**Best Practices and Lessons Learned
Related to Electronic Prescribing**

**A Guide for
Health Plans, Employers and Statewide Initiatives**

**eHealth Initiative
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BACKGROUND

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The eHealth Initiative (eHI) has significant expertise and experience not only with health information technology in general, but also with e-prescribing. Following the release of its seminal report on e-prescribing in 2004, in 2008 it launched a series of activities designed to assess progress, identify obstacles and challenges to adoption, and develop practical recommendations for the effective adoption of e-prescribing to improve the quality, safety and effectiveness of care. The results of these activities are outlined below.

This report updates and supplements the wide array of reports and guidance provided by the eHealth Initiative detailed below, with a specific focus on the best practices and lessons learned of e-prescribing initiatives of health plans, employers, and statewide organizations.

AN OVERVIEW OF EHEALTH INITIATIVE'S WORK RELATED TO E-PRESCRIBING

On June 11, 2008, the eHealth Initiative (eHI) released the report [Electronic Prescribing: Becoming Mainstream Practice](#) which was developed collaboratively by eHI and the Center for Improving Medication Management (Center), offering a detailed examination of the progress made, obstacles that remain, and recommendations for helping the nation's prescribers migrate from paper-based prescriptions to an electronic system.

The report, which was a follow-up to eHI's 2004 benchmark report on the state of e-prescribing, was developed and written by the eHI and Center staff, with the guidance of a multi-stakeholder [Steering Group](#)--which includes clinicians, consumers, employers, health plans, health IT vendors, and pharmacies. While several guides are available today, they are often developed by vendors, or by one constituency (such as health plans or pharmacies or physicians) and therefore do not offer a comprehensive view of the actions that are needed by different stakeholders in the system (given that e-prescribing touches many "actors" in the system--all of which need to engage to support effective adoption). eHI and the Center, as well as the collaborating organizations representing many stakeholders in the system who are offering their strategic guidance, developed this series of reports, with the goal of providing neutral, consensus-based guidance that could be relied upon by multiple stakeholders in the system.

Key topics covered by the report include:

- A definition of e-prescribing
- A set of consensus-based principles for e-prescribing adoption
- Current state of adoption
- Overview of related public policy
- The value proposition of e-prescribing for different stakeholders, including patients and caregivers, prescribers and practice staff, pharmacies and pharmacists, PBMs, health systems and hospitals, employers and purchasers, federal and state government, health IT vendors, pharmaceutical manufacturers, public health organizations, and research and academic institutions.
- Challenges and costs related to e-prescribing
- Overview of the e-prescribing process as well as an overview of best practices and lessons learned in the following areas: leadership, planning and selection, product capabilities and integration, workflow and change management, communications, deployment and effective use, and training and support
- Case studies of market, payer, and state initiatives designed to accelerate e-prescribing through financial and other incentives
- Recommendations for supporting the adoption of e-prescribing.

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Also released in June 2008 in conjunction with the main report, were two practical guides and an accompanying pamphlet, aimed at increasing the understanding of and accelerating usage of e-prescribing for two specific target audiences: consumers and health care payers.

A Consumer's Guide to e-Prescribing: Understanding the Benefits of e-Prescribing, How it Works and What You Can Do is a short guide tailored to a consumer audience, providing an overview of the benefits of e-prescribing and answers to a series of frequently asked questions including the following:

- What is e-prescribing and who participates in e-prescribing?
- How does e-prescribing differ from traditional prescription methods?
- How does it work? What are the benefits and costs? What are the potential drawbacks?
- How widespread is its use?
- Where can I learn more about e-prescribing?
- What is being done to assure privacy and security of prescriptions and my personal health information?

A shorter consumer-targeted pamphlet was also developed entitled Understanding the Benefits of e-Prescribing: How Does it Work, What Can You Do, which can be shared with patients by physician practices, or directly with patients through other mechanisms.

A Guide for Health Care Payers to Improve the Medication Management Process, also released on June 11, 2008, focuses on how e-prescribing can create value for payers through the medication management process, and how such technological innovations can be brought to market in a manner that best fits with a payer organization's own internal dynamics. The guide also provides a set of best practices and lessons learned to help payers in implementing e-prescribing innovations which might be of value to their individual organizations.

On October 7, 2008, eHI released "A Clinician's Guide to Electronic Prescribing", developed in collaboration with the American Academy of Family Physicians, the American College of Physicians, the American Medical Association, the Medical Group Management Association, and the Center. Developed with the strategic guidance of a multi-stakeholder Steering Group comprised of clinicians, consumers, employers, health plans, and pharmacies, and in partnership with four major medical associations outlined above, the Guide is designed to meet the needs of two target audiences: The first section of the guide targets office-based clinicians who are new to the concept of e-prescribing, and who seek a basic understanding of what e-prescribing is, how it works, what its benefits and challenges are, and the current environment impacting its widespread adoption. The second section of the guide targets office-based clinicians who are ready to move forward and bring e-prescribing into their practices. It presents fundamental questions and steps to follow in planning for, selecting and implementing an e-prescribing system. The guide also provides a list of key references and resources readers may consult to help make the transition to e-prescribing as smooth as possible.

Finally, eHI is providing considerable support for the transition from a paper-based system to electronic prescribing, through newsletters, webinars, and workgroup activities.

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PART I

**Health Plans and E-Prescribing—Accomplishments, Best Practices/Lessons
Learned, Barriers and Solutions—Including Case Examples**

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A. ACCOMPLISHMENTS

● *Substantial Medication Savings Through E-Prescribing With Formulary Decision
Support*

-The eRX Collaborative in Massachusetts was formed in 2003, and its founding health
plans—Blue Cross Blue Shield (BCBS) of Massachusetts and Tufts Health Plan, began giving
away free e-prescribing hardware and software to outpatient providers in the State. The
program has grown significantly, with more than 2000 high prescribers and a number of
new health plans on board.

According to a just released 12/08 *Annals of Internal Medicine* study[i], researchers found
unassailable evidence that **when e-prescribers have guidance on the availability and
cost of generic substitutes, more of these Tier 1 drugs are prescriber compared to
a control group.** Tier 1 medications were prescribed 3.3% more for e-prescribers with
formulary decision support. According to a BCBS of America report[ii], this figure is important
because on average, every one percent increase in the generic fill rate leads to a 1.5
percentage point savings in drug spending.

The *Annals* study's statistical analysis showed medication savings of $3.9 million per
100,000 insured are obtainable when e-prescribing with formulary decision support is fully
deployed amongst all prescribers, based on increased substitution of generics by e-
prescribers.

-Savings in the range of nearly $5 million per year was reported by Southwest Medical
Associates (SMA), [iii] a large multi-specialty medical group which is part of Nevada's largest
managed care organization, Sierra Health Services.

Over a three year period, 180 SMA physicians utilized an e-prescribing solution from
Allscripts, which helped physicians better identify opportunities to prescribe generic drugs as
alternatives to more costly brand name medications. The impact on prescribing patterns
and cost was substantial: Documented savings of $4.75 million per year from higher
generic fill rates, (4.8% higher than the non e-prescribing physician control group) and
another $208,640 in indirect savings from reductions in staff time devoted to prescription
refills.

● *Significant Reduction in Dangerous Drug Reactions and Resultant Costs Due to
Drug-Drug and Drug-Allergy Alerts*

The Institute of Medicine[iv] states that there are 1.5 million preventable medication caused
injuries every year in the United States, costing an estimated $3.5 billion in extra medical
costs in 2006—much of which could be averted with effective e-prescribing systems in
place. According to a study by the Gorman Health Group,[v] the estimate of avoidable annual
medication mistakes is closer to 2 million annually in the United States. The study also
concluded that the federal government could save up to $26 billion over the next decade
just in the Medicare program—even after providing funds for equipment, training and
support—as long as physicians are first incentivized and then required to use the technology
as a condition for participating in the Medicare program. The study concluded that this

approach of combining a requirement with financial incentives would result in approximately 80 percent of physicians adopting e-prescribing technology.

-BCBS of Massachusetts and BCBS of North Carolina[vi] are documenting a <u>palpable positive patient safety impact of e-prescribing on prescribing behavior</u>, at each site prescribers canceled or changed more than 50,000 prescriptions thanks to drug safety warnings.   This represented nearly 3% of the 3.6 million prescriptions written during the study periods.

-CareFirst BlueCross BlueShield of Maryland found a savings of $624,000 in a one year pilot of giving free e-prescribing equipped PDAs to 500 physicians—attributed to interception of 540 prescriptions that might have led to adverse drug events.[vii]

The bottom line is keeping patients safe and healthy—a natural by-product of e-prescribing's many built-in safeguards.

● *Using Incentives to Increase the Number of E-Prescribers*

Almost all health plans offer free e-prescribing hardware and software and technical support as an enticement for prescribers to participate in their e-prescribing initiatives, increasing by thousands the number of e-prescribers nationally. According to statistics recently released by SureScripts-RxHub, the number of e-prescribers in the United States has doubled in the last year to over 70,000, thanks in part to the contribution of health plans promoting e-prescribing to their provider network. Growth in the e-prescriber pool translates to growth in e-prescriptions written. Anthem Blue Cross Blue Shield of Ohio saw a 2% growth in the number of e-prescriptions written by its pool of physicians who received e-prescribing donations in 2006[viii]

Other health plans having a major impact on expanding the number of e-prescribers and e-prescriptions include:[ix]

-Wellpoint of New Hampshire, parent of Anthem Blue Cross and Blue Shield, is attempting to enroll 300 of the states primary care physicians in its e-prescribing program, representing about 10% of the state's total provider population.

-Blue Cross Blue Shield of North Carolina, now with more than 1,000 physicians enrolled and more than 4 million prescriptions electronically transmitted.

-CareFirst Blue Cross Blue Shield, which subsidized the cost of servicing 500 physicians with handheld PDAs equipped with e-prescribing software. Over 345,000 electronic prescriptions were transmitted in the program's first year, 2006, and 525,000 in 2007.

-Horizon Blue Cross Blue Shield of New Jersey, with over 1500 prescribers using its e-prescribing technology, producing over 3 million electronic prescriptions. Horizon also is a regional supporter of the National ePrescribing Patient Safety Initiative, which provides e-prescribing free of charge to all prescribers.

-Sierra Health Services, in the e-prescribing program utilized by Southwest Medical Associates referenced in A. above,[x] noted that physician payment incentives had a substantial impact on physician e-prescribing utilization. Only SMA physicians who were 100% compliant in using the e-prescribing system would be eligible to receive bonuses. This policy had a large and swift impact, resulting in 90% of all prescriptions written at SMA were e-prescriptions.

-Blue Cross Blue Shield of Louisiana launched an e-prescribing pilot for 500 physicians in the summer of 2006. Tulane University is conducting a study on the pilot, and will publish its results with the goal of encouraging statewide e-prescribing adoption.

-The Highmark eHealth Collaborative Initiative offers funding to physicians the help reduce the costs of acquiring ePrescribing/eHealth Record technology for their practices. According to its website,[xi] the collaborative will pay up to 75 percent of the cost for a physician's office to acquire, install, and implement the electronic technology system, up to a maximum of $7,000 per physician, with the physician's practice to pay the remaining balance. Depending on the amount of funding received by each physician, it is expected that funding will be available for 4,000 to 6,000 physicians.

-Blue Cross Blue Shield of Delaware launched a pilot e-prescribing program for 150 physicians in 2006, giving them free PDAs with DrFirst's Rcopia ™ e-prescribing software.[xii]

-ePrescribe Florida[xiii] is a multi-stakeholder initiative in Florida aimed at accelerating e-prescribing adoption by offering free educational and e-prescribing implementation programs. The Steering Committee includes Blue Cross Blue Shield of Florida and Humana.

-Blue Cross Blue Shield of Illinois launched its statewide "e-Prescribing Collaborative Program" in February 2007, offering funding and technology support to every physician in the state, with an initial group of 500 having all software and hardware costs covered. UnitedHealthcare is also supporting the collaborative.

