planning about promoting its adoption.

Section 5.   Public Initiatives

Public policy interest in e-prescribing has increased in recent years and culminated in several important events in 2008. The passage of the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) authorized a new incentive program under Medicare beginning in 2009 that provides incentives to eligible professionals who are successful electronic prescribers. The U.S. Drug Enforcement Administration issued proposed regulations to permit the e-prescribing of controlled substances. In addition, the Centers for Medicare and Medicaid Services (CMS) issued final regulations for Medicare Part D that establish uniform transaction standards for medication history, formulary and benefits, and fill status.

E-prescribing is of interest to policy makers because it is viewed as a means to reduce program costs and enhance the quality of care provided to program beneficiaries. In Florida, the Agency continued to provide medication information software, which includes e-prescribing functionality, to high volume Medicaid prescribers.

5.1.   DEA Rule on E-prescribing of Controlled Substances

In 2008, the Drug Enforcement Administration (DEA) published a proposed rule change addressing e-prescribing of controlled substances.[8] The rule change would overturn current DEA regulations under which controlled substances cannot be e-prescribed, but must be written on a paper prescription pad. The proposed rule change specifies security measures that must be undertaken by physicians to safeguard the e-prescribing of controlled substances. The DEA proposed rule did not include an assessment of existing security measures of e-prescribing vendors, or catalogue breaches of the current e-prescribing system.

The security controls required by the DEA mainly cover identity management and the use of an electronic signature that will forestall refusal of the prescription by a physician, yet ensure that criminal use of the e-prescribing software can be audited and clear the doctor from liability. There are several required steps for a provider to register to e-prescribe controlled substances and to maintain authentication to the e-prescribing system while "writing" an e-prescription for a controlled substance.

As a means of identity proofing, each provider "must receive a document prepared by an entity permitted to conduct in-person identity proofing of prescribing practitioners regarding the conduct of the in-person identity proofing." These entities could include a DEA-approved hospital, a state licensing agency or law enforcement agency.

Access to the e-prescribing software in order to sign a prescription would require the provider to use two-factor authentication that meets the Level 4 authentication specifications of the *National Institute of Standards and Technology* (NIST) SP 800-63 standard. One factor in authentication must be a cryptographic key stored on a hard token that allows the provider to log onto the software program. The token must use either a password or biometrics to activate the authentication key and the authentication key cannot be exported. Upon signing into the e-prescribing software, the provider will have two minutes to review all prescription information.

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[8] Department of Justice, Drug Enforcement Administration Rule Change for 21 CFR Parts 1300, 1304, et al., (2008). *Electronic Prescriptions for Controlled Substances, Proposed Rule*. Federal Register / Vol. 73, No. 125, Friday, June 27. Retrieved from http://edocket.access.gpo.gov/2008/pdf/E8-14405.pdf

Before the provider can electronically sign and send the e-prescription, he must indicate that he is the one signing the e-prescription; otherwise the e-prescription cannot be transmitted. If the system times out before this, the provider will have to start again. A factor that may delay implementation is that there is currently no standard developed by the *National Council for Prescription Drug Programs (*NCPDP) for including an electronic signature on an e-prescription.

In addition to the security measures surrounding identity proofing and authentication, there are a number of auditing requirements placed on the e-prescribing software vendor, the provider and the pharmacy related to the e-prescribing of controlled substances, such as:

1) Vendors will have to undergo an annual audit for security and processing integrity;
2) The e-prescribing software must generate a monthly log of controlled substance prescriptions for the physician to review and sign off that he or she has reviewed the log;
3) Pharmacies must verify the DEA registration of all providers who send an e-prescription for controlled substances; and
4) Pharmacies must store all prescriptions, provide for secure backup and conduct an audit of their prescribing system.

The proposed rule places numerous constraints on physicians, pharmacies and software vendors, and requires each of these players to invest financial and workflow resources into reaching the requirements proposed. If one compares the constraints on writing a paper prescription to completing all of the e-prescribing requirements in the proposed DEA rule, it becomes evident that most doctors will likely continue to use paper prescriptions.

Industry experts estimate that it could take between two and three years for the industry to meet the requirements of the proposed rule. For example, NCPDP would have to propose, test and verify an electronic signature standard before any e-prescribing of controlled substances could go forward. The proposed rule received quite a bit of attention among professional associations and industry groups. The DEA opened the proposed rules for public comment until September 25, 2008, and received more than 500 comments.[9]

E-prescribing software vendors and industry groups maintained that their security for e-prescribing is tight enough to block the criminal use of e-prescribing, and that further security measures are unnecessary. Critics claimed that the proposed regulations favor the ability of the DEA to conduct investigations over the ability of a physician to e-prescribe controlled substances. The DEA is still working on an updated rule. The proposed rules may be viewed in their entirety on the web at http://www.deadiversion.usdoj.gov/fed_regs/rules/2008/fr0627.htm

5.2.   Final Rule for Medicare Part D e-Prescribing Program

On April 2, 2008, the Centers for Medicare and Medicaid Services (CMS) issued a final rule to adopt additional uniform standards for medication history, formulary and benefits, and fill status for the Medicare Part D e-prescribing program. These additional standards are referred to as the "initial standards" for e-prescribing under Medicare Part D. These initial standards build on the foundation standards that were established in the e-prescribing and Prescription Drug Program final rule published on November 7, 2005.

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[9] Retrieved from http://www.regulations.gov/search/index.jsp, using search criteria "DEA 218 Comments," December 21, 2008.

The foundation standards identified standards for electronically transmitting eligibility information from the Part D sponsor to the prescriber or dispenser and for transmitting prescription information between prescriber and dispenser. The initial standards include, among others, the standards for Part D sponsors to electronically transmit medication history and formulary and benefit information to prescribers. Part D sponsors are required to comply with and support the final initial standards as of April 1, 2009.

The final rule provides three electronic tools for use in e-prescribing:

- Formulary and benefit transactions: give prescribers information about which drugs are covered by a Medicare beneficiary's prescription drug benefit plan.
- Medication history transactions: provide prescribers with information about medications a beneficiary is already taking, including those prescribed by other providers, to help reduce the number of adverse drug events.
- Fill status notifications: allow prescribers to receive an electronic notice from the pharmacy telling them that a patient's prescription has been picked up, not picked up, or has been partially filled, to help monitor medication adherence in patients with chronic conditions.

The final rule also adopts the National Provider Identifier (NPI) for e-prescribing under Medicare Part D, and retires NCPDP SCRIPT 5.0 in favor of the upgraded NCPDP SCRIPT 8.1.

To view the final rule, go to: http://edocket.access.gpo.gov/2008/pdf/08-1094.pdf

5.3.   Medicare Incentives for E-Prescribing

Beginning January 1, 2009, the new Medicare e-Prescribing Incentive Program, as authorized under the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA), will allow incentive payments to eligible professionals who are successful e-prescribers as defined by MIPPA. Although the new program is separate from and in addition to the Physician Quality Reporting Initiative (PQRI), the Centers for Medicare and Medicaid Services (CMS) will use the e-prescribing measure originally developed for PQRI in the first year of the program.

In 2009, a "successful e-prescriber" will receive an incentive payment of 2.0% of the total estimated allowed charges for professional services covered by Medicare Part B and furnished by an eligible professional during the reporting period.[10] In order to be a "successful e-prescriber," a physician or other eligible professional must report on the e-prescribing quality measure in at least 50% of the cases in which the measure is reportable by the eligible professional.[11] Successful e-prescribers will receive a 2 percent incentive payment in 2009 and 2010; a 1 percent incentive payment in 2011 and 2012; and a one half percent incentive payment in 2013.[12]

A qualified e-prescribing system must be used. There are two types of e-prescribing systems: 1) a system for e-prescribing only (a "stand-alone" system), or 2) an electronic health record (EHR)

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[10] Department of Health and Human Services, "Medicare's Practical Guide to the E-prescribing Incentive Program". CMS Publication No. 11399. Retrieved from www.cms.hhs.gov/partnerships/downloads/11399.pdf in November 2008
[11] Centers for Medicare & Medicaid Services, "E-Prescribing Incentive Program." Retrieved from http://www.cms.hhs.gov/PQRI/03_EPrescribingIncentiveProgram.asp#TopOfPage, on January 5, 2009
[12] Department of Health and Human Services, "HHS Takes New Steps to Accelerate Adoption of Electronic Prescribing". Press Release Date: Monday, July 21, 2008. Retrieved from http://www.hhs.gov/news/facts/eprescribing.html on January 5, 2009

system with e-prescribing functionality. A qualified e-prescribing system must be capable of performing all of the requirements listed below.[13]

1. Generate a complete active medication list incorporating electronic data received from applicable pharmacies and benefit managers (PBMs), if available;
2. Select medications, print prescriptions, electronically transmit prescriptions, and conduct alerts including potentially inappropriate dose or route of administration of a drug, drug-drug interactions, allergy concerns, or warnings and cautions;
3. Provide information related to lower cost, therapeutically appropriate alternatives if any. (The availability of an e-prescribing system to receive tiered formulary information, if available, would meet this requirement for 2009); and
4. Provide information on formulary or tiered formulary medications, patient eligibility, and authorization requirements received electronically from the patient's drug plan, if available.