-UnitedHealthcare, in December 2008, announced it will provide electronic prescribing technology for 200 primary care physicians throughout Texas. Based on the success of similar pilot programs in Ohio and Florida, the Minneapolis-based health insurer will use e-prescribing software created by Zix Corporation. The system will allow physicians to order prescriptions for patients through a secure, wireless handheld PDA or secure Web site. Once ordered, the prescriptions will be sent electronically to the patient's preferred pharmacy. The wireless application also includes real-time access to a drug reference guide and can issue drug-to-drug and drug-to-allergy interaction alerts based on the patient's specific medication history. Under the partnership, UnitedHealthcare will pay for the technology and services for an undisclosed time period.[xiv]

Taken in aggregate, health plans, through their widespread e-prescribing initiatives, are having a significant impact on expanding the pool of e-prescribers. An expanded listing of health plans offering prescribers support for e-prescribing adoption has been assembled in the October 2008 "A Clinician's Guide to Electronic Prescribing," authored collaboratively by the eHealth Initiative, the Center for Improving Medication Management, the American Academy of Family, the American College of Physicians, the American Medical Association, and the Medical Group Management Association. The guide may be downloaded at: http://www.ehealthinitiative.org/eRx/default.mspx.

B. **BEST PRACTICES—WHAT WORKS IN ENCOURAGING E-PRESCRIBING ADOPTION** (Note: Sections B. and C. are adapted from *A Guide for Health Care Payors to Improve the Medication Management Process*, co-authored by the eHealth Initiative and the Center for Improving Medication Management, June 2008[xv])

There are several common elements that have contributed to the success of health plan e-prescribing initiatives:

1. Incentives: Provide e-prescribing software, hardware, training, and technical support for free, or with a strong subsidy.

Health plan initiatives to incentivize provider adoption should keep in mind several things. The cost, quality, and efficiency benefits of e-prescribing are very dependent on how well the technology is implemented in practice. Successful implementation requires substantial workflow and change management. Many practices do not have access to sufficient support and resources to manage that change, especially smaller physician practices. Different practice types—based on size, specialty mix, patient mix, location (rural, urban)—also have different needs as they relate to technology implementation.

Thus, in addition to financial incentives for e-prescribing, physician practices need assistance with workflow change, care process redesign, and optimal use. These are not trivial tasks since the prescribing process is complex, and automating the process is equally complex. Payer initiatives to encourage e-prescribing should include implementation assistance for physicians that takes into account the different needs of different types of practices. Health plans can also engage pharmacies, technology solution providers, and other stakeholders in the process to help ensure that the entire end-to-end prescribing process works as smoothly as possible.

Following is a list of incentive models which have been used successfully by health plans to encourage e-prescribing adoption.

- **Free e-prescribing**

  o Several years ago, Wellpoint invested approximately $20 million to offer free personal computers or free e-prescribing software to thousands of physicians. Most physicians opted for the free personal computers. This may have been one of the initiatives that led to the common statement that "free isn't cheap enough" when talking about e-prescribing incentive programs.

  o In early 2007, the National Electronic Prescribing Patient Safety Initiative (NEPSI) was launched by Allscripts, Dell, Microsoft, Cisco and a number of other companies, to make free e-prescribing available to every physician in America.

- **Health plans contract with e-prescribing vendors to provide upfront assistance**

  o Several health plans have selected one or more e-prescribing technology providers and purchased a number of licenses to cover or subsidize e-prescribing hardware and software. The health plans give the technology providers a list of high prescribers to recruit to accept the technology. In this model, the health plan pays the vendor and the vendor recruits the practices and installs the software.

- **Utilization incentives**

  o Health plans and employers have provided financial incentives for prescribers to use e-prescribing. Approaches include a bonus after six months of using the technology at a certain threshold, or continuing to subsidize the cost of e-prescribing if prescribers continue to use it at a certain threshold. The case studies included in this guide offer more details.

- **Pay-for-performance programs**

  o By using e-prescribing, physicians may be eligible for pay-for-performance programs offered by a health plan or other payer. These programs recognize and reward eligible providers for meeting or exceeding certain quality, safety, and prescription management technology goals. The use of e-prescribing may help a physician earn points toward a pay-for-performance bonus.

2. Make using the e-prescribing technology as simple as possible. A good example of this is the software used for the ePrescribing Collaborative of Massachusetts, which color codes drug choices according to show status: preferred, on formulary, requires prior authorization, or not covered or non formulary. This makes selecting the preferred, lower cost generic easy.

3. Support e-prescribing initiatives with positive targeted audience messages and marketing for providers and patients, focusing on the many benefits including:

   a. enhanced medication, patient safety, translates to higher quality care
   b. greater practice efficiency, particularly in reducing patient and pharmacy calls related to prescriptions
   c. patient convenience picking up prescriptions
   d. enhanced patient medication compliance through provider tracking of electronic prescription pick-ups
   e. savings for patients, health plans, and the health system at large
   f. adopting e-prescribing is a major gateway for wider health IT adoption, including full electronic medical records

4. Maximize cooperation between health plan competitors minimizes confusion and sends a powerful message about the importance of the e-prescribing initiative. Competing for providers can be confusing and counter productive—not just for prescribers, but also patients, and pharmacies as well. Keeping the choices simple translates to teamwork and unity on the importance of e-prescribing—sending a clear and unequivocal message to potential e-prescribers, letting them focus on adoption and implementation, rather than being overwhelmed with selection choices. Specific areas for health plan collaboration include:

   • Using common incentive models
   • Selecting or evaluating technology solution providers/limiting vendor choices
   • Maximizing availability of medication history, formulary, and eligibility information through e-prescribing
   • Creating or supporting the creation of an implementation support resource center to aid physician practices with change management and other assistance
   • Engaging individuals in the process through education and incentives

5. Other Health Plan Strategies to Help Optimize E-Prescribing Adoption

Health plans should also consider the following e-prescribing adoption boosting strategies:

• *Initiatives to work directly with the individuals whose health care they purchase*

Health plans can provide patients with information about medication adherence and how to work with their personal physicians and pharmacists to understand how medication therapy supports their health.

In support of medication management and adherence, health plans can provide medication data from claims to help consumers establish a personal medication record that is confidential, secure, portable, and interoperable. Some health plans already provide a PHR to their members, and now such initiatives as Dossia, Microsoft HealthVault, and Google Health are offering additional ways to connect patients to their providers and their health data.

Health plans already consider how to incentivize healthy behavior, and personal health records and PHR platforms offer an innovative tool that can be used in incentivizing medication management.

- *Initiatives to bring together certain community stakeholders who can take action to support adoption and effective use of e-prescribing by providers*

Adopting e-prescribing in physician practices is challenging, and health plans can play a key role in smoothing the way in a given community. Health plans can use their community knowledge and relationships to gather the right stakeholders and bring economies of scale to bear on the process. For example, in a community that has many physicians in the process of adopting e-prescribing, health plans can bring together pharmacies to help prepare and coordinate the process, relieving each individual practice of having to do outreach to pharmacies.

Health plans can also work with others to ensure prescribers have access to formulary and pharmacy benefits information from multiple health plans in order to bring more value to physicians and their patients. As issues arise, be they technical, workflow, pharmacy, or PBM connectivity, health plans can provide leadership and work collaboratively with all key stakeholders to overcome issues.

C. LESSONS LEARNED—RECOMMENDED APPROACHES FOR ELIMINATING OR REDUCING BARRIERS TO E-PRESCRIBING ADOPTION

A lot can be learned from e-prescribing initiatives that launched their programs in the last five years or so. There is a universality for the wisdom and guidance they impart, which can help health plans avoid the same pitfalls.

The eRX Collaborative of Massachusetts offers six invaluable insights on problems you are likely to encounter, and how to overcome them:[xvi]

- **If you build it**, **they may not come** – Initially the eRx Collaborative created forums in centralized locations for providers to learn about the technology and sign up for the free offer, but they were not successful due to low attendance. To increase effectiveness, technology vendors should go to the physician office directly in order to engage physicians and their staff.

- **Free is not cheap enough** – Initiatives should subsidize initial startup costs and provide additional incentives to promote utilization. Initiatives should also highlight savings opportunities, specifically with prescription renewal requests.

- **Importance of training** – It is critical to ensure that the technology is intuitive and that provider training is focused. Providing targeted office staff training, on-site support during rollout, and identifying site champions where applicable, can all support success.

• **Perceived lack of value** -- Cooperation between health plan competitors can send a powerful message. The eRx Collaborative promotes discussing e-prescribing benefits for all stakeholders within health care delivery to improve quality, delivery, and affordability.

• **Technology Infrastructure** – It is important to evaluate and confirm appropriate technological infrastructure to support e-prescribing prior to implementation. Initiatives should engage the practice's IT team early on in the deployment process, ensuring that technology is consistent with the organization's security standards and requirements, and that interoperability with existing or future technologies (e.g., EHRs) is attainable.

• **Utilization** -- Office staff support is fundamental to effective utilization. Initiatives should ensure utilization monitoring and reach out proactively when issues are detected. Rewarding and recognizing prescribers for successful utilization is critical, as is incentivizing vendors to focus on utilization.

The State of Rhode Island's E-Prescribing Initiative, led by the Rhode Island Quality Institute (RIQI), had growing pains that generated the following key factors that impact the rate of e-prescribing adoption and expansion.:[xvii]

• Stakeholders influence each other—it is critical to include all that table to provide input in designing and implementing an e-prescribing program.
• Providers influence each other: knowing an e-prescriber reduces many barriers to adoption.
• Persistence pays off for providers, pharmacies, consumers, and other stakeholders.
• EHRs may be the ultimate end state, but stand-alone solutions are a great way to introduce health information technology and can serve as a stepping-stone to EHR adoption.
• Prescriber workflow redesign and change management are crucial to long-term e-prescribing utilization and success.
• Education to manage consumer expectations is key.

<div align="center">**PART II**</div>

<div align="center">**Employers' Leadership
in E-Prescribing:
Case Examples with Best Practices and Lessons Learned**</div>

I. Southeast Michigan E-Prescribing Initiative

A. Background and History[xviii]

The Southeast Michigan E-Prescribing Initiative (SEMI) is an example of an employer-driven initiative that has evolved into an even larger scale multi-stakeholder collaborative. SEMI is a coalition that includes General Motors, Ford Motor Company, Chrysler LLC, the United Auto Workers, Blue Cross Blue Shield of Michigan, Health Alliance Plan, Henry Ford Medical Group, Medco Health Solutions, Inc., CVS Caremark Corporation, RxHub, LLC and SureScripts(R).

General Motors (GM) was the initial driver behind SEMI. GM, Chrysler, and Ford have championed the initiative to improve the health and safety of their employees, retirees, and their families. The positive response from the area's leading health plans has enabled more than 3,000 physicians to implement e-prescribing solutions.

Two leading pharmacy benefits managers (PBMs) are providing support and consulting services for the initiative. Medco is the PBM for GM and Ford, and processes mail-order prescriptions for Health Alliance Plan (HAP) and BlueCross BlueShield of Michigan. CVS/Caremark is the PBM for Chrysler. RxHub built the infrastructure required to support the secure, bidirectional exchange of patient-specific prescribing information between physicians and PBMs. SureScripts provides the infrastructure to support the secure, bidirectional exchange of prescription information between physician practices and community pharmacies. Henry Ford Medical Group and HAP were the leading early sites where e-prescribing was deployed fully. SEMI counties include Wayne, Oakland, Macomb, Washtenaw, St. Clair, Monroe, and Livingston.

Since its inception, SEMI coalition partners have invested more than $1 million in the program.

B. SEMI E-Prescribing Goal, Objectives, Vendor Selection, and Incentives[xix]

According to SEMI Project Manager Tony Schueth, the goal of SEMI is:

To Accelerate the Adoption of ePrescribing **by:**

1. **Providing incentives to physicians, especially high prescribers, to acquire and utilize ePrescribing software applications;**
2. **Measure the impact of ePrescribing to inform prescribers when drug interactions, allergies, or other alerts occur when a prescribed drug was counter indicated;**
3. **Measure the impact of ePrescribing to inform prescribers about appropriate generic or preferred brand alternatives at the point of care;**
4. **Delivery of an electronic prescription to the retail or mail order pharmacy of the patient's choice.**

Phase 1 of the program built the infrastructure, chose vendors, identified physician champions, and educated the community. Phase 2 encouraged adoption, conducted community outreach, and began training and implementation. Phase 3 involves supporting utilization, including understanding why some prescribers are using e-prescribing at a low rate, and working to overcome barriers to use.

SEMI used a different approach to vendor selection and incentives than most other market-based initiatives. The philosophy from the beginning was that the physician practice should have some "skin in the game," so the program did not cover the entire cost of implementing e-prescribing.