In addition to the system functionalities mentioned above, the system or program should meet the Part D specifications for messaging that will be implemented on April 1, 2009.

Another requirement to qualify is that at least 10% of an eligible professional's Medicare Part B charged services must be eligible cases that use CPT or HCPCS denominator codes included in the e-prescribing measure. Only eligible providers who direct bill to Medicare may participate.

When a case is applicable, the e-prescribing measure can be reported with two steps. The first step is to bill using one of the eligible case denominator codes. Eligible codes are evaluation and management codes for office or other outpatient services, including consultations, psychiatric diagnostic or evaluative interview procedures, general ophthalmology services, other health assessment services, and certain diabetes or cervical cancer screening procedures.

The second step is to report one of the three e-prescribing G-codes on the same claim containing an eligible denominator code.   Each of the three codes count toward the e-prescribing incentive. The three e-prescribing G-codes are:

> G8443 – Used a qualified e-prescribing system for all of the prescriptions;

> G8445 – Had a qualified e-prescribing system, but did not generate any prescriptions during this encounter

> G8446 – Had a qualified e-prescribing system, but one or more of the following conditions were applicable: prescribed narcotics or other controlled substances; state or Federal law required a phone in or printed prescriptions; the patient asked for a phone-in or printed prescription; or the pharmacy system cannot receive electronic transmission.

Eligible professionals who are not "successful e-prescribers" by 2012 will be subject to a differential payment (penalty) beginning in 2012. The differential payment would result in the physician getting 99% of the total allowed charges of the eligible professional's physician fee schedule payments in 2012, 98.5% in 2013, and 98% in 2014.[14] Eligible professionals may be

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[13] Centers for Medicare and Medicaid Services (2008). *E-Prescribing Specifications Document*, December 12. Retrived from http://www.cms.hhs.gov/PQRI/Downloads/EPrescribingSpecificationsDocument.pdf on December 24, 2008.
[14] Department of Health and Human Services, "Medicare's Practical Guide to the E-prescribing Incentive Program". CMS Publication No. 11399, November 2008. Retrieved from www.cms.hhs.gov/partnerships/downloads/11399.pdf on January 5, 2009

exempted from the reduction in payment, on a case-by-case basis; if it is determined that compliance with the requirement for being a successful prescriber would result in significant hardship.

Medicare is expected to save up to $156 million over the five-year course of the program in avoided adverse drug events. It is estimated that Medicare beneficiaries experience as many as 530,000 adverse drug events every year, due in part to negative interactions with other drugs, or a prescriber's lack of information about a patient's medication history.[15]

5.4. Florida Medicaid Wireless Handheld Clinical Pharmacology Drug Information Database and E-Prescribing

In 2002, the Florida Legislature directed the Agency for Health Care Administration (Agency) to develop a wireless handheld drug information application for Florida Medicaid prescribers. The system was to provide:

- Continuously updated clinical pharmacology information for prescriber reference;

- Reference to the Florida Medicaid Preferred Drug List;

- An individual Medicaid patient medication history;

- Ongoing education and support for prescribers.

In 2003, the Agency for Health Care Administration implemented the wireless handheld personal digital assistant (PDA) pilot project to demonstrate that duplicate prescribing could be prevented and clinical outcomes improved by providing medication information at the point of care. The wireless handheld drug information application was launched with a contract to Gold Standard, Inc. in Tampa to supply PDAs to 1,000 high volume Medicaid providers.

Gold Standard, Inc. deployed eMPOWERx as the software platform for the pilot project, working with Informed Decisions, providers of the eMPOWERx turnkey solution. Gold Standard, Inc. deployed encrypted wireless connectivity for the PDAs through a wireless digital connection with Sprint. A medication history for each Medicaid beneficiary for the past 60 days was reported via the PDAs. In 2004 deployment of PDAs was expanded to 3,000 total providers and the medication history was extended to 100-days. The eMPOWERx software is currently available to all Medicaid providers in Florida, upon request, for use on desktop or tablet computers.

The eMPOWERx program permits immediate utilization and compliance review and provides information about coverage and restrictions. The eMPOWERx program employs Clinical Pharmacology®, a leading drug reference application which empowers clinicians to screen a prescription for adverse effects and reduce the potential for medication errors before they occur. The software allows physician participation in prospective drug utilization review to minimize adverse drug reactions, detect overuse or under use of drugs, detect duplicate therapies and to detect potential allergic responses.

The eMPOWERx incorporates an e-prescribing function that permits immediate transmission of prescription authorization to the patient's pharmacy. The prescription is sent electronically to SureScripts, which submits it to the appropriate pharmacy electronically or via fax, depending on whether the pharmacy is activated to receive an e-prescription. The eMPOWERx system is

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[15] Department of Health and Human Services (, 2008). *HHS Takes New Steps to Accelerate Adoption of Electronic Prescribing.* Press Release Date: Monday, July 21. Retrieved from http://www.hhs.gov/news/facts/eprescribing.html on January 5, 2009

capable of tracking when the prescription was ordered, where it was sent and what time it was filled. If the recipient does not pick up the prescription, the medication is flagged so that the doctor can see that it was not picked up.

Outcomes of the Medicaid Wireless Handheld PDA Program

As of the second quarter of 2008, PDA users wrote an average of 2.72 prescriptions per patient per month compared with non-PDA users who wrote an average of 3.54 prescriptions per patient per month during these first two quarters of 2008. The lower number of prescriptions and the use of more generic brands resulted in savings in Medicaid prescription costs among the PDA prescribers. Based upon the difference between per patient costs for PDA prescriptions and non-PDA prescriptions multiplied by the total number of PDA patients, this represents approximately $31.7 million in savings in the current contract year 2007-2008.

PDA users were alerted to 13,702 drug interactions of a high or very high severity ranking during the fourth quarter of fiscal year 2007-08. Based on these results, if only 5% of the high and very high drug interactions identified by eMPOWERx, or 685 patients, led to patient hospitalization at an estimated cost of $4,685 per incident, the cost would have exceeded $3.2 million. The implementation and use of the eMPOWERx system saved the State of Florida this much in avoided hospitalization costs alone between April and June, 2008.

In addition, eMPOWERx engaged MEDai, its subsidiary medical analytics company with expertise in predictive modeling and outcomes analysis, to conduct an analysis of the eMPOWERx data to validate reported cost savings. MEDai analyzed the data by identifying recipients who received prescriptions from physicians using eMPOWERx based on timeframes reported by the system and the date of the prescription. Their results, using 2007 data, confirmed that eMPOWERx generates cost savings as a result of fewer prescriptions per recipient.

Medicaid e-Prescribing Metrics

The eMPOWERx program reported an average of 763 clinicians using eMPOWERx to send electronic prescriptions between October 2008 and December 2008. As shown in Figure 4 below, there were 478 clinicians in January and 795 clinicians in December 2008 using eMPOWERx. This amounted to a 66.3% increase in the number of e-prescribing Medicaid clinicians in the PDA pilot program during 2008. When compared to the total number of Medicaid clinicians writing prescriptions in the PDA pilot program in December 2008, 26.5% of them sent electronic prescriptions using eMPOWERx which represents about 1.8% of all Medicaid prescriptions in that month. Each clinician wrote an average of 25 e-prescriptions per month during 2008.

There was a 51.4% increase in the total number of e-prescriptions between January (13,492 e-prescriptions) and December 2008 (20,426 e-prescriptions). When compared to all Medicaid prescriptions processed in Florida for this time period, the data shows an annual e-prescription rate of 1.3% for electronic prescriptions sent using eMPOWERx.