Vendor Selection and Prescriber Incentives
SEMI also conducted evaluations of e-prescribing vendors and initially provided a list of 12-15 solutions that were approved for physician practices to select from. The incentive payments were made directly to physicians with a $500 upfront payment and another $500 payment after six months of using the technology. This contrasts with most other programs where the sponsor contracts with the vendors for a certain number of licenses and pays the vendor rather than the physician. Over time, SEMI reduced the number of technology vendors that were covered under the program because the long list offered physician practices too many options and seemed to slow initial adoption.

C. Benefits[xx]

SEMI cites the following benefits for the following stakeholder groups:

• Employers/PBM/Plan:

1. Improved Quality of Care—due to decreased potential medication errors and improved care management (e.g., identification and intervention on patient medication compliance issues)
2. Reduced Cost—due to reduced phone calls, better utilization of cost-effective alternatives, increased generic prescribing, and reduced medication errors
3. Improved Customer Satisfaction—for employers through lower premium growth due to reduced drug spending; for prescribers, through fewer hassles over coverage and prior authorization; and consumers, through reduced wait time at pharmacies.

• Prescribers:

1. Reduced Cost—through reduced phone calls, reduced chart pulls, streamlined prior authorization process, more time for patient care, and low impact to existing workflow
2. Improved Quality of Care—through enabling easy access to computerized medication history, decreased potential medication errors due to illegible prescriptions, and avoided potential adverse drug events
3. Improved Patient Satisfaction—through reduced waiting time at pharmacy and the aura of high tech

• Patients:

1. Improved Quality of Care—through decreased potential medication errors due to illegible prescriptions, through facilitation of improved medication compliance, and improved patient self-management performance
2. Reduced Cost—through reduced out of pocket costs and better utilization of cost-effective alternatives

3. <u>Improved Customer Satisfaction</u>—through reduce pharmacy wait times and more predictable co-payments

D. <u>Documentation of Impact</u>

The impact of SEMI has been significant. Nearly 9.5 million e-prescriptions have been generated since the launch of the program in February 2005. More than 3,000 prescribers are writing about 300,000 e-prescriptions per month.[xxi] The major positive impacts of SEMI's e-prescribing initiative include:

• *Dramatic E-Prescribing Growth in Michigan*
In 2007, Michigan became the number five e-prescribing state in the nation, according to SureScripts, with 90% of the 2.5 million prescriptions written coming from prescribers in the seven counties which are part of SEMI. "The SEMI program has played an integral role in advancing the adoption of electronic prescribing technology in the state of Michigan," said Karl Dalal, Director of Healthcare, Insurance and HR Programs, Ford Motor Company. "Electronic prescribing clearly leads to safer pharmacy care and lower costs for physician practices, employers, and consumers; advancing the adoption of this technology will continue to play a key role in treating the ills of the antiquated paper-based healthcare system in America." [xxii]

• *Enhanced Medication Safety and Avoidance of Adverse Drug Events*
The SEMI results show that among a sample of 4.2 million e-prescriptions reviewed for analysis, a severe or moderate drug-drug interaction safety warning was sent to prescribers for 1.3 million prescriptions or 31%, resulting in more than 508,000 prescriptions being changed or canceled. Nearly 120,000 medication-allergy alerts were presented, with 49,000 or 40% being acted upon. When a formulary alert was presented, 38% of the time the physician changed the prescription to comply with formulary requirements.[xxiii]

• *Positive Effects on Physician Attitudes and Prescribing Behavior*
In January 2008, SEMI commissioned a survey of 500 physician practices[xxiv]. Physicians and other practice staff responsible for writing prescriptions and managing patient medications provided their insights on using e-prescribing. Issues addressed included frequency of use, functionality, perceived benefits, satisfaction, implementation challenges, and system enhancements.

Overall, respondents' experiences with e-prescribing were very positive:
• Nine out of 10 respondents said e-prescribing met or exceeded expectations.
• More than 70% were very satisfied with e-prescribing and nearly 70% strongly agreed that e-prescribing improved quality of care.
• About 75% strongly agreed that e-prescribing improved patient safety. Nearly 65% reported at least one change in a prescription due to a safety alert.
• Approximately 70% were very satisfied with the ease of identifying drug-drug or drug-allergy interactions.
• More than 80% of prescriptions were transmitted electronically and more than 40% of prescribers say they only wrote e-prescriptions.
• More than 50% strongly agreed that e-prescribing saved the clinician's time and increased productivity, yet 16% strongly disagreed.
• More than 70% experienced a reduction in communications from a pharmacy; for 40% the reduction was substantial.
• More than 70% strongly agreed the patient's transaction at the pharmacy was faster and easier.
• About 25% strongly agreed e-prescribing will save patients money and reduce a

practice's costs; however, 20% strongly disagreed.
• Two out of three respondents said they were more likely to prescribe a generic or plan-preferred drug with e-prescribing, which translates to significant savings for the patient and the health plan.

E. Lessons Learned[xxv]

After three years of successful collaboration, SEMI sites the following valuable lessons learned:

• **Key large employers can be advocates and catalysts**

• **ePrescribing can be implemented fairly quickly & easily**
 But it is more complex than automating the Rx process

• **ePrescribing shows measurable value in the areas of:**
 -Improved generic use rate
 -Streamlined administrative processes
 -Reduced adverse drug events

• **Practice support is key**

• **Working with aggregators can accelerate adoption**

• **Having a "short list" of qualified vendors is critical**
 -Physicians practice medicine differently and need options
 -Don't forget about EMRs; at a minimum have a path to one

• **There's a hierarchy to executive project management**
 -Good project managers get you so far
 -Good, local project managers get you further
 -ePrescribing experts can take you to another level

II. National ePrescribing Patient Safety Initiative (NEPSI)

• *A Lofty Goal: To increase patient safety by making ePrescribing accessible—and desirable—to all physicians and medication prescribers by providing it free of charge[xxvi].*

In 2007, NEPSI[xxvii] was established, representing a national coalition of 17 large technology companies, **employers** and health plans. The coalition has raised more than $100 million to give a free Web-based electronic prescribing system to every prescriber in the country, the most prominent effort yet to get prescribers to adopt the technology.

NEPSI's sponsors[xxviii] believe "the successful implementation of electronic prescribing (ePrescribing) nationwide will result from a variety of sponsors working together, sharing resources to offer ePrescribing as a vehicle for change." The sponsors of the National ePrescribing Patient Safety Initiative (NEPSI) support the delivery of an ePrescribing offering with broad-scale appeal. As vital members of the NEPSI coalition, these sponsors are dedicated to engaging resources to make ePrescribing possible with maximum benefit to prescribers and patients.

- ***Best Practice: A <u>national program of corporate advocacy</u> creates the framework to address a serious issue with a serious contribution.[xxix]***

According to NEPSI:

The National ePrescribing Patient Safety Initiative (NEPSI) was developed in response to the staggering number of medical errors that plague the US healthcare system. This coalition-based program is comprised of healthcare, technology and provider companies dedicated to positively impacting the national prescribing process through electronic prescribing (ePrescribing) delivery. NEPSI delivers on this commitment by offering free ePrescribing to every physician and medication prescriber in America.

Allscripts LLC, Dell Inc., Cisco Systems Inc., Microsoft Corp. and Sprint Nextel Corp. are among seventeen companies that have joined the coalition and agreed to contribute money or in-kind contributions or both. Participants also include WellPoint Inc., Aetna Inc. and Horizon Blue Cross and Blue Shield of New Jersey. NEPSI also has 16 regional supporters, including Anthem Blue Cross Blue Shield, helping to maximize the diffusion of free e-prescribing throughout the nation.[xxx]

The Benefits of ePrescribing:

More than an electronic medium, ePrescribing improves the management of patient drug histories and provides immediate access to decision-support information at the point of care delivery.

- Eliminates handwriting issues

- Creates electronic records to ensure prescription information is not lost

- Checks for allergies, drug-drug interactions, dosing errors, therapeutic   duplication, pregnancy-related issues and other patient-specific factors

- Maintains an accurate, comprehensive drug database

- Provides up-to-date formulary and insurance information

- Improves data exchange between prescribers and pharmacists

- Expedites prescription refill requests

- Reduces healthcare costs by improving work efficiency and identifying less expensive drug options

NEPSI Commitment:

NEPSI aims to accelerate the adoption of ePrescribing systems by reducing traditional barriers to implementation such as cost, ease of use, and privacy and security issues.

To do this, NEPSI makes secure, easy-to-use ePrescribing software available to all physicians and medication prescribers in America for free. Based on Allscripts ePrescribe from Allscripts™, the program is straightforward, intuitive and well-supported.

• NEPSI provides prescribers with technology that puts accurate, easy-to-use drug reference and formulary information at their fingertips to support medication choices. The result is not only increased patient safety but a secure, electronic repository of prescription and patient history.

• NEPSI enables increased patient safety by allowing providers to quickly and easily issue electronic prescriptions supported by reviews for allergies, drug-drug interactions, overly high doses, pregnancy-related issues and other patient-specific factors.

• Allscripts ePrescribe is a stand-alone, web-based ePrescribing solution that is easy to implement and fast to use. Through encryption and virus, spyware and malware protection, Allscripts ePrescribe offers prescribers and patients the highest levels of security available.

According to Mark McClellan, MD, former Administrator of the FDA and CMS and currently Director of the Engelberg Center for Health Care Reform at the Brookings Institution:

"NEPSI is the kind of collaboration led by innovators in the private sector that can make such a difference in our healthcare system. We all know where we need to go. We know we're going to get to a healthcare system that relies on electronic information and that is much more effective in providing timely and appropriate care. But getting from here to there, getting over that hump is a big challenge. So initiatives like NEPSI … are an important step in getting us over the hump."[xxxi]

• **Success Stories**

-Mark R. Wallace, MD, an internist who heads Partners in Medicine, PC medical practice in Phoenix, Arizona, using free NEPSI e-prescribing software and hardware, has become the number one e-prescriber in Arizona for the first three quarters of 2008.[xxxii]

-Case History for Dr. Jan Cornell Keweenaw Memorial Medical Center, Laurium, Michigan[xxxiii]

Background

Dr. Jan Cornell works at Keweenaw Memorial Medical Center, a family practice of 15 physicians in Laurium, Michigan. On a typical day, he sees 30 patients and fills approximately 20 prescriptions.

Dr. Cornell had been aware of e-prescribing technology and its benefits for a few years, but two factors pushed him to considering implementing it in his practice. First was a significant rise in the number of calls he was receiving from pharmacists needing an interpretation of his handwriting. Second was the number of medical errors caused by paper prescriptions each year.

Dr. Cornell heard about NEPSI and the eRx NOW software through a health IT publication. It was such a huge initiative with so many impressive corporate sponsors that it was all over the news when it was first announced. In his view, it was as though there suddenly

appeared to be an effective solution to the problems he and his colleagues were facing with paper-based prescribing.

Barriers to adoption

From Dr. Cornell's perspective the single largest barrier was cost. Cost is an issue whether you're in a small or large practice. Given what other e-Prescribing providers were charging for their technology it was difficult for him to justify the investment. Dr. Cornell was also concerned about the time investment it would take to get the software up and running in his office, and get his staff members comfortable with it. The concern was that technological and operator errors would replace the handwriting errors.

Benefits to the practice

The NEPSI coalition is a powerhouse of key healthcare stakeholders and corporations. Just seeing that companies like Allscripts, Dell and Microsoft are sponsoring the initiative is enough to make anyone take notice of NEPSI's eRx NOW program. But for Dr. Cornell it's "the simplicity of implementing and using eRx NOW that really makes the program stand out". He didn't have to download anything or purchase any new hardware, so there wasn't a major disruption in his workflow. The software was literally up and running in Dr. Cornell's office in no time.

Before using eRx NOW, Dr. Cornell had noticed an increasing amount of frustration within the practice. His staff was getting bogged down with calls from pharmacists requesting clarification on a prescription, and his patients were getting irritated when a prescription wasn't ready on time. Now, Dr. Cornell's nurses have more time to assist him in providing patient care and his office manager is free to meet patient's scheduling and billing needs.

eRx NOW adds a layer of safety for Dr. Cornell and his patients by performing drug-to-drug interaction checks. The amount of prescription information and patient history eRx NOW contains enhances the quality of care that he provides to his patients, and being able to access information about a certain type of medication before he prescribes it helps him to make the best decision about what type of medication to prescribe.

Final thoughts

"I encourage all of my colleagues to use eRx NOW in their practice," said Dr. Cornell. His view is that there really is no reason why every physician shouldn't take advantage of the free eRx NOW software. He continued, "Electronic prescribing is the best way to ensure that you are providing your patients with quality healthcare, and NEPSI has provided a simple, safe and secure way to do so."

State Level Leadership in E-Prescribing:
Case Examples with Best Practices and Lessons Learned

I. The Big Picture: What Works and Lessons Learned from 19 Large Scale E-Prescribing Initiatives[xxxiv] (Note: All of Section I. is excerpted from "What Does It Take? Lessons Learned from ePrescribing Successful and Unsucessful Initiatives," presentation given by Tony Schueth at CMS E-Prescribing Conference, October 6-7, 2008)

A detailed survey was conducted by Point-of-Care Partners in 2008 of representatives of 19 large scale e-prescribing initiatives taking place in 15 states: California, Colorado, Delaware, Florida, Illinois, Massachusetts, Michigan, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Rhode Island, and Washington. Six of these states ranked in the top in e-prescribing, receiving SafeRx Awards from SureScripts in 2007 (Delaware, Massachusetts, Michigan, North Carolina, Rhode Island, and Washington). A closer look at several of these individual initiatives is provided in the sections that follow.

The survey revealed key commonalities amongst the initiatives' experiences that have been critical to their success:

1. What were the goals for the initiatives?

-Quality and Safety
-Overall efficiencies and cost savings
-Overall efficiencies and cost savings
-First step in getting physicians moving towards an EHR
-Response to need within the community/spearhead process
-Response to need within the community/spearhead process
-Get formulary and drug lists to the physicians at point of care
-Manage diversion issues
-Profit
-Understand the ROI

Improvement in quality and safety and increasing efficiencies and decreasing overall costs drive the majority of eRx initiatives surveyed.

2. Which stakeholders are participating?

Health Plans-2/19 (63.2%) Pharmacy Benefit Managers-8/19 (42.1%)

Physician Groups-8/19 (42.1%)   Employers-2/19 (10.5%)

RxHub-11/19 (57.9%)   SureScripts-8/19 (42.1%)   Other-11/19 (57.9%)

3. Most of the initiatives had several sources of funding, but the top two were: a. Health plans, and; b. Grants—state, federal, or both. Not surprisingly, if the health plan is a stakeholder in the initiative, it is usually a key source of funding. Additional sources of funding included local organizations and/or sponsors within a community, and employers.

4. Regardless of the governance structure, what appears most important to the

Initiatives is commitment from all stakeholders and regular working group meetings to oversee administration, vendor, implementation and utilization issues.

-7 initiatives were governed by an executive committee of the primary stakeholder
-6 were governed by an executive or steering committee of stakeholders
-5 reported no formal governance structure but regular meetings with involved stakeholders

**5. Most respondents view financial incentives tied to utilization as the necessary next
step to drive long term utilization**.

10 initiatives provide financial incentives to physicians; most require minimum utilization thresholds. In markets where there are existing pay-for-performance programs, providers may be eligible because of their participation in the e-prescribing initiative. Of the initiatives that do not provided financial incentives at this time, several are considering adding it in the near future. Almost all initiatives provide hardware/software licenses and/or other start-up fee, which they see as a form of financial incentives. In one initiative, some malpractice insurers are giving discounts to participating physicians.

6. There was a wide distribution in the number of e-prescribing vendors used, with five initiatives having one vendor, nine open to any certified e-prescribing or EMR vendors, and five initiatives having a limited set of vendors. Most require a minimum set of e-prescribing system functionalities. T

> **Top Three Lessons Learned Relative to Vendors**:
>
> **a. Support**-Vendors must provide dedicated on-site office support. They need a robust service model.
> **b. Delivery**-Vendors should deliver what is promised and make sure that what is promised has actually been implemented in diverse environments and it works.
> **c. Workflow-**Vendors need to understand the physician's workflow and stay innovative.

7. Has physician participation, usage, and adoption met your expectations?
Yes-6   No-10   Somewhat-3

8. What is your greatest unmet challenge? Removing the DEA barrier to e-prescribing controlled substances, which requires physicians to use two systems—paper and electronic.

9. What are the top results/values you expect and have these been met? 14 respondents whose goals included patient safety, increased generics/formulary compliance and the associated cost savings, reported their expectations have been met or somewhat met. Many report clear cut, measurable savings. Four participants, primarily in rural areas, could not overcome technical and other barriers to yet see results. Three participants felt it was too early to say.

Several respondents pointed out that metrics are needed to measure the ROI on improved patient safety. " We see the alerts and physician responses to them so we know we are saving lives. We know that translates to cost-savings, but we can't quantify it."

10. If you do it all over again, what would you have done differently?

-A dedicated field source to go to each physician office

-Pinning stakeholders to stronger commitments to their time lines
-More emphasis on out-reach and promotion to the physicians. If you build it, they won't come!!
-Get volume based incentives into the program
-Speed development of transaction and data standards
-Partnered with more vendors.
-Chose more than one vendor, increase the stakeholders, get more employers involved
-Ongoing service model beyond deployment
-Make sure you gave good connectivity before getting physicians in the rural areas involved
-Physician incentives up front and on-going service model
-Manage physicians better since they wait too long to report a problem and there are very few chances to recover when they do
-Better reporting database to evaluate value more easily.
-Better defined criteria for vendors
-Set more short-term, attainable goals
-Created a 501c to deal with the funding
-Better emphasize value for the physicians.

11. Conclusions/Recommendations

A successful Initiative should consider the following:

a. Professional, dedicated project management a must
    1. Experience in ePrescribing & neutral orientation preferred
    2. Must manage vendors, data, physician organizations & project

b. Incentives are crucial
    1. Compliment existing health plan programs
    2. Enable physicians to capture MIPPA incentives
    3. Provide for 'most important' physicians

c. Physician utilization data base is critical
    1. Allows ROI analysis
    2. Track incentive payments
    3. Managed by project manager

d. Vendors & Physician Organizations
    1. Must have some acceptable minimum functionality & reporting
    2. Must be managed so that they are appropriately focused
    3. Need to meet regularly (monthly) to address implementation issues, best practices and utilization

e. Physician Advocate
    1. Vendors, consultants, or others need to act as process improvement agents
    2. With vendors, buyer beware —some vendors' business models, incentives are
       not aligned with utilization
    3. Model varies by market & initiative

f. Communication to community stakeholders
    1. Must keep in the loop with well conceived PR & marketing plan
    2. Not decision making (Steering Committee)

II. Top Two States in E-Prescribing: Providing a Roadmap for Successful Statewide E-Prescribing Initiatives

Since 2005, when SureScripts initiated its Annual Safe-Rx Awards, which recognizes outstanding efforts to improve patient safety and practice efficiency through the use of electronic prescribing technology, Rhode Island and Massachusetts have been at the top of class in e-prescribing adoption and growth. Rhode Island was ranked number 1 in the nation in 2005, and second behind Massachusetts, which received the first place award for 2006 and 2007.[xxxv]

Detailed below are these two cutting edge states' experiences, lessons learned, and best practices--offering a clear roadmap other states can follow to catalyze e-prescribing adoption and use in their own statewide initiatives.

A. RHODE ISLAND

1. BACKGROUND AND ACCOMPLISHMENTS

• *RI is the first state to electronically link physicians to the most pharmacies within its borders.*[xxxvi]

The State of Rhode Island has been one of the nation's leaders in promoting and implementing widespread adoption of e-prescribing throughout the state. In 2003, behind the leadership of the Rhode Island Quality Institute (RIQI), it served as SureScripts national beta test site for electronic prescribing, which allowed physician offices to link directly with established pharmacy software. The state received the "SafeRX" award for 2005, 2006, and 2007, finishing first (2005) and second (2006 and 2007) nationally for percentage of eligible prescriptions routed electronically. The "SafeRX" award is given to the top 10 e-prescribing states in the nation by the National Association of Chain Drug Store, the National Community Pharmacists Association, and SureScripts-RxHub.

In 2007, Rhode Island reached its highest percentage of new e-prescriptions and e-refill responses electronically transmitted, 9.05%[xxxvii]. By comparison, a 2007 national progress report by SureScripts[xxxviii] showed only 2% of eligible new and renewal prescriptions were filled electronically. The number of e-prescribers in the state more than doubled between 2005 and 2007, from 388 to 729, the latter figure representing 29% of all prescribers in the state (compared to only 6% of all prescribers who were using e-prescribing at the end of 2007 in SureScripts national progress report).

Pharmacies' e-prescribing capabilities were already high in 2005, with 157 or 87% of all pharmacies in Rhode Island having this capability. By the end of 2007, these numbers grew to 179, or 89% of all pharmacies in the state.

2. BEST PRACTICES contributing to Rhode Island's E-Prescribing Success[xxxix]

a. Widespread Multi-Stakeholder Support and Involvement

Underlying Rhode Island's e-prescribing success is a multistakeholder driven desire to transform health care in the state, which led to the formation of the Rhode Island Quality Institute (RIQI) which has a "vision of electronically connecting all retail pharmacies and all prescribers across the state." RIQI's governing principles have been a major factor in its success:

• *EMBRACE VARIED INTERESTS*
RIQI was launched in 2001, when Sheldon Whitehouse, then-Attorney General of Rhode Island, now U.S. Senator, invited a group of high-level executives from every constituency of health care to come to the table and help transform the state's health care system. Since then consumers have joined the cause to develop a health care system that strengthens the patient-physician relationship.

"Considering the diversity of interests and complexity of issues that surround health care delivery reform, the level of collaboration that now exists among members of the RIQI Board is quite remarkable. This is especially true when you consider the commitment it has taken for these leaders to meet regularly over the years." George Vecchione, President and C.E.O., Lifespan

• *GET TO YES*
When challenges are this complex, solutions have to be developed in a more collaborative way. That can be difficult when you do not work together naturally. It takes healthy debate and plenty of give and take to reach consensus, and that is what we are committed to do.

"When we get up from the table it feels as if we've come away with a fair decision, something I can get really behind, something I can champion in my organization." Marti Rosenberg, Executive Director, Ocean State Action

• *BE AN INCUBATOR FOR INNOVATION*
The essence of health care is nurturing human life. Safety is paramount, so is caution and conservatism. To paraphrase Einstein, you can never solve a problem in the framework in which it was created. By getting a roomful of people from diverse backgrounds to look at a problem from different angles we are able to come up with more innovative solutions.

• *LEARN FROM THE BEST*
While RIQI's focus is regional, our alliances extend across the country. We partner with organizations from business, education, research, government, and health care quality to maximize learning. Instead of reinventing the wheel we apply what already has been proven effective so we can accelerate the process for adopting strategies that will benefit everyone with better health care.

• *GAPS*
RIQI and its members all want safer, more effective health care. That's why hospitals, insurers, and government have initiated their own quality programs. This however can produce duplication of effort and fragmented communication. It is possible to achieve so much more by uniting behind a common cause. This is why one of RIQI's chief objectives is to help bring everyone together so we can help coordinate and leverage these individual efforts.

• *PROVIDE THE RIGHT TOOLS*
After literally drowning in administrative paperwork, the health care system is finally poised to enter the 21st century. Technology isn't a cure-all but it can help cut the overhead costs of managing patient care, reduce or eliminate mistakes, and potentially allow health care providers to spend more time with patients.

"Look what happens when physicians recognize common interests; we improve the quality and efficiency of care. The state's largest physician groups are partnering with a selected

software vendor to help medical practices acquire electronic health records and connect with a Statewide Health Care Information Exchange." Mark D. Jacobs, MD, President and CEO Coastal Medical

- *A HIGH SET OF VALUES*

Getting things done requires a strong commitment to the following values:

- Action-oriented innovation
- Consensus decision-making
- Top-level commitment
- Inclusiveness
- Ethical leadership
- Accountability
- Accessibility
- Transparency
- Improved value
- Less waste

b. **Strong Backing by the State's Political and Governmental Leaders**

In addition to Senator Whitehouse's leadership in forming the RIQI, the institute and its cutting edge activities have strong bipartisan support. Governor Donald Carcieri (R) is a strong promoter of RIQI, as is Rhode Island Congressman Patrick Kennedy (D):

"Being a non-partisan organization allows representatives from both parties to lend support to these vital initiatives. The transformation of the health care system is a national priority whatever side you stand on." Hon. Donald Carcieri, Governor Rhode Island

"By focusing on improving safety in every Rhode Island Intensive Care Unit (ICU), we stand to save hundreds of lives each year, not to mention the millions of dollars we'll be saving by reducing complications." Congressman Patrick. Kennedy

The Rhode Island Department of Health also provides strong backing for the RIQI:

"The Rhode Island Quality Institute is one of the few places in the nation where, in one meeting, an innovative idea can be put before every major stakeholder needed to make it happen. That's why SureScripts launched its electronic prescribing system here." David R.Gifford, MD, Director, Rhode Island Department of Health

The state department of health actively promotes e-prescribing for the citizens of Rhode Island, with e-prescribing information on its website, include a link to "learnaboutprescriptions.com," explaining the benefits of e-prescribing to consumers and helping them find which physicians and pharmacies are offering e-prescribing in their area.