Figure 4. Medicaid Electronic Prescriptions, Electronic Prescribers and Percent of Electronic Prescriptions per Prescriber
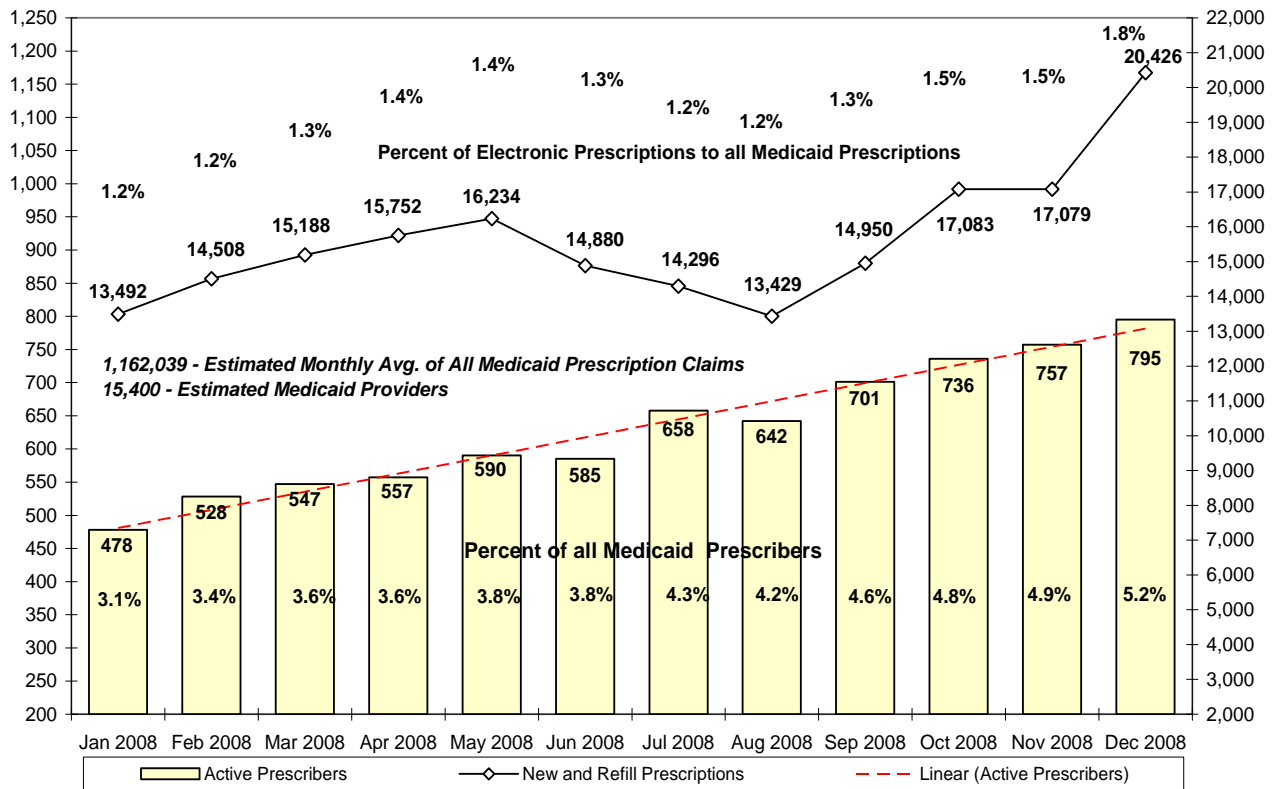

Figure 5 shows e-prescription transactions for all e-prescriptions, new e-prescriptions, refill requests from pharmacies, and refill responses from e-prescribers, based on statistics reported for Medicaid by eMPOWERx. New e-prescriptions account for the largest number of transactions, at about 57% of all e-prescriptions in December 2008. New e-prescriptions increased by 42.4% between January and December 2008. Refill responses increased by 65.4% during the same time period. This indicates an increased use of e-prescribing software to refill prescriptions. Refills may lag behind new prescriptions, but they will tend to rise as new prescriptions are refilled. Electronic prescription refill requests from pharmacies indicate a greater use of e-prescribing systems by pharmacists to communicate with physician offices. E-prescription refill requests from pharmacies increased at a rate of 81.9% between January and December 2008, indicative of the value of this communication channel between pharmacists and e-prescribers.

Figure 5. Medicaid Electronic Prescribing Activity by New and Refill Authorized Electronic Prescriptions, and Refill Requests from the Pharmacy
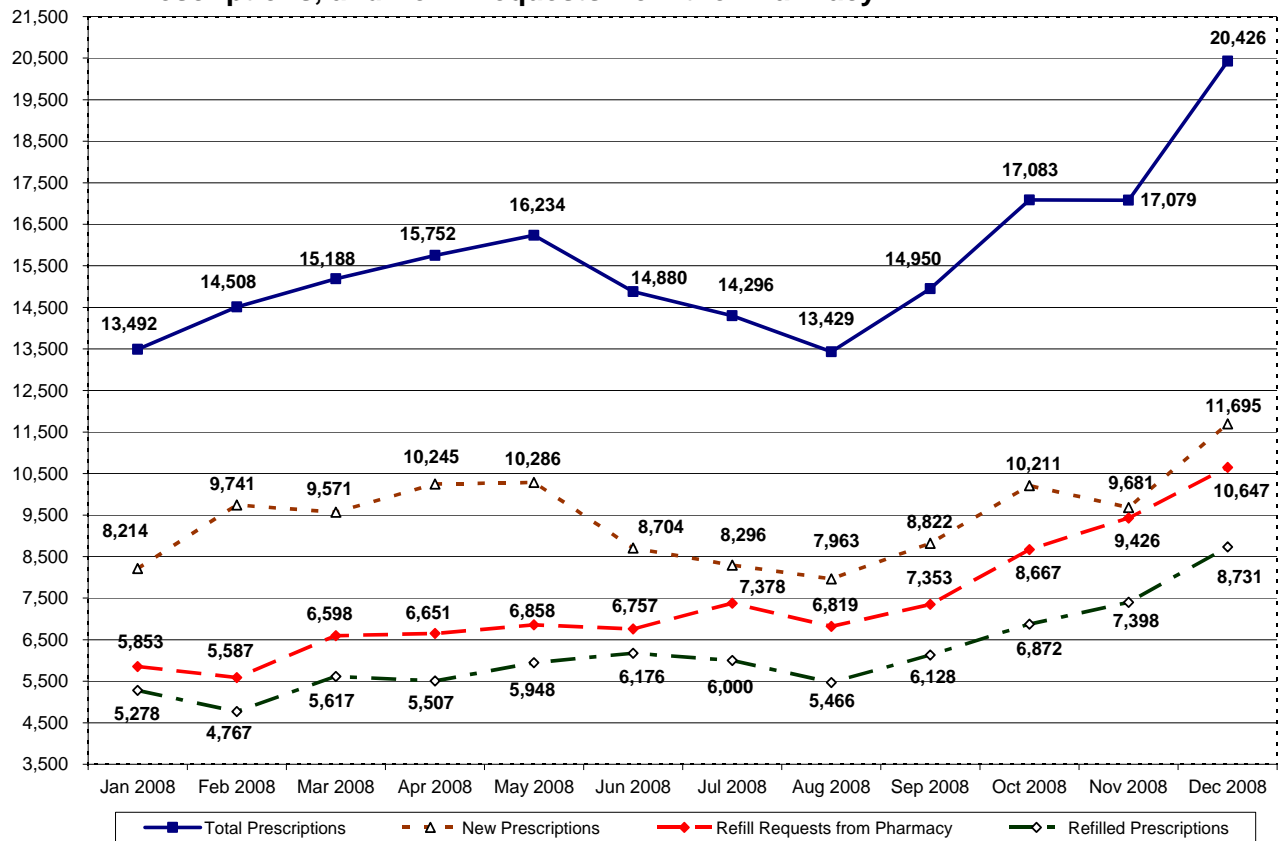
During 2008, the Agency worked with the Duval County Health Department to obtain 30 PDAs for use by county health department physicians as part of an e-prescribing pilot project. The introduction of the PDAs required a reassessment of security policies in the Department of Health for wireless transmission of personal health information and for proper authentication of the person using the PDA. This is the first time that a county health department has adopted eMPOWERx for its entire staff, and represents a step forward in bringing e-prescribing to all of the county health departments across Florida.