Directly serving on the RIQI Board are the state's Health Insurance Commissioner Christopher Koller, the state's Lieutenant Governor Elizabeth Roberts, the state's Deputy Secretary of the Executive Office of Health and Human Service, Adelita Orefice.

Public statements of support for e-prescribing have also been issued by two state agencies: the Rhode Island Board of Medical Licensure and Discipline and the Rhode Island Board of Pharmacy.

c. Committed Leadership and Support for the Work of RIQI

The Board of RIQI includes the top leaders of Blue Cross and Blue Shield of Rhode Island, Lifespan (a major New England health care system), Brown University Medical School, CVS Caremark, the Rhode Island Medical Society, United Healthcare of New England, Inc., Care New England, Neighborhood Health Plan of Rhode Island, Rhode Island Disability Law Center, Providence Community Health Centers, Coastal Medical, Inc. (one of the SureScripts beta sites mentioned above), Quality Partners of Rhode Island, the Greater Providence Chamber of Commerce, the Hospital Association of Rhode Island, Gateway Healthcare, Inc., the Westerly Hospital, an internist, and a consumer representative.

Also very important to the RIQI's work are its Alliance Partners, SureScripts and the Johns Hopkins University Quality and Safety Research Group.

d. Strong and Diverse Funding and In-Kind Support Base

As of 11/30/08, RIQI was receiving total funding of $2,221,500, with major contributions from Blue Cross Blue Shield of Rhode Island, Lifespan Corporation, CVS/Caremark Foundation, United Healthcare of New England, and the Rhode Island Foundation. In total, 35 organizations are providing financial support to RIQI.

In-kind support is also very strong, coming from 31 organizations, including the state Department of Health, Governor Carcieri, the Rhode Island Medical Society, Senator Whitehouse and Congressman Kennedy, Blue Cross Blue Shield of Rhode Island, the Hospital Association of Rhode Island, Quality Partners of Rhode Island, the Rhode Island Office of Health and Human Services, and many others.

B. MASSACHUSETTS

1. BACKGROUND AND ACCOMPLISHMENTS

• *Massachusetts, through its eRX Collaborative, has experienced 6 fold growth in the number of prescriptions transmitted electronically in the state, reaching a nation leading 8.9% in 2006, and 13.43% in 2007[xl]. One of the Collaborative's members, Blue Cross Blue Shield of Massachusetts, was awarded the 2006 Innovation and Excellence Award for Health Information Technology by America's Health Insurance Plans; the success of the eRX Collaborative was a critical component in this recognition.[xli]*

The eRx Collaborative[xlii] was established in October 2003 as an outgrowth of individual ePrescribing pilots at Blue Cross Blue Shield of Massachusetts and Tufts Health Plan. Neighborhood Health Plan joined in August 2004. Initially the eRx Collaborative partnered with ZixCorp® as the technology provider and added DrFirst™ to the program in 2005. The members collaborate to promote and enable the use of electronic prescribing in Massachusetts.

The mission of the eRX Collaborative is[xliii]:

To collaboratively promote and enable the usage of electronic prescribing in Massachusetts in order to improve patient safety, healthcare affordability, quality and delivery. The eRx Collaborative strongly believes that point-of-care ePrescribing technology has the power to improve patient safety by allowing prescribers to:

* Access patient-specific drug histories to determine the patient's current and past prescriptions

* Check for drug-drug and drug-allergy interactions

* Write new and renewal prescriptions electronically minimizing possible errors from illegible handwriting

* Check for formulary compliance

* Access drug reference guide

Since its 2003 inception, eRX Collaborative prescribers have sent 15.6 million electronic prescriptions. In the first six months of 2008, 2.1 million electronic prescriptions were sent by eRX Collaborative prescribers. During this period, 50,000 prescriptions were changed as a result of drug-drug or drug-allergy e-prescribing alerts—averting potentially serious adverse drug events.[xliv]

Through the Program[xlv], eligible prescribers can receive sponsorship which includes:

* Hand-held device loaded with ePrescribing software

* One year license fee and support

* 6 months of Internet connectivity where applicable

* Deployment (including training & one time patient data download where feasible)

* Access to a browser version of the software from any PC with Internet connectivity

The eRx Collaborative continues to sponsor new prescribers, and evaluate the best way to expand awareness and adoption of e-prescribing in Massachusetts for the current year and beyond. The Collaborative views e-prescribing as a first step to an electronic practice. A fully electronic practice is one of the pathways to reach the ultimate goal for health care: to improve patient safety, quality and delivery.

2. **BEST PRACTICES** contributing to Massachusetts's E-Prescribing Success

As one of the largest e-prescribing programs in the nation, the eRX Collaborative attributes its success to "unprecedented collaboration among health plans, a comprehensive funding structure, and exceptional support for e-prescribing vendors[xlvi]."

a. **Widespread Multi-Stakeholder Support and Involvement**

Founded in 2005 by the eRx Collaborative, the MA eRx Steering Committee includes health plans, technology vendors, pharmacies, and organizations involved in the prescription process who are working together to promote and expand the adoption of e-prescribing in Massachusetts. We believe that widespread adoption of e-prescribing is critical to improving health care quality and maintaining affordability for Massachusetts's citizens[xlvii].

According to the January 2005 issue of *Managed Care Report*:

"A key part of the Massachusetts project's success is that the two market leading Plans worked together, and were even joined by a third Plan. **That kind of collaboration sends a powerful message to physicians that ePrescribing is a change worth making**.*"*

b. Education: Spreading the Word on E-Prescribing's Benefits With Targeted Messages to Providers, Office Staff, Patients, Pharmacies, and Payers/Employers

The eRX Collaborative has dedicated sections of its website for consumers, health plans, and prescribers.

The eRX Collaborative has prepared and widely disseminated a Fact Sheet on the Benefits of e-Prescribing[xlviii]:

• **Providers benefit from ePrescribing by**:
-Obtaining real-time information about potential drug-drug and drug-allergy interactions. This minimizes calls from pharmacies and reduces potential adverse drug events.
-Reducing handwriting interpretation errors, estimated to cause 9% of all medication errors.
-Seeing plan formulary requirements (prior authorization, quantity restrictions, non-covered drug, and drug tier) at the point of care, giving the patient faster access to cost-effective care.
-Seeing a patient's dispensed drug history, thereby enabling the prescriber to make clinically appropriate decisions at the point of care.
-Knowing when an FDA Safety Alert has been issued, and allowing them to generate a report of all patients on the drug without needing to pull patient charts.
-Having access to clinical decision support tools.
-Increasing the convenience and efficiency of the prescription-writing process.

• **Office staff benefit from ePrescribing by**:
-Reducing calls from pharmacies regarding non-covered medications and handwriting questions.
-Speeding the prescription renewal process by reducing the need to pull patient charts. Case studies suggest a savings of 1-2 hours/day for office staff.
-Eliminating calls from patients who are requesting an alternative medication or need the prescriber to request prior authorization.

• **Patients benefit by**:
-Having lower out-of-pocket costs when prescribers respond to e-prescribing formulary messages.
-Saving time at the pharmacy by having prescriptions sent prior to patient arrival, and reducing the potential for two trips because prescribers more frequently adhere to health plan requirements.
-Reducing potential for adverse drug events caused by drug-drug or drug-allergy

interactions, mistaken handwriting, or incorrect dosage.
-Increasing compliance with prescribed treatment because care is cost-effective
and convenient.

- **Pharmacies benefit by:**
-Reducing phone calls to physicians regarding handwriting interpretation, non-covered
drugs, and prior authorizations requirements.
-Improving customer relationships by speeding the time it takes patients to obtain
prescriptions.
- Reducing data entry when prescriptions are received electronically.
- Reducing potential errors caused by handwriting misinterpretation and keystroke
errors.

- **Payers/Employers benefit by:**
-Maintaining affordability by increasing utilization of generic and preferred brand drugs.
-Reducing costs associated with adverse drug events.
-Increasing patient compliance with prescribed treatment plan.
-Increasing provider efficiency by allowing providers to spend more time on patient care.

c. Guidance to Health Plans to Start or Enhance an E-Prescribing Program

The eRX Collaborative, through its own growth and lessons learned, has identified four key
factors to help ensure e-prescribing program success[xlix]:

1. Cooperation between Health Plan competitors

2. Confirming technological infrastructure to support ePrescribing prior to
implementation

3. Obtaining support from on-site champions and senior management

4. Planning for interoperability with existing and/or future technologies (e.g. EMRs)

d. Financial and Education Incentives to Encourage Prescriber Participation[l]

1. Software/Hardware/Connectivity Sponsorship

Prescribers who are eligible for eRx Collaborative sponsorship may choose from one of
several hand-held devices loaded with an ePrescribing software application. Sponsorship
also includes 6 months of Internet connectivity where applicable, one year of ePrescribing
service, access to the web-based version of the software, deployment and training, plus
support services for one year. After the first year, prescribers are responsible for any
program fees.

2. Technology Ease of Use/Benefits of Usage

Ease of use is another vital factor in e-prescribing adoption. According to one user: *"The
system is very easy to use; it's very intuitive. My staff and I had no problem learning, even
though we represent a wide range of computer abilities…It's amazing how easy it is to do
prescriptions this way."*

Other testimonials on the technology's high value included:

-*"The rewards are exponential. Aside from making prescriptions readable and fewer errors, refills can be done at warp speed. Once a patient is in the system, we can order a refill in a quarter of the time it used to take."*

-*"PocketScript has made our lives easier..the biggest advantages of PocketScript is that when medication is entered into the PDA, the database immediately flags possible drug interactions and searches the patient's records for medications that he/she may be taking and forgotten to tell the doctor about."*

3. Continuing Medical Education Credits for Course on E-Prescribing

In addition, to further encourage physician participation, in partnership with the Massachusetts Medical Society, the eRX Collaborative has developed an online Continuing Medical Education course: "How to Improve Medication Safety and Reduce Drug Costs Through e-Prescribing," which is approved 2.5 hours of AMA PRA Category 1 credits.

III. Highlights of Other States' E-Prescribing Initiatives

A. <u>National E-Prescribing Leaders</u>

SureScripts compiles annual statistics[li] on rates of e-prescribing adoption—in terms of number/percent of e-prescribers and e-prescriptions, for all 50 states. For 2007, the top 10 e-prescribing states, with % of total eligible prescriptions transmitted electronically in parentheses:

    1 Massachusetts (13.43%)

    2 Rhode Island (9.05%)

    3 Nevada (7.06%)

    4 Delaware (4.21%)

    5 Michigan (4.20%)

    6 Maryland (3.17%)

    7 North Carolina (3.07%)

    8 Arizona (2.89%)

    9 Connecticut (2.57%)

    10 Washington (2.57%)

All these states were above the 2% national average of e-prescriptions transmitted in 2007, and each had substantial growth in the percentage of e-prescriptions transmitted from the year before (2006).

B. Profiles of Other State E-Prescribing Initiatives[lii]

Arizona

Arizona Governor Napolitano created the Arizona Health-e Connection (AzHeC) in 2005 with the goal of promoting widespread EHR adoption by 2010. Part of this effort includes accelerating the use of e-prescribing across the state through the *EAzRx* initiative.

To build on existing leadership and efforts, move Arizona even further ahead in e-Prescribing, and to use e-Prescribing as a "beachhead" for other Health Information Infrastructure activities, Arizona Health-e Connection (AzHeC), together with health care stakeholders, consumers, and government agencies, is launching an e-Prescribing initiative, EAzRx[liii].