Section 6.   Private Initiatives

In 2008, national e-prescribing organizations, multi-stakeholder collaborations, and professional associations produced new educational materials to meet the growing demand for "how to" information on e-prescribing.   Private sector organizations also expanded certification and registration of e-prescribing tools which aid physicians in the selection of state-of-the art products that meet standards to qualify for Medicare and other incentive programs.   Another major event during 2008 was the merger of two nationwide e-prescribing organizations: SureScripts and RxHub.

6.1.   Merger of SureScripts and RxHub

In July, 2008, retail pharmacies and leading pharmacy benefit managers announced the merger of the two leading health information networks in the pharmacy industry, SureScripts and RxHub. The merger combines the complementary expertise of the two organizations. The focus of RxHub is in the provision of services related to the delivery of medication information to e-prescribing physicians.   SureScripts has concentrated on the provision of services related to electronic communication of prescription information between physician and pharmacies.

"This merger represents collaboration between industries that are equally committed to improving healthcare," said Bruce Roberts, executive vice president and CEO, National Community Pharmacists Association and SureScripts-RxHub Board member. "The combined strengths of the two organizations will enable the delivery of a single suite of services that will dramatically improve the safety, efficiency and quality of one of the largest segments in healthcare. We remain committed to maintaining the guiding principles that have driven the success of SureScripts and RxHub to date. We will continue to protect patient choice of pharmacy and physician choice of therapy."[16]

The merger will enable a more coordinated, nationwide network for e-prescribing, enable technology vendors to test and certify their e-prescribing products for connection to a single network, and provide e-prescribing physicians with more comprehensive medication information at the point of care. SureScripts-RxHub projected that during 2008 the combined organization would transmit over 100 million electronic prescription transactions and respond to more than 70 million requests by physicians confirming information about patient drug coverage and medication histories.

6.2.   ePrescribe Florida

In 2006, key e-prescribing stakeholders formed ePrescribe Florida. The group seeks to increase patient safety and meet the needs of the Florida public by documenting and promoting an understanding of the benefits and providing technical expertise in the implementation of e-prescribing. The organization is composed of the leading health plans, provider organizations and associations, retail pharmacy chains, and e-prescribing infrastructure and application vendors.

The mission of ePrescribe Florida is being achieved through educational and outreach programs and the promotion of e-prescribing standards among e-prescribing vendors. Educational programs

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[16] RxHub Press Release (2008). *RETAIL PHARMACIES AND LARGEST PHARMACY BENEFIT MANAGERS ANNOUNCE MERGER OF E-PRESCRIBING NETWORKS — IMPROVING SAFETY, ACCURACY, EFFICIENCY OF PRESCRIPTION MEDICINES FOR PATIENTS NATIONWIDE.* Retrieved from http://www.rxhub.com/images/pdf/press_releases/2008/PressRelease_SureScriptsRxHub_FINAL.pdf on July 5, 2008

and tools are provided as an informational resource so prescribing practitioners can understand the options and opportunities that exist at all levels of e-prescribing.

The organization also serves as a resource to help promote and communicate the various incentive programs offered through participating health plans, vendors, or other grants and funding opportunities. For example, health insurers Humana Inc. and Blue Cross and Blue Shield of Florida are offering free Web-Based e-prescribing software and hardware to physicians in their networks in Florida.[17]

In June 2008, ePrescribe Florida announced the first group of e-prescribing solutions and vendors to register with ePrescribe Florida by meeting its process and review criteria.   Each registered vendor must provide a validation of its e-prescribing solution's functionality against "Fully Informed" software criteria. These include patient safety in the form of drug-to-drug and drug-allergy alerts and drug dosing guidelines, medication history for the patient, formulary status, ability to submit prescription renewals, electronic transmission to pharmacies, certification by SureScripts-RxHub, utilization management and mail order capability. Registered vendors must also be in conformance with Medicare Part D e-prescribing standards for presenting patient formulary, benefit and medication history information, and electronically transmitting new prescriptions and refills.

Vendors then followed a set of procedures to register for the ePrescribe Florida website. Vendors were asked to start the registration process by submitting a company profile form, becoming familiar with the guidelines and process for becoming a registered solution and initiate the registration process formally by completing a functionality checklist through self assessment. ePrescribe Florida would then send a marketing policy to the vendor and upon agreement would begin the review process. Each vendor submits a completed software profile document for each software version applying for registration and the Vendor Solution Workgroup reviewed this information for completeness and specificity. The next step in the process is software verification, in which each software vendor presented the software through a 30-45 minute webcast to verify its functionality through all clinical scenarios. Products that could demonstrate functionality were removed from the website application. Products that passed the verification process were then listed as a registered solution for one year on the ePrescribe Florida website. The website currently has fifteen registered vendors.

The ePrescribe Florida Steering Committee developed a strategy to promote the adoption of e-prescribing in Florida during 2008. Its goals included persuading Florida and national market stakeholders to view e-Prescribe Florida as a leader in innovation and local health information technology efforts, increase the participation of health plans in ePrescribe Florida, work with CMS on national policies for e-prescribing, and participate in national and regional forums and associations. A major goal of the Steering Committee was to position Florida to win a Safe Rx Award from SureScripts-RxHub, by demonstrating the highest e-prescribing rate in the country.

The ePrescribe Florida Steering Committee created several workgroups to address different goals of the organization in 2008. The Vendor Solutions workgroup was given the mission of providing stakeholders with access to the information and tools they needed to support the evaluation of e-prescribing solutions consistent with the goals of ePrescribe Florida. The goals of this workgroup were to help ePrescribe Florida become recognized as the preferred non-biased information source for organizations considering e-Prescribing solutions. The workgroup was to provide an efficient platform to share technical information and best practices.

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[17] Health Data Management, "Free E-Prescribing for Florida Docs", http://www.healthdatamanagement.com/news/e-prescribing26986-1.html, Retrieved on January 5, 2009.

Full functionality of e-prescribing software was defined as meeting all of the criteria required for care management, decision support, communication and integration and security of the software. Criteria for full functionality include:

- **Care Management**
  - Maintain and Manage Patient Record
  - Manage Patient Specific Medication List
  - Manage Medication Administration
  - Manage Allergy and Adverse Reaction List
  - Order Medication & Fulfillment of Rx
- **Decision Support**
  - Dispensed Drug History (DDH)
  - Drug to Drug Interaction
  - Drug Utilization Review (DUR)
  - Drug Reference
  - Formulary Messaging
- **Communication, Connectivity & Integration**
  - Capable of Accessing Health Plan Eligibility and Display Real-time Formularies
  - Patient Eligibility and Coverage Determination
  - Pharmacy Communication
  - Practice Management System Integration (PMIS) or Electronic Health Record system
- **Security, Standards & Support**
  - Other Messaging Requirements
  - Security
  - Standards
  - Reporting
  - Training and Implementation Support Able to provide on site training and remote training along with ongoing practice support. Technical Support
  - Disaster Recovery

Several ePrescribe Florida workgroups targeted stakeholders in the health care community in 2008. The goal of the Provider Outreach workgroup was to ensure that Florida prescribers have the information and tools necessary to understand and successfully transition to e-prescribing. Its mission was to foster and gain physician implementation and key stakeholder support of e-prescribing. Its task for the year was to identify the barriers and opportunities for e-prescribing from a stakeholder and industry perspective. Its plan was to provide solutions for e-prescribing, through outreach programs, materials, forums, and partnerships

A similar workgroup, the Pharmacy Outreach Workgroup, targeted the pharmacies with the goal of increasing the number of independent pharmacies activated to receive electronic prescriptions. The workgroup targeted the 400 to 500 independent pharmacies that are technically ready and interested in e-prescribing. The Patient and Consumer Acceptance Workgroup was established to educate and engage Florida consumers to increase their awareness and acceptance of e-prescribing and to mobilize consumers as advocates to "ask their doctor" about e-prescribing. Each of these workgroups was to work with the Communications and Marketing workgroup to

develop and implement an effective communication strategy to engage all stakeholders and to increase their awareness and acceptance of e-prescribing.

A final workgroup, the Metrics and Reporting Workgroup was created to strengthen the overall strategy, infrastructure and capabilities available to Florida stakeholders and to enable effective monitoring and evaluation programs. Its goal was to ensure that ePrescribe Florida solutions had a measurable impact on the adoption of e-prescribing across Florida. The Metrics and Reporting Workgroup was to use date from SureScripts-RxHub to track the number of new physicians using e-prescribing, the volume of new e-prescriptions, refill requests and refills, the number of pharmacies that are activated for e-prescribing and a breakdown of the geographic locations across Florida where e-prescribing has been adopted. The annual goal of ePrescribe Florida was to increase the number of Florida clinicians using e-prescribing by the fourth quarter of 2008 by 250%, to 5,828, and to increase the percentage of total prescriptions that are transmitted electronically from 1.62% in 2007 to 4.1% in 2008, a 250% increase. The actual annual average of e-prescriptions in 2008 was 4.3%, which met and exceeded the ePrescribe Florida goal for 2008.

In 2008 e-Prescribe Florida expanded its horizon to become e-Prescribe America. Its goal was to spread its approach across more states to promote the adoption of e-prescribing in 2008 and forward. Currently, stakeholder groups in Tennessee are working with ePrescribe America to promote e-prescribing in their state.

More information about ePrescribe Florida and a list of organizations involved can be found at: www.ePrescribeFlorida.com.

6.3.   Certification Commission for Healthcare Information Technology

On September 25, 2008, Certification Commission for Healthcare Information Technology (CCHIT) announced its intention to certify stand-alone e-prescribing systems. CCHIT currently certifies ambulatory products that contain the advanced e-prescribing capabilities issued by the Centers for Medicare and Medicaid Services (CMS) in April 2008. Using a CCHIT certified system is a requirement of qualifying for Medicare e-prescribing incentives in 2009. CCHIT will use a subset of the ambulatory certification criteria to apply to stand-alone e-prescribing systems. The certification of stand-alone systems will provide additional options for physicians who wish to qualify for the new Medicare e-prescribing incentives program.

On December 22, 2008 CCHIT published a first draft of its 2009 stand alone e-prescribing certification criteria and test scripts containing more than 90 criteria. Criteria categories include, among others, patient identification management; medication list management; allergy, intolerance, and adverse reaction list management; problems and conditions list management; medication ordering; eligibility and formulary; support for drug interaction and error checking; interoperability as well as criteria related to patient access control, authentication and audit requirements. CCHIT issued an invitation for comments on the newly released certification criteria and test scripts from the healthcare community through January 21, 2009.

More information on the e-prescribing certification criteria and test scripts is available on the CCHIT website at www.cchit.org/participate/public-comment/index.asp.

6.4.   Other National Private Initiatives

There are many organizations and associations working at the national level to promote the adoption of e-prescribing. Among these are the National ePrescribing Patient Safety Initiative, the National Council for Prescription Drug Programs, the Pharmaceutical Care Management Association, eHealth Initiative, SureScripts-RxHub, and the American Academy of Family Physicians.

The American Academy of Family Physicians established the Center for Health Information Technology (Center) to provide technical expertise, advocacy, research, and member services associated with medical office automation and computerization. The Center works to increase the availability and use of low-cost, standards-based information technology among family physicians through consultative, educational, and outreach activities. The Center provides step-by-step educational materials to assist physicians in the successful implementation of electronic medical record systems in their practices including the adoption of e-prescribing functionality.   More information about the Center is available on its website at: www.centerforhit.org.

The American Academy of Family Physicians also maintains a promotional web site, www.GetRxConnected.com, where physicians can follow a step-by-step process designed to help them transition from paper-based prescribing to e-prescribing. Other organizations supporting GetRxConnected are: the American Academy of Pediatrics, the American Academy of Nurse Practitioners, the American Academy of Physician Assistants, the American College of Cardiology, the American College of Obstetricians and Gynecologists, the American Osteopathic Association and the Medical Group Management Association.

The National ePrescribing Patient Safety Initiative (NEPSI) offers free e-prescribing software to physicians and pharmacies. The software is provided without cost by the e-prescribing vendor, Allscripts and NEPSI coalition members. More information is available on the organization's website at: www.nationalerx.com.

The National Council for Prescription Drug Programs creates and promotes standards for the transfer of data to and from the pharmacy services sector of the healthcare industry. The organization provides a forum and support that enables a diverse membership to develop and maintain these standards through a consensus building process. The organization offers its members educational opportunities and database services to better manage their businesses. More information is available on the organization's website at: www.ncpdp.org.

The Pharmaceutical Care Management Association, the national association representing pharmacy benefit managers issued an e-prescribing ad campaign in 2008 involving TV, print and on-line media. The purpose of the ad campaign is to inform policymakers about the potential of e-prescribing, if widely adopted, to improve patient safety in the use of prescription medications.   More information is available on the organization's website at: www.pcmanet.org/issues/sec/e-prescribing.

A multi-stakeholder collaborative, eHealth Initiative, advocates for the use of health information technology to improve the quality, safety, and efficiency of health care. In 2008, eHealth Initiative, in collaboration with the American Medical Association, the American Academy of Family Physicians, the American College of Physicians, the Medical Group Management Association, and the Center for Improving Medication issued *A Clinicians Guide to Electronic Prescribing.* It provides a comprehensive and detailed reference for physician practices that have made the decision to implement a system.   Other useful resources available on the eHealth Initiative website are *A Consumer's Guide to Electronic Prescribing*, and for policy makers, *Electronic Prescribing: Becoming Mainstream* Practice and Best Practices and *Lessons Learned Related to*

Electronic Prescribing: A Guide for Health Plans, Employers, and Statewide Initiatives. More information is available on the organization's website at: www.ehealthinitiative.org/eRx/.

SureScripts-RxHub maintains a consumer-oriented website called "Learn About e-Prescriptions" at www.learnabouteprescriptions.com/.   This site contains a search tool that can be used to identify e-prescribing physicians and pharmacies that accept electronic prescriptions. Information can be found by city or zip code. In addition, the site provides informational videos on the benefits of e-prescribing from the perspective of physicians, pharmacists, nurses and other medical staff and patients speaking about their positive experiences with e-prescribing.

Section 7. State Electronic Prescribing Advisory Panel

The legislation that directed the Agency to create the Electronic Prescribing Clearinghouse also provided that the Agency was to collaborate with private sector e-prescribing initiatives, Regional Health Information Organizations (RHIOs), and other stakeholder groups described in the legislation. Section 408.0611(3), F.S., provides that the Agency will meet with stakeholders at least quarterly to "assess and accelerate the implementation of e-prescribing."

In the fall of 2007, the Agency formed the State Electronic Advisory Panel (Panel) and invited representatives of the relevant stakeholder organizations to participate as appointed members of the Panel. The Agency scheduled the first meeting of the Panel to coincide with the initial release of the e-prescribing website. The first meeting of the Panel was held on October 4, 2007.

The Panel met on January 28, 2008 to review the Florida 2007 Electronic Prescribing Report and issue recommended action steps for the Agency in 2008. These recommendations were: 1) to continue to collect information on e-prescribing metrics; 2) to coordinate with the Office of Drug Control regarding a pilot study on the patient safety of e-prescribing; 3) to facilitate use of e-prescribing incentive programs; and 4) to expand education and outreach about e-prescribing to the general public.

During 2008, the Panel also met on May 27, 2008 and August 26, 2008 in conjunction with the Health Information Exchange Coordinating Committee (HIECC) of the State Consumer Health Information and Policy Advisory Council (Advisory Council). The purpose of the combined meetings was to better coordinate the development and promotion of e-prescribing activities as part of the Agency's health information exchange initiatives. The Advisory Council advises the Agency regarding the collection and dissemination of heath care performance information for consumers and providers, as authorized in s. 408.05 (8) Florida Statutes. The HIECC was formed by the Advisory Council to advise the Agency in implementing a strategy to establish privacy-protected, secure, and integrated exchange of electronic health records among physicians involved in the patient's care which includes the exchange of medication information through e-prescribing.

To facilitate greater involvement and collaboration in the study of patient safety benefits of e-prescribing, the Florida Office of Drug Control and a representative of a State University were added as members in late 2008.

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Section 8. Metrics on Electronic Prescribing Implementation

E-prescribing was on the increase in Florida in 2008. The number of e-prescription transactions, pharmacies activated to receive electronic prescriptions, e-prescribing physicians, and patient medication record requests all showed positive growth in the year. SureScripts estimates that approximately 103 million prescriptions could have been sent electronically in Florida during 2008. Data reported from SureScripts-RxHub and eRx Network during 2008 show 4.4 million electronic prescriptions were transmitted. These data indicate an annual 2008 e-prescribing rate of 4.33% an increase from the annual e-prescribing rate of 1.6% in 2007.