AzHeC's Board established an e-Prescribing Steering Committee to establish and oversee the EAzRx initiative. The Committee is experiencing great leadership under its pharmacy and physician co-chairs: Mindy Rasmussen, Executive Director of the Arizona Pharmacy Alliance; and Dr. Brad Croft, a family practice physician from Flagstaff. After viewing a variety of data on initiatives in other states, gathered by Dr. Terri Warholak of the University of Arizona College of Pharmacy, the Committee established a mission, goals, and strategies, which were also reviewed and approved by the AzHeC Board. A presentation providing greater detail is available for download from this page.

Mission—Arizona Health-e Connection and its EAzRx Steering Committee are committed to enhancing patient safety through increased e-prescribing adoption by clinicians in Arizona. We will use the combined expertise of the EAzRx Steering Committee, Arizona Partnership for Implementing Patient Safety, providers, pharmacists, and other stakeholders to further the initiative.

Goal—To achieve nearly 100% of possible e-prescriptions being e-prescribed by April 2013 (5 years).

Major Strategies

-Provide umbrella coordination organization (EAzRx Steering Committee)

-Provide information and statistics in easy-to-access format (time saving for provider
-Recognize top e-prescribers in Arizona

-Coordinate and publish Arizona case studies to educate the provider community

-Work to identify real incentives and apply for grants to provide "flow-through" funding

-Improve patient safety and encourage patient involvement in the e-prescribing process

Florida

ePrescribe[liv] Florida was established to increase patient safety and meet the needs of the Florida public by establishing and promoting an understanding of electronic prescribing through educational and outreach programs and promoting a collaborative framework for health plans as well as incentives for adopting e-prescribing technology.

ePrescribe Florida offers free educational and implementation programs, with the goal of accelerating physician adoption and cooperation among prescribing constituents.

ePrescribe Florida is continuing its work to accelerate the adoption of e-prescribing through many private and public partnerships. Activities include listing certified e-prescribing vendors as a way to help physicians find a technology solution to meet their needs; education and outreach training; and a three-day seminar that brought together providers, pharmacists, vendors and others. These efforts are supported by the state's Agency for Health Care Administration (AHCA), which is the chief health policy and planning entity for the state and continues to support growth in both the private and public sectors. The Legislature has directed AHCA to promote the implementation of electronic prescribing.

Currently ePrescribe Florida has two workgroups dedicated to increasing understanding of ePrescribing, what the options are and how to be successful in this important use of technology to enhance patient safety, reduce staff time while continuing to provide quality care. The two workgroups are:

Provider Outreach Workgroup – Dedicated to prescriber education.
Vendor Solutions Workgroup – Dedicated to successful ePrescribing.

The extensive, multi-stakeholder collaborative nature of ePrescribe Florida is reflected by its Steering Committee and Advisory Council, with 27 major organizations represented including health plans, state government, provider and pharmacy organizations, and employers.

Minnesota

Under a recently passed state law, **Minnesota is the first state in the nation to mandate electronic prescribing**, effective January 1,2011.

Minnesota has long been known as a leader in healthcare delivery and financing. Governor Tim Pawlenty joined with leaders from Minnesota's largest healthcare organizations to announce the Minnesota Health Information Exchange that will connect doctors, hospitals and clinics across healthcare systems so they can quickly access medical records needed for patient treatment during a medical emergency or for delivering routine care. Governor Pawlenty was instrumental in moving the legislation which mandates statewide e-prescribing by 2011.

According to an October 2008 Fact Sheet from the Minnesota Department of Health[lv], the reasons for mandating e-prescribing in Minnesota are:

• To improve the quality, safety and cost-effectiveness of the entire prescribing and medication management process.
• To reduce Adverse Drug Events (ADE) costs which are too high in human and financial terms.
• To reduce burden of callbacks and rework to discuss possible errors and clarify prescriptions.
• To facilitate access to comprehensive drug information between outpatient and hospital settings which will reduce ADEs.

Mississippi

Handheld Wireless Medication Management Program: Personal Digital Assistant (PDA) Device (eMPOWERx) - The State of Mississippi now has a platform for delivering clinical information and decision support through a wireless personal digital assistant. Gold Standard Multimedia has developed a wireless handheld medication management program that empowers the state's high volume Medicaid prescribers with real time access to patient specific medication histories integrated around comprehensive prescription drug information. This program provides Medicaid physicians with access to a comprehensive, unbiased drug information database integrated around timely, patient-specific medication histories (including prescriptions written by other providers) - all at the point of care. Providers will have the capability to review their patient's medication history during the evaluation of their current medical condition, including screening this information for such things as duplicate therapy, alternative therapies from the PDL, and unnecessary or redundant prescribing. This will increase prescribing and fulfillment efficiencies as well as provide expeditious communication of PDL and benefit coverage changes. The system includes a variety of innovative tools that allow providers to better manage their Medicaid patients and combat fraud and abuse in the prescription drug benefit program. The program has consistently achieved a high return on investment to the state, and has been recognized nationally as an innovative, successful approach to medication management and cost containment in Medicaid. As to health information technology, our agency use the Pharmacy Point-of-Sale (POS) system, electronic billing, card swipe to determine eligibility and automate voice response (AVRS).

Missouri

Missouri's Medicaid providers have utilized an electronic health record since 2006. The electronic health record is a web-based tool that physicians and other health care providers use to access electronic health records for Medicaid patients. Treating providers can view a patient's medical history including diagnoses, procedures, and prescribed drugs. Physicians can electronically submit prescriptions and request pre-certification for imaging procedures and durable medical equipment. All of this is done in a secure environment, and the entire system is Health Insurance Portability and Accountability Act (HIPAA) compliant. Recent enhancements to the tool include importing laboratory data and integrating a medication possession ratio for medications used to control chronic conditions.

New Mexico

The New Mexico Prescription Improvement Coalition (NMPIC) has launched a pilot project to promote the adoption of e-prescribing. During the first year, the pilot sponsored 128 physicians in New Mexico to enable them to implement e-prescribing by paying their implementation and annual subscription expenses. In all, the pilot will support participant administrative and subscription fees for two years, for up to 300 physicians, until January 2010.

NMPIC is requiring selected e-prescribing vendors to track physician-generated credits and invoice participating health plans accordingly. Vendors are also responsible for establishing the credit fund and accounting, determining physician annual subscription fee reimbursement and quarterly y reporting to NMPIC. Allscripts, DrFirst, Relay Health, RxNT and ZixCorp have been selected as vendors supporting the pilot.

Four health plans serving New Mexicans and the state's Medicaid division are on board

as sponsoring organizations, based on prorated market shares. Sponsoring organizations are responsible for funding pilot implementation costs. The New Mexico Medical Review Association (NMMRA), the Medicare Quality Improvement Organization for New Mexico and the organization that facilitates NMPIC, is signing agreements with sponsors and with vendors on behalf of the coalition. In addition, NMMRA is collecting funds from sponsors and acting as financial intermediary for the vendors. All contracts with health plans are in place, and all participating health plans and Medicaid are in the process of reviewing their vendor contracts.23 The state's Medicaid program was also recently was awarded a Medicaid transformation grant to help spur electronic prescribing.

Oklahoma

The Oklahoma Health Care Authority contracted with Epocrates, Inc. in November 2004 to provide pharmacy benefit information to prescribers and pharmacists using their desktop computers or Personal Digital Assistants (PDAs). The free formulary listing of drugs currently covered and check preferred alternatives, prior authorization requirements, quantity limits and other drug-specific messages programmed by OHCA.

Oklahoma is currently expanding its e-prescribing options for providers. OHCA has contracted with a vendor that will supply hardware (if needed), e-prescribing software and training to selected OHCA-contracted providers to allow them to exchange data and submit electronic prescriptions utilizing standardized transactions. Participating providers will have access to information about recent prescription claims, member eligibility, formulary and visits to other providers. The e-prescribing software also will screen new prescriptions, compare them with the member's medication history and alert the prescriber of any possible drug interactions. Prescribers also will be able to see whether members are refilling their medications on a timely basis. The software and hardware provided by OHCA will allow the prescriber to directly submit the prescription to the pharmacy of the member's choice, increasing efficiency in both the prescriber's office and the pharmacy. The pharmacy will be able to electronically request refills from prescribers who use the e-prescribing software.

Texas

The Texas Medical Association, working with SureScripts, sponsored an educational series on medication documentation, monitoring and communicating aimed at helping to identify and reduce medication errors. The series focused on benefits of e-prescribing and ways to avoid common medication errors, documentation strategies, better patient - physician communication, risk management strategies, controlled substances and tips for improving patient compliance with treatment recommendations. Physicians who were insured with Texas Medical Liability Trust (TMLT) earned a three percent professional liability insurance discount which was applied to their next eligible policy period.

UnitedHealthcare, in December 2008, announced it will provide electronic prescribing technology for 200 primary care physicians throughout Texas. Based on the success of similar pilot programs in Ohio and Florida, the Minneapolis-based health insurer will use e-prescribing software created by Zix Corporation. The system will allow physicians to order prescriptions for patients through a secure, wireless handheld PDA or secure Web site. Once ordered, the prescriptions will be sent electronically to the patient's preferred pharmacy. The wireless application also includes real-time access to a drug reference guide and can issue drug-to-drug and drug-to-allergy interaction alerts based on the patient's specific

medication history. Under the partnership, UnitedHealthcare will pay for the technology and services for an undisclosed time period.[lvi]

Tennessee

The Tennessee Information Infrastructure eHealth Exchange Zone is being developed to transform how health information is accessed and delivered by the Tennessee care-giving community. Plans call for eHealth applications to be phased in as participation by healthcare providers grows. The solution features an online collaboration center—a Virtual Private Network (VPN)-based portal—designed to safely and securely enable such applications as e-prescribing; clinical messaging; sharing high-density images, including X-rays, MRIs and CT scans; exchanging patient information via portable health records; delivering telemedicine applications; and accessing Tennessee Department of Health applications, including the immunization registry, disease registries, death certificate applications and processing and medical license renewal.

The network has an added security component for protecting health information provided by the Covisint OnDemand Platform. The platform is a hosted solution that provides dual-factor authentication of healthcare providers using the VPN-based portal, which supports all HIPAA privacy requirements. It also centralizes, automates and streamlines access to information across healthcare communities statewide by giving physicians the ability to use many health-information applications such as e-prescribing with a single sign-on.

Tennessee is also moving toward disbursing funds in support of e-prescribing in key regions of the state. Through its relationships with physicians, payers and technology vendors, Shared Health, the nation's largest public-private health information exchange, offers ePrescribe. This Web-based electronic prescribing solution facilitates the creation and electronic transmission of new prescriptions and prescription refills. With ePrescribe clinicians can minimize medication errors, improve formulary compliance, reduce pharmacy callbacks, increase efficiency and streamline workflow. Access to ePrescribe is free to all physicians and incorporated in Shared Health's Clinical Health Record application.

C. State Medicaid Transformation Grants Related to E-Prescribing

In 2007, the Centers for Medicare and Medicaid Services (CMS), under Section 6081 of the Deficit Reduction Act, awarded $150 million in grants to State Medicaid agencies for "the adoption of innovative methods to improve the effectiveness and efficiency in providing medical assistance under Medicaid."[lvii]

Eight states were awarded Medicaid Transformation grants for e-prescribing related initiatives: Arizona, Connecticut, Delaware, Florida, New Mexico, Tennessee, Utah, and West Virginia. Most of these programs are in the early stages of implementation; summaries of each are provided below. The full application/program description for each of the eight states awarded the Medicaid Transformation Grants for e-prescribing can be found on the CMS website at: www.cms.hhs.gov/MedicaidTransGrants. These grants supplement e-prescribing activities already underway, cited above, in the states of Arizona, Florida, New Mexico, and Tennessee.

1. Title: Arizona Medicaid Health Information and Exchange Utility Project

Abstract:

The Arizona Health Care Cost Containment System (AHCCCS) is Arizona's Single State Medicaid Agency, providing health care coverage for over one million Medicaid and SCHIP beneficiaries. The agency initiated a planning process during the past year in anticipation of this grant. AHCCCS is proposing to develop and implement a web-based health information exchange (HIE) utility to achieve the **goal** of giving all Medicaid providers instant access to beneficiaries' health records via electronic connection at the point of service. The electronic health record (EHR) available through this HIE utility will include patient demographics and eligibility information, patient problem lists, medications, lab tests orders/results, radiological results and images, inpatient discharge summaries, and clinical notes. **Federal funds in the amount of $11,752,500 over the next two years** are requested to support its planning, design, development, testing, implementation and evaluation. This project proposes a sustainable model organized around AHCCCS as one of Arizona's major payers of health care services.