Data reported from SureScripts-RxHub show that there were 6,157 total pharmacies in Florida in 2008. Of these, 4,378 or 71% of all pharmacies in Florida were activated to receive electronic prescriptions in 2008, an increase from 63% of pharmacies in 2007. Among pharmacies across the state in all Metropolitan Statistical Areas (MSA), except Miami-Ft. Lauderdale, more than half were activated to receive e-prescriptions. Figure 6 shows the MSAs in Florida, the number and percentage of pharmacies activated for e-prescribing and total pharmacies per MSA.

Figure 6. Pharmacies that are Activated to Receive E-prescriptions and the Percent of all Pharmacies Activated per Florida Metropolitan Statistical Area, Based on 2008 Data from SureScripts
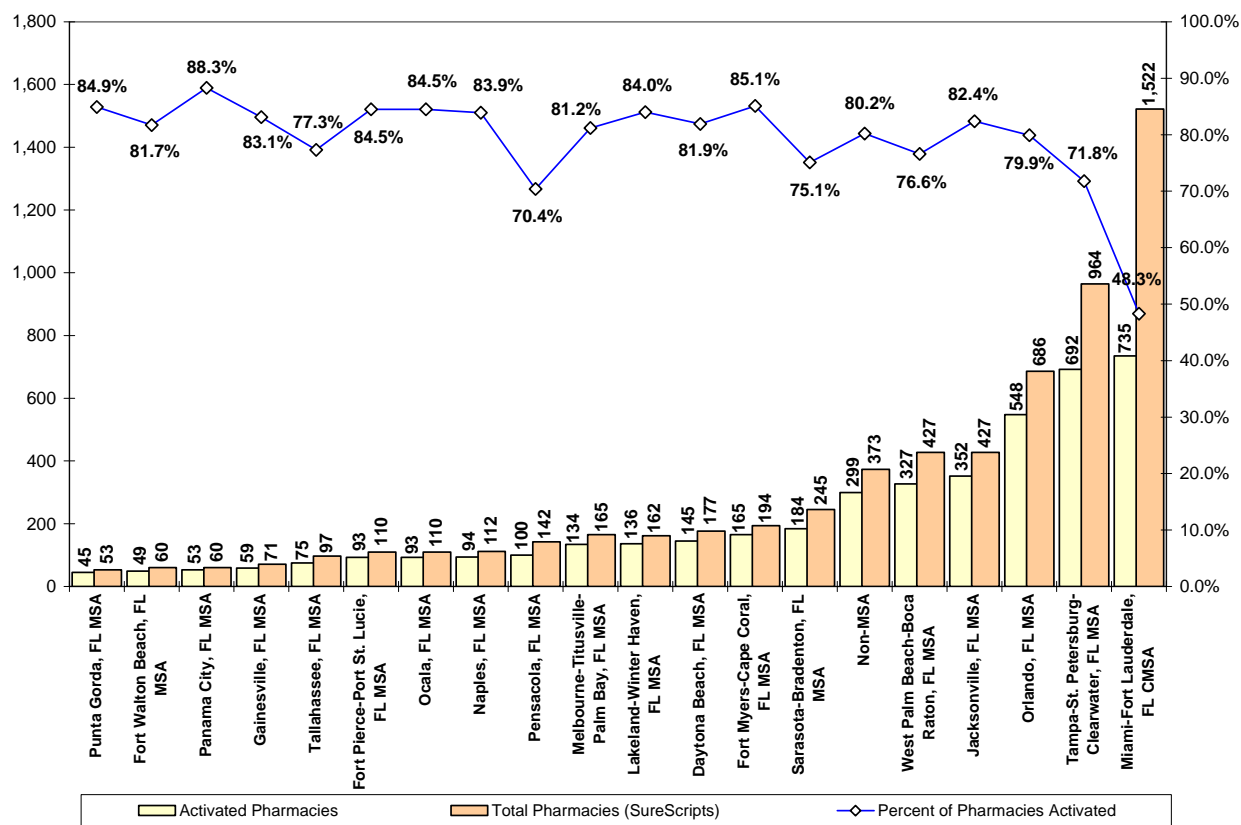

Figure 6 shows that while an average of 71% of all pharmacies in the state are activated to receive e-prescriptions, this percentage varies according to the region of the state. Most of the Metropolitan Statistical Areas (MSAs) in Florida show a higher percentage of activated

pharmacies, for example 71.8% in Tampa, 79.9% in Orlando and 82.4% in Jacksonville. Panama City has the highest percentage in the state, with 88.3% of pharmacies activated. The statewide average is reduced by the much lower percentage (48.3%) of pharmacies activated to receive e-prescriptions in the Miami-Fort Lauderdale MSA, which make up 24.7% of all Florida pharmacies. One reason for the low number of activated pharmacies in the Miami-Fort Lauderdale MSA is the number of small,family-owned pharmacies, which are too small to afford the e-prescribing hardware and software required to become active e-prescribers.

The highest monthly total of e-prescribing physicians in 2008 was 4,492, compared to the highest monthly total of e-prescribing healthcare professionals in 2007 of 2,331, based on statistics provided by SureScripts-RxHub and eRx Network.. This is an increase of 92.6% from the monthly high in 2007 and that of 2008. The number of physicians e-prescribing grew by 80% between January and December 2008, as shown in Figure 7. The growth curve of e-prescribing physicians shows a steady upward trend that increases its pace toward the end of the year. Between January and June, an average of 96 new physicians began e-prescribing per month, compared to an average of 223 per month between July and December. There were 5.7 million patient medication record requests in 2008 compared to 1.3 million in 2007, a 310% increase.

Figure 7. Number of Physicians E-prescribing, Number of Electronic Prescriptions and the Percent of all Prescriptions Sent Electronically per Month
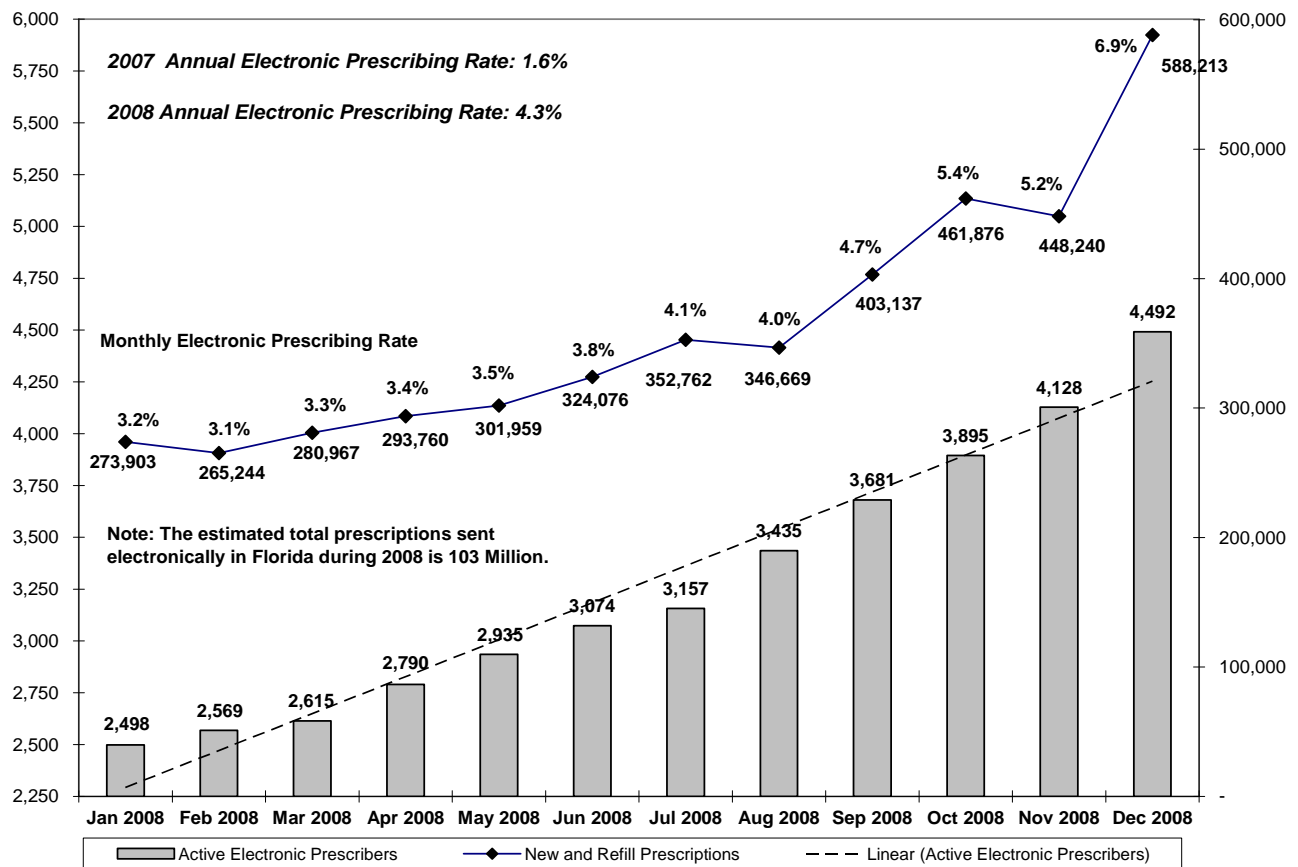