Implementing this HIE utility will transform the AHCCCS Medicaid program and the patient care process. Providing timely patient health information at the point of service will **improve the quality**, **efficiency and effectiveness** of Arizona's Medicaid program. Real time health information access will result in reduction of medical errors, reduction of redundant testing and procedures, better coordination of care for chronic diseases, increased preventive interventions, reduction in the inappropriate use of the emergency room, and lower administrative costs. When aggregated, these benefits will save significant state and federal taxpayer dollars (in Medicaid, SCHIP, and IHS) as well as beneficiary and provider frustration.

The proposed HIE utility will also provide the infrastructure to support the goals of the Quality and Cost Transparency Initiatives of President Bush and Secretary Leavitt by making relevant information available to Medicaid beneficiaries and providers in a user friendly format.

Developing and implementing a web-based HIE utility and application service provider (ASP) capability within two years will achieve the following **outcomes**:
• Reduction in overall annual acute and long term care Medicaid program medical costs of 3% on average;
• Connection of 35% of AHCCCS providers who will be actively sharing electronic health information through the HIE utility by the end of 2009, 60% by the end of 2010 and over 90% by the end of 2011;
• Reduction in overall Medicaid health system administrative costs of 2% annually through fewer manual medical record reviews, record copying, denial of claims, claims errors, and avoidance of fraud and abuse through effective beneficiary identification;
• Improved quality of care oversight and quality transparency through the provision of timely performance information;
• Improved care coordination for chronic diseases and better coordination between behavioral health and physical health services; and
• Enhanced opportunities for better self-management of chronic illnesses by beneficiaries and their families through access to their health information and online wellness materials.

AHCCCS will be an ASP for Medicaid providers providing basic EHR applications including e-prescribing and lab order entry and results reporting. (p.6)

Statement of Project/Need:

The Arizona Health Care Cost Containment System (AHCCCS) is Arizona's Single State Medicaid Agency, providing health care coverage for over one million Medicaid and SCHIP beneficiaries. AHCCCS is proposing to develop and implement a web-based health information exchange (HIE) utility that will provide authorized Medicaid clinicians, hospitals, long term care providers, ancillary service providers, community based care programs, and managed care health plans instant access to Medicaid beneficiaries' electronic health records (EHR) at the point of service. The health records available through this HIE utility will include patient demographics and eligibility information, patient problem lists, medications, lab tests orders/results, radiological results and images, inpatient discharge summaries, and clinical notes. Federal funds are requested to support the planning, design, development, testing, implementation and evaluation of results of the AHCCCS HIE utility and application service provider (ASP) functions.

AHCCCS' nationally recognized Medicaid managed care approach has consistently provided quality care while producing significant cost savings. However, the program experiences the following challenges and system improvement needs similar to those of other state Medicaid and private sector health care systems.

- Costs are increasing significantly faster than state revenues, with AHCCCS experiencing annual average medical cost per member per year (PMPY) increases of 6% to 10%.

- Critical health care information is not available where and when it is needed.

- Lack of point of service information leads to duplicate services and increased chances of errors, delays in care, and polypharmacy problems.

- Inability to exchange information leads to delays in provider payments.

- High capital and maintenance costs lead to slow adoption of health information technology (HIT). Only 15% of Arizona's physicians have electronic health records (EHR) in their practices, and most rural hospitals have only rudimentary hospital information systems.

The HIE utility proposed by AHCCCS represents a quantum leap in improving system effectiveness and affords the greatest opportunity for rapid adoption and real-time exchange of electronic health information. AHCCCS will provide basic EHR functionality as a web based ASP for Medicaid providers who cannot afford the capital outlay to install their own electronic medical record systems. This project will reduce the cost of adoption of EHR/HIE to less than $1,000 per client terminal for Medicaid providers. It is consistent with the vision for EHR expressed by both President Bush and Secretary Leavitt.

AHCCCS will leverage HIE/HIT efforts that have already been initiated by the Indian Health Service (IHS), Federally Qualified Health Centers, the Veteran's Administration, Arizona Health-E Connection, Southern Arizona Health Information Exchange and several hospital systems in the state. Furthermore, this project will include nursing homes and community based long term care providers.

Two e-prescribing related goals of this grant are:

• Reduction in overall medical costs of an average of 3% per year associated with prescription errors, diagnostic lab/radiology test redundancy, unnecessary emergency

room utilization, claims coding errors and medical errors;

• Improved coordination between behavioral health and physical health services which will reduce medication errors/abuse and increase case management effectiveness

2. Title: State of Connecticut Medicaid Program Health Information Exchange and E-Prescribing Initiative

Abstract:

The overall goal of the Connecticut Health Information Exchange and E-Prescribing Initiative (HIE/EPI) is to design, implement, and evaluate a statewide comprehensive health information exchange system for Connecticut's Medicaid beneficiaries. Anchored by a unique collaboration between Connecticut's Department of Social Services (DSS), and Connecticut's Health Information Exchange Organization, *eHealth Connecticut,* the proposed HIE project has great potential to promote broad health care delivery system change in Connecticut. We propose the creation of an e-prescribing system which also links physicians and other healthcare providers of accurate patient diagnoses, current medication lists, drug allergies, and adverse drug events. E-prescribing can circumvent medication errors and control costs through the appropriate use of generic drugs and adherence to preferred drug lists. Connecticut's HIE/ EPI project aims to improve the safety, efficiency and quality of healthcare for Medicaid beneficiaries through targeted collaborative technology implementations. The Connecticut HIE/EPI is expected to improve clinical decisions by aggregating medical information from a variety of sources and making this information available at the point of care. Furthermore, the project aims to implement e-prescribing to a limited number of licensed health care providers in order to reduce medication expenses incurred by Medicaid through greater use of generic drugs and adherence to the preferred drug lists. The Connecticut HIE/EPI will begin by focusing on Connecticut's non-dual eligible Medicaid population, but will be eventually expanded to all Medicaid beneficiaries, and will be able to support additional capabilities such as disease management, quality improvement, evaluation, surveillance, and research. The expected outcomes of the Connecticut HIE/EPI project are a long-term reduction in overall Medicaid spending, an increase in preferred drug list usage by licensed health care professionals serving Medicaid beneficiaries, reduced therapeutic duplication of prescriptions, and decreased administrative costs associated with prior authorization (PA). The projected budget for Connecticut's HIE/EPI is $5.5 million dollars over two years. It should be noted that $500,000 in state matching funds have been committed to this effort in addition to the $5 million requested in this application.

Statement of Project/Need:

Health information technology has been identified as a key component to address rising costs, inefficiency, preventable errors, and poor quality of care in the health care environment.

Achieving the full benefit of health information technology, including provider order entry, e-prescribing, disease management, and clinical decision support, requires clinical data, and much of this clinical data comes from outside the practitioner's organization.4-5 The best way to connect these localized sources of medical information is through a health information exchange network. A fully interoperable health information exchange system—one that would exchange information between health care providers, hospitals, medical practices, laboratories, radiology centers, pharmacies, and public health departments—has

the potential to reduce the frequency and consequences of errors in medicine, and generate millions of dollars of savings at the state-level each year. Furthermore, both clinicians and policymakers expect health information exchange systems to dramatically improve quality of care.

Health information exchange systems play an invaluable role in the national effort to improve patient safety. Each year, adverse drug events (ADEs) are estimated to injure or kill more than 770,000 people in hospitals, and errors in prescribing are the most frequent source of these deaths and injuries.8 Furthermore, ADEs account for up to 41% of all hospital admissions and more than $2 billion annually in inpatient costs. Recent studies have indicated that almost half of all medication errors were intimately linked with insufficient information about the patient and the drug. As an integral part of health information exchange systems, e-prescribing is widely regarded as a crucial technology for improving patient safety, and has been associated with decreased medication errors, improved formulary adherence, and shorter lengths-of-stay.

Health information exchange systems can also be used as a tool to address rapidly rising health care costs. Medicaid costs for prescription drugs grew at a rate of 18% in recent years, in comparison to growth rates of 7% for total Medicaid expenditures.   As one of the largest category of services within the Medicaid budget, medication costs now consume approximately ten percent of total Medicaid expenditures. In Connecticut, Medicaid spending on prescription drugs accounts for over twenty percent of total spending on acute care services. To address burgeoning costs, containment strategies have been put in place by state sponsored programs and insurers, including the requirement of prior approval, preferred drug lists, and formularies.

However, for health care professionals dealing with multiple formularies and prior approval rules, the complexity can be overwhelming, and these administrative hassles often result in increased practice costs to health care professionals overseeing the use of certain medications. A better solution is to create an integrated health information exchange system. Licensed health care professionals (LHCPs), pharmacies, hospitals and payers would use this system to share current patient diagnoses and medications, gain access to preferred drug lists, and promote safety through sharing of documented previous allergies and adverse effects. This integrated system would provide a platform to inform LHCPs of current diagnoses and medication lists, safety alerts and other necessary capabilities.

One e-prescribing related goal of the Connecticut grant is to:

• Implement e-prescribing with a limited number of licensed health care professionals providing care to Medicaid patients.

3. Title: Delaware e-Prescribing Pilot

Abstract:

The Delaware Department of Health and Social Services, Division of Medicaid and Medical Assistance (DMMA) seeks to transform the technology Medicaid uses for improved administration, effectiveness, and efficiency in providing health care to Medicaid enrollees. DMMA aims to accomplish this by transforming electronic capabilities of the Delaware Medicaid Management Information System (MMIS) by establishing a universal transaction for HIPAA-compliant electronic prescribing. The project will leverage the MMIS, focus on cost savings, and increase functionality.

The e-prescribing pilot will target 50 of the highest-volume prescribers in the Medicaid program and leverage those providers already using e-prescribing in other health plans throughout the state. These initial 50 providers may represent only two percent (2%) of the total Medicaid provider enrollment, yet they account for twenty percent (20%) of the total annual paid pharmacy claims volume. In Delaware, there are currently over 200 physicians, who actively use e-prescribing, including the State Employees Health Plan and Blue Cross Blue Shield of Delaware. Many of these 200 practitioners are also Medicaid providers and could benefit from a DMMA application. The intent of DMMA's project is to provide a universal solution for Medicaid providers to access the health record data they need when prescribing medications to Delaware's Medicaid population.

These e-prescribing providers will be enabled to fully utilize the MMIS' e-prescribing solution to increase client safety and reduce Delaware pharmacy assistance costs by providing the connectivity to exchange health care data between provider, pharmacy, and pharmacy benefit administration. The funding will provide handheld devices and software, enabling providers to have immediate access to client records, reference libraries, and formularies. On-site training, technical assistance, and utilization reports will be included for participating and currently active providers. This pilot will introduce the technology to DMMA providers, provide feedback to help providers embrace the technology and its benefits, and directly impact DMMA clients. It will leverage and build on last year's State Employees Health Plan and Blue Cross Blue Shield of Delaware e-prescribing implementations. In addition, this project will expand the functionality of the 200 physicians who already have e-prescribing solutions in place, providing them access to medical histories and benefit information—as stored in the MMIS—for all Medicaid clients.

The goal of this project is to build sustainable solutions that will improve client care and help ensure the following:

- Fewer errors/adverse events from misunderstood handwritten prescriptions

- Reduced ability to commit prescription fraud/divert medications

- Increased compliance with appropriate, preferred medication regimens

- Increased accessibility to data for users (medication profiles for providers)

- Reduced manual effort with current technological solutions,

Statement of Project/Need:

The Institute of Medicine (IOM) recently estimated that there are at least 1.5 million preventable adverse drug events each year in the United States. These medication errors result in poor patient outcomes as well as increased healthcare costs. In collaboration with the pharmacy benefits manager and Drug Utilization Review Board, drug utilization review activities and benefit guidelines are continuously reviewed. Within the past three years, the state has greatly expanded the pharmacy benefit program with enhanced clinical reviews and
established a Preferred Drug List. These clinical reviews create an administrative burden on the clinicians. With the availability of e-prescribing to the Delaware Medicaid program and its enrollees, practitioners, and pharmacies, critical information would be available at the time of prescribing. Issues related to compliance, duplicate therapies, drug interaction, and all other prospective drug utilization review currently done at the pharmacy could be dealt with prior to the client leaving the office.