There is a marked increase in the number of e-prescribing transactions as the number of prescribing physicians grows. Figure 8 shows the number of new prescriptions and prescription refills sent via e-prescribing in 2008. In January there were 273,903 e-prescribing transactions,

which increased to a high point of 588,213 e-prescribing transactions in December. This constitutes a 115% increase in e-prescriptions between January and December 2008. The change in transactions also demonstrates an increase in the actual number of e-prescriptions submitted by each physician. In January, each physician submitted an average of 110 e-prescriptions. By December, that average climbed to 131 e-prescriptions per physician. These numbers indicate that e-prescribing transactions increased not only because there were more physicians writing them, but because physicians wrote more e-prescriptions throughout the year.

Total e-prescribing transactions do not tell the entire story of e-prescribing, though. There are different types of e-prescribing transactions, new prescriptions, refills requests, and refill responses. Figure 8 breaks down the e-prescribing transactions into these component types, based on statistics reported by SureScripts-RxHub and eRx Network. Clearly, new electronic prescriptions make up the greatest number of transactions in 2008, at about 70% of all electronic prescriptions. These figures suggest that much of the e-prescribing activity in 2008 came about through physicians moving from writing paper prescriptions into the use of e-prescribing systems. However, the growth rate for electronic refills at 124% exceeded the 111% growth rate of new electronic prescriptions in 2008. To the extent that physicians write prescriptions that need refills, the number of refills will tend to follow the growth curve of new prescriptions, as is indicated below. Refill requests follow a similar curve as refill responses, though with a slightly greater number of transactions, indicating that not all prescriptions are refilled. The growth rate through the year for refill requests was 132%.

Figure 8. E-prescribing Transactions in Florida by Transaction Type
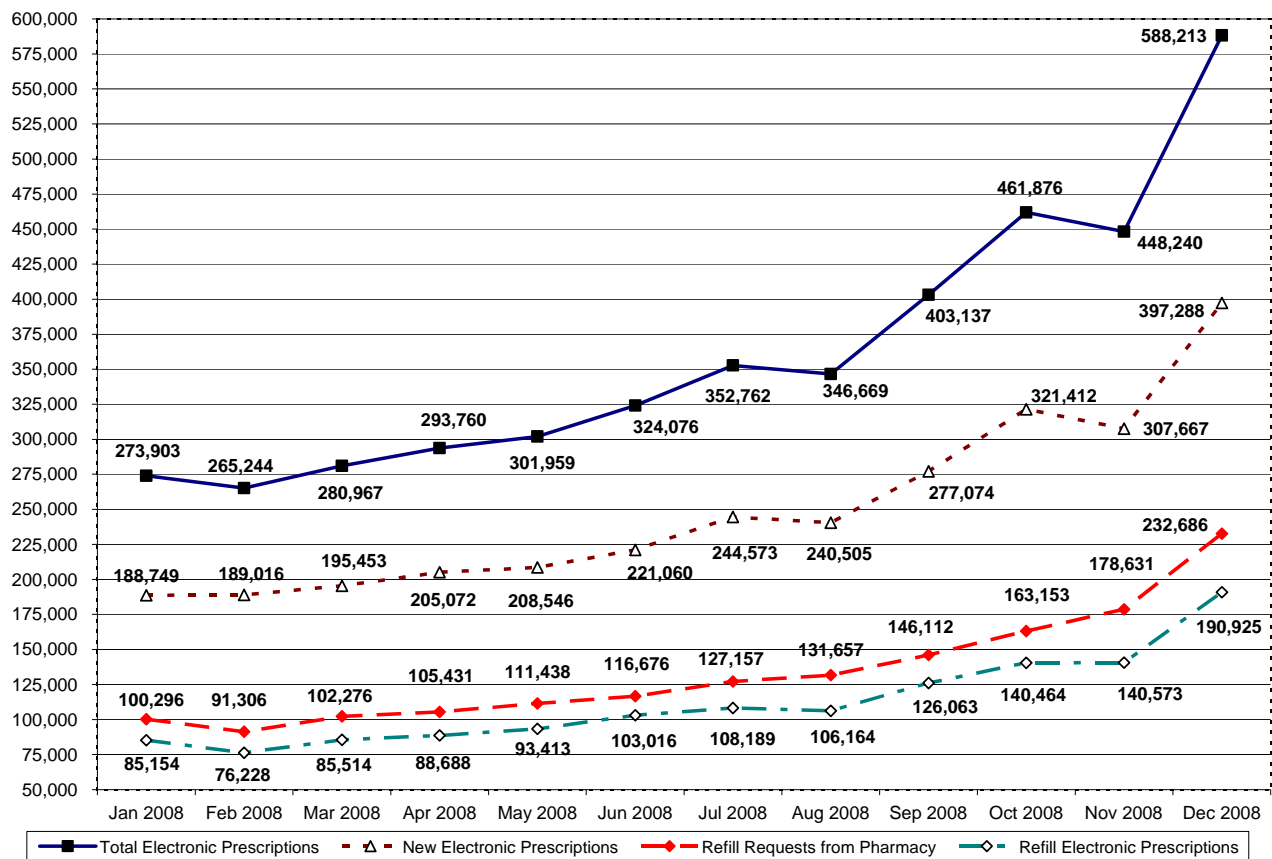
The data presented from SureScripts-RxHub indicates steady growth in the number of e-prescribing providers and electronic prescriptions in 2008. Additional data from the pharmacy benefit manager (PBM) side of SureScripts-RxHub and from eRx Network show the total number of transactions related to e-prescribing, by Metropolitan Statistical Area in Table 4. Several types of transactions are shown in this table. Data from RxHub report the number of patient medication record requests the company received from Florida. It also shows the total number of new prescriptions, refill orders from physicians and refill requests from pharmacies SureScripts-RxHub and eRx Network. By presenting data on all electronic transactions across Florida, it is possible to build up a picture of network activity that comprises the cycle of e-prescribing, from requesting eligibility to refilling prescriptions.

Table 4. Total 2008 E-prescribing Transactions in Florida by Metropolitan Statistical Area

| Florida Metropolitan Statistical Areas	Patient Medication Record Requests	New Prescriptions and Refill Orders in 2008			*Total Electronic Prescriptions
	RxHub	RxHub	SureScripts	eRx Network	
Daytona Beach	394,969	1,867	104,975	12,491	119,333
Fort Myers-Cape Coral	278,394	1,144	146,787	16,329	164,260
Fort Pierce-Port St. Lucie	148,114	553	53,409	1,290	55,252
Fort Walton Beach	27,255	52	17,853	17	17,922
Gainesville	65,455	517	69,306	17,141	86,964
Jacksonville	580,291	1,403	585,554	81,468	668,425
Lakeland-Winter Haven	138,458	548	108,578	7,489	116,615
Melbourne-Titusville-Palm Bay	291,681	2,077	103,517	9,973	115,567
Miami-Fort Lauderdale	1,025,262	3,399	680,470	31,162	715,031
Naples	43,424	266	28,235	3,389	31,890
Non-MSA	434,427	1,097	171,067	10,584	182,748
Ocala	89,400	767	69,662	11,458	81,887
Orlando	706,171	5,837	386,523	43,956	436,316
Panama City	61,692	592	16,190	447	17,229
Pensacola	26,326	87	29,719	6,517	36,323
Punta Gorda	0	0	54,470	28	54,498
Sarasota-Bradenton	222,077	4,094	114,901	5,427	124,422
Tallahassee	66,755	119	282,548	26,113	308,780
Tampa-St. Petersburg-Clearwater	1,112,530	2,990	789,996	159,462	952,448
West Palm Beach-Boca Raton	0	0	167,022	12,093	179,115
Total	5,712,681	27,409	3,980,782	456,834	4,465,025

*Amounts do not include refill requests from pharmacies.

The Tampa-St. Petersburg-Clearwater MSA accounts for the largest number of electronic transactions in 2008, with 952,448. This electronic volume is followed by the Miami-Fort Lauderdale, Jacksonville and Orlando MSAs. The large volume of electronic transactions in these MSAs is likely related to their large populations, in particular, Miami, which has the lowest percentage of activated pharmacies. Comparing these numbers to the high volume of electronic

transactions from the relatively small Tallahassee MSA demonstrates the higher percentage of electronic transactions coming from less populated areas of the state rather than the population centers.

Figure 9 compares the number and percentage of patient medication record requests to electronic prescriptions per month in 2008. The record request initiates the e-prescribing session in which the provider requests information on patient insurance coverage and benefits and receives the list of prescriptions in the patient's claim record. The number of record requests thus indicates queries from providers during a patient visit, and do not necessarily equate to a physician ordering a prescription.

Figure 9. Patient Medication Records Requested Compared to Electronic Prescriptions
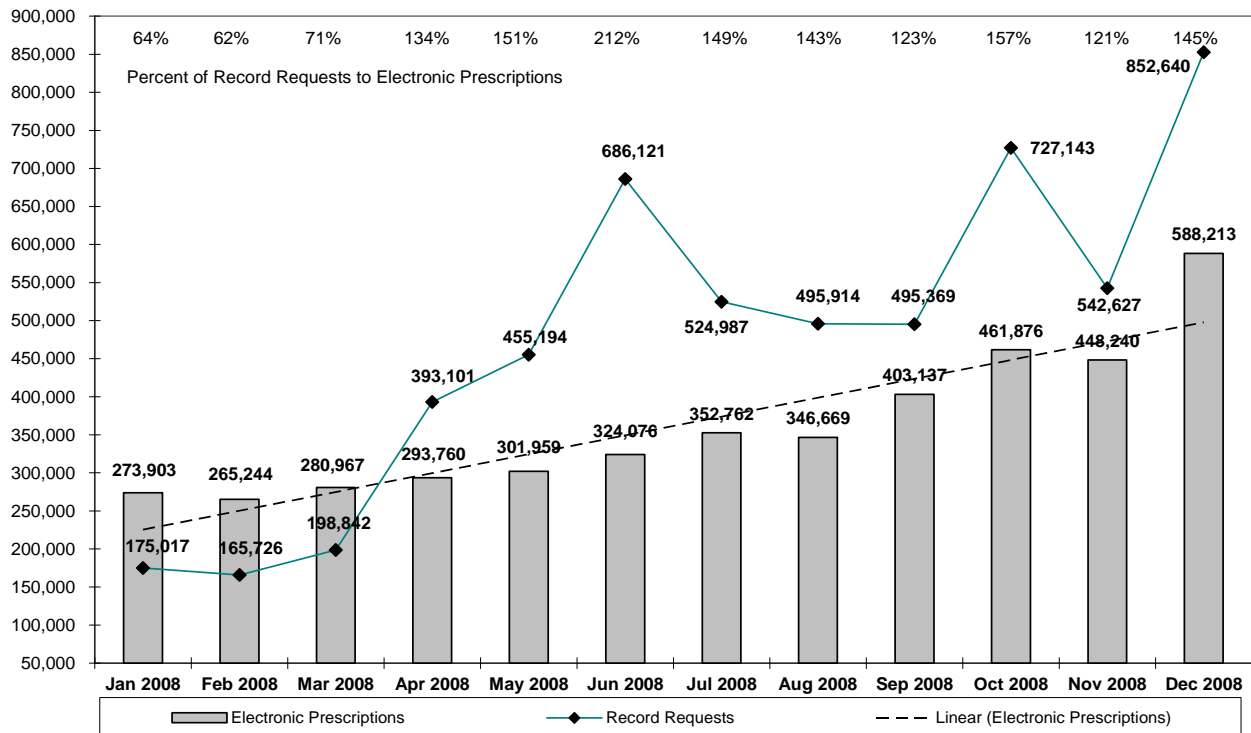
The ratio between record requests and electronic prescriptions indicates the difference between the records request and the prescription. A high percentage indicates that providers have requested information but do not necessarily e-prescribe following the query. In January, there were 175,017 record requests but 273,903 electronic prescriptions, for a percentage ratio of only 64% for requests to e-prescriptions for this month. However, by April 2008, the number of record requests increased substantially, and the request to e-prescription ratio increased accordingly. By December, there were 852,640 record requests and 588,213 electronic prescriptions. Record requests exceeded electronic prescriptions by 145%, the highest level in the year. The data indicate that physicians are realizing the benefits of access to patient medication information and increasing their utilization of medication histories in their assessment of their patients. The data also show that physicians are not writing electronic prescriptions every time they view a medication history. This could indicate that the medication history provides a value to the physician, as was shown in the Medicaid Wireless PDA pilot project, leading to fewer prescriptions and better health care quality for patients. If the patterns of e-prescribing adoption and use of patient medication information shown in the data above remain the same, there should be a steady increase for both record requests and e-prescriptions in 2009 as well.

Section 9.   Conclusions and Recommendations

The implementation of e-prescribing is likely to be the first large scale system for electronic health information exchange to be implemented in the United States, and it will be available for millions of patients within the next few years. As e-prescribing approaches full adoption, the number of prescriptions transmitted electronically will be essentially equivalent to the medication history queries. When e-prescribing systems are fully implemented, physicians will be able to prescribe, renew and check medication histories routinely relying on a secure, private network for these communications.

This report provides information on trends in e-prescribing adoption in Florida through calendar year 2008.   The e-prescribing metrics track volume of electronic prescriptions, medication information requests and pharmacies that accept e-prescriptions statewide and by metropolitan areas.   Data from year 2008 indicate that Florida is beginning to show rapid growth of e-prescribing transactions and is ranked among the top 20 states for e-prescribing by SureScripts (see: http://www.surescripts.com/safe-rx/default.aspx). In 2008, 4.3% of prescriptions in Florida were sent electronically, up from 1.6% in 2007.   Two important factors likely to increase e-prescribing adoption will be the availability of Medicare incentives for e-prescribing beginning in 2009, and the certification of stand-alone e-prescribing systems by the Certification Commission for Healthcare Information Technology. It is important that Florida capitalize on these opportunities to accelerate e-prescribing in 2009 through greater educational outreach and participation of Florida Medicaid.

9.1.   Recommendations

At its January 28, 2009 meeting, the State Electronic Prescribing Advisory Panel recommended that the Agency take the following steps during the next year to further accelerate the adoption of e-prescribing in Florida:

1) Continue to track and report e-prescribing and medication history metrics on a quarterly basis. Comparable Florida Medicaid prescription statistics should be included. The information should be posted on the Agency's website as part of the Florida Electronic Prescribing Clearinghouse, and on its performance dashboard to obtain maximum visibility.

2) Work with the Office of Drug Control, Florida Medical Examiners, and Florida Medicaid to conduct a study of drug overdose deaths and hospitalizations to examine utilization patterns in claims data for the purpose of better understanding the potential of e-prescribing to prevent doctor shopping.

3) Intensify outreach to educate and encourage Florida physicians to qualify for the Medicare electronic prescribing incentive payments. The Agency should include e-prescribing in programs to promote adoption of electronic medical records and coordinate efforts with the Health Information Exchange Coordinating Committee.

4) Identify and address barriers to pharmacy participation including workflow, cost and environmental factors related to the participation of independent pharmacies and legal policy, or technical issues related to enabling pharmacist access to patient medication information. Encourage the participation of state professional pharmacy associations, pharmacy colleges, and other University researchers in addressing barriers and demonstrating the benefits of e-prescribing.

5) With the support of e-prescribing stakeholders, the Agency should begin to disseminate

information on e-prescribing to the general public. The Agency should cooperate with professional associations to identify physician and other champions who can speak to the general public about the benefits of e-prescribing and what patients should expect and gain from physician e-prescribing.   The Agency should include consumer e-prescribing information on its consumer website, FloridaHealthFinder.gov.

6) Explore the feasibility of expanding Florida Medicaid prescription data sharing to enable e-prescribing physicians to access a Medicaid recipient's medication history at the point of care and integrating e-prescribing functionality within multi-payer health information exchange solutions in which Florida Medicaid participates.

7) Support emerging national standards for "fully informed" e-prescribing that require health plans and vendors to electronically transmit medication history and formulary and benefit information to e-prescribers and pharmacies.

Second Annual Florida

2008 Electronic Prescribing Report

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