Delaware is proposing the development and implementation of an electronic prescribing

solution integrated within the MMIS. E-prescribing offers a tool to transform prescription drug coverage programs administered by the Delaware Division of Medicaid and Medical Assistance (DMMA), including Title XIX, the Delaware Prescription Assistance Program, the Delaware Healthy Children Program (Title XXI), and the Chronic Renal Disease Program.

Using connectivity to the Medicaid Management Information System (MMIS), e-prescribing can help ensure medication safety for clients, improve client outcomes, contain pharmacy costs, and make provider administrative activities more efficient.

Project Goals and Outcomes:

• **Improve overall healthcare quality by reducing medication errors from illegible handwritten prescriptions and/or incomplete medication history available to prescribing practitioners**. Numerous studies have identified the benefits of e-prescribing in the prevention of adverse drug events. Common mistakes associated with handwritten prescriptions can be avoided by ensuring a complete and legible transmission. Further, access to a patient's medication history enables potential problems, such as drug-drug interactions and duplicate therapies, to be identified before the prescription is ordered.

• **Improve adherence to Delaware Medicaid PDL guidelines and reduce requests for exception prior authorizations**. Adherence to preferred drugs is greatly improved if the physician is informed of the PDL prior to making a decision. E-prescribing enables physicians to modify a prescription for guideline compliance prior to generating the prescription. This, in turn, will reduce requests for exception prior authorizations and simplify workflow for providers.

• **Reduce overall program costs by reducing adverse drug events, increasing client compliance with drug therapy, and reducing fraud**. Medication errors are costly to patients, health care providers, and payers. The IOM reports one study finding that each preventable adverse drug event that took place in a hospital added approximately $8,750 to the cost of the hospital stay. Electronic prescriptions have been shown to reduce errors by as much as eighty percent (80%). E-prescribing also enables the State to track whether clients are shopping for different prescribers and eliminate compliance issues that cause prescribers to issues stronger prescriptions to alleviate medical conditions. With e-prescribing, pro-DUR alerts would no longer go from the MMIS to the pharmacist and then be communicated to providers. Rather, the provider can determine any alert issues before the client leaves the provider's office, which will make a huge difference to the cost per prescription. Providers will be aware of the aggressive benefit coverage policies their clients have and compliance with the PDL will increase, thereby increasing the use of lower-cost medications and reducing the number of prior authorization requests. Additionally, improved client compliance leads to improved health outcomes and reduced need for more expensive treatment due to deteriorating health status. Finally, e-prescribing offers safeguards against fraudulent activity and diversion of medications.

4. Title: State of Florida Demonstration of GenRx (Expanding use of e-prescribing and generic medications)

Abstract:

Since July 2003 Florida Medicaid has operated a program to support electronic prescribing. Prescribers receive hand-held computers linking them to the Medicaid preferred drug list and patient prescription history. The prescriber can see all drugs the

patient has received, check for interactions and compliance, and transmit prescriptions electronically. The proposed GenRx project builds on the success of that program as follows:

• Takes advantage of the upcoming availability of generic products to treat patients using six specific drug classes, particularly those with diabetes or hyperlipidemia;
• Provides the patient with a 10 day starter pack of generic medications during the office visit;
• Electronically transmits the prescription for the generic product to the patient's pharmacy;
• Provides a base for tracking whether compliance with treatment guidelines improves through closer communication between prescribers and Medicaid pharmacists;
• Increases the use of e-prescribing capability by participating prescribers.

The budget for this project totals $1,737,861, which is $1,202,769 in the first year and $535,092 in the second year. Projected savings through increase of generic use is based on analysis of six drug categories: SSRIs, diabetic medications, cholesterol-lowering agents, third-generation cephalosporins, calcium channel blockers, and alpha-beta blockers. Multiple brand-name drugs in these categories either have been marketed recently or soon will be marketed as generics.

Florida already employs a professional pharmacist in each of its 11 Medicaid service areas. In the first year each Area pharmacist will establish generic medication dispensing in 12 practice sites. Each practice site will have two or more prescribers enrolled in the program who have served at least 200 Medicaid recipients in the past three months. Each participating prescriber will use either a hand-held or office-based computer to do e-prescribing. Each will be enrolled as a dispensing practitioner, and each office will be equipped to print the required drug labeling to accompany the 10-day supply of generic drugs the patient will receive during the office visit.

While the prescriber will have to purchase the supply of generic drugs, the e-prescribing software will automatically process the cost of the prescription through Medicaid and issue payment to the prescriber on a routine basis without further claim submission.

Following the initial year, each Area pharmacist will spend one day each week in two of the practice sites in addition to our current academic detailing program. The purpose is to track the improvement in patient outcomes comparing a focused presence with the current brief visit combined with chart reminders and other leave behind materials. The expected outcomes are broader acceptance of generic drugs by patients, streamlined prescribing, reduction in drug costs to Medicaid, and improved achievement of treatment goals.

Statement of Need:

Doctors traditionally start patients on a new therapy by giving them sample medications. Currently these samples are always brand-name medications provided by pharmaceutical representatives. When the subsequent prescriptions are presented at the pharmacy many of these brand-names require prior authorization or another prescription changing therapy to a generic medication as requested by Medicaid and most commercial plans. This process is costly to both Medicaid prescribers and pharmacy providers and disruptive to patients.

A national study by the HHS Inspector General released on July 2006 notes that Florida Medicaid ranks at 92% in use of generic drugs. While this percentage reflects those categories where multiple generics are available, a recent examination of Florida claims data indicates there is still room for improvement in select therapeutic categories. In the last quarter of 2005-2006 fiscal year, brand name medications represented 45% of all prescription claims and 85% of all prescription costs.   Florida proposes to encourage use of generics by making generic drugs available in the doctor's office for use as "starter" medications. The focus will be on drugs used to treat hyperlipidemia and diabetes.

These "starter" medications would be available only when the physician uses the e-prescribing functions of an in-office computer or the PDAs that Florida Medicaid already has in the hands of approximately 2,800 prescribers who write 33-35% of all Florida Medicaid prescriptions. Only 2% of these prescriptions are currently e-prescriptions, that is, transmitted directly by computer to the pharmacy. This proposal will provide several additional incentives for the physician to use e-prescribing.

The focus on specific drug classes will help increase the number of patients reaching the treatment goals of nationally recognized guidelines for hyperlipidemia and diabetes. Florida will use clinically trained pharmacists working with primary care physicians and specialists to help more patients reach and maintain treatment goals. Florida Medicaid already has a successful academic detailing program that has demonstrated reductions in drug costs. Its impact on patient care outcomes has not been evaluated. This proposal will compare two methods of academic detailing to measure their impact on increasing positive health outcomes in the areas of hyperlipidemia and diabetes.

The project will involve Medicaid physician providers and Medicaid clinical pharmacists with additional training in these diseases. Using the already developed tools of e-prescribing and point-of-service billing, these "dispensing practitioners" will be able to provide a ready alternative to the current system of brand-name samples. Initially, the program will include 300 to 600 prescribers who could serve as a model for Medicaid Reform and involve both Managed Care Organizations, (HMOs and Provider Service Networks or PSNs) and Medicaid fee-for-service.

Florida Medicaid is divided into 11 service areas. Each Area has a pharmacist employed by Medicaid. In the first year the 11 Medicaid Area Pharmacists will establish generic medication dispensing in 12 practice sites in each area. Each practice site will have two or more prescribers enrolled in the program who have served at least 200 Florida Medicaid recipients in the past three months. In the second year the Area Pharmacists will spend one day each week in two of the practice sites and the remaining days of the month continuing their current academic detailing activities.

Some private sector organizations have launched similar projects in New Jersey, Oregon and Minnesota with Blue Cross and Blue Shield and other commercial health plans. No comparable program exists in Medicaid programs.

Participating physicians will purchase supplies of the target generic medication to dispense to patients in the office. They can purchase the drugs through their own supplier or use a Medicaid-contracted supplier. As the physician provides generic "samples" to the patient he will bill the medication electronically to Medicaid as a point of sale transaction and the physician will receive a dispensing fee. At the same encounter, the physician will electronically prescribe a "refill" of the same generic medication to the

patient's selected pharmacy. The result is a win-win-win-win scenario. The patients win because they sought medical help for a problem and leave the physician's office with a remedy to their concerns. The physician wins by receiving a few extra dollars for seeing a Medicaid patient. Medicaid wins by paying less for the medication and expending fewer resources because no prior authorization is required. The retail pharmacy provider who fills subsequent prescriptions wins because generic drugs provide a higher gross margin in most cases than brand-name drugs. The paradigm has been shifted in favor of using generic medications and no longer favors the brand manufacturer because of the convenience and availability of sample medications.

Prescribers are more likely to adopt e-prescribing and adapt it into their office practice if they can say to the patient, "You can pick up your medication on your way out." The clinical scripts performed by the academic detailers point out opportunities to use more generic medications using chart reminders and verbal presentations. The ready availability of generic medications is a much more powerful incentive for change. The sustained presence of a clinically trained pharmacist available to prescribers and patients in their practice setting will improve provider adherence to national guidelines to help more patients meet treatment goals. These practices have been described numerous times in medical literature. The Medicaid pharmacist will be available for oversight of the dispensing process and for medication counseling and teaching.

Improvement will be measurable through pharmacy claims data for increased generic prescribing and reduction in drug costs. The pharmacy claims data will also be used to monitor compliance with maintenance medications. Measurement tools are already in place to monitor the increase in e-prescribing. The measurement of patients meeting treatment goals will require the clinical pharmacist to collect laboratory reports of patients both before and after the start of the project.

Pharmacy claims data will provide the historical record before and after implementation of **GenRx**. Average cost per patient per month would be expected to decline. The data also contain the percentage of generics versus brand-name prescriptions for each prescriber. The number of e-prescriptions is currently being monitored through the Informed Decision's server transactions. The encounter data of the academic detailing pharmacist is currently captured and recorded through the vendor's software. There are processes in place to compare the financial outcomes comparing the physical daily presence with the traditional academic detailing. The comparison of the healthcare outcomes using laboratory values would be done manually as they are collected and collated.

Goals and Outcomes:

The goal is to promote e-prescribing, increase the use of generic medication and ensure a greater percentage of patients are meeting nationally recognized treatment goals. E-prescribing will be enabled because all the processes needed to place medications into the patient's hands are under one roof. The prescriber will be given an economic incentive to integrate e-prescribing into the daily routine. Generic medication use will be expanded as now a "sample" of a generic medication will be as easily available to the prescriber as the brand-name medications. The clinical pharmacists will be collaborating with these same prescribers to help ensure that more patients meet their treatment goals through direct patient contact, extended personal contact with these healthcare workers or traditional academic detailing.

Within each office practice the goals will be that two in three prescriptions written would be via e-prescribing or 66% of prescriptions within the six therapeutic categories. The goal for adherence to treatment objective would be an increase of 25% or more. In other words, if 40% of patients have met their treatment goals for LDL as a baseline in this practice, the goal would be to increase this compliance to 50% or a 25 % increase over baseline.

The goal for the enhancement of e-prescribing will be to raise the level from 2% of overall prescriptions within the six categories to 10% of all prescriptions written for these categories. If the 50% conversion of brand-name to generic medications is met, then this goal of a five fold increase in e-prescriptions is achievable.

The current overall percentage of generic prescriptions in the six target categories is 27%. With the expiration of the patents on several major brand names contained in these categories, the goal of two out of three prescriptions is not out of reach. The 25% increase in patients meeting treatment goals is consistent with university-based studies where clinical pharmacists are working daily in collaboration with prescribers.

The technology to be used will be the handheld PDA device already distributed and available to over 2,800 prescribers. In a practice site where the prescriber does not have a PDA or wish to use a PDA device, a web-based application with the same capabilities will be employed.

In the last fiscal quarter of 2005-06, statewide there were 22,500 patients receiving diabetic medications and 33,100 receiving cholesterol-lowering agents. Some of these patients are receiving both medications, so there is some overlap. If this proposal reaches the goal of affecting 25% of prescriptions in these categories, then over the course of one year 5,000 to 7,000 patients would have been touched by the e-prescribing component. The academic detailing component touches between 1.000 and 1,200 patients per month. This includes the chart reminders and other "leave behind" materials. The claims, paid amount and other drug related information was taken from Query Path using the paid dates of April 1, 2006, to June 30, 2006. This same source was used to determine the number of prescribers using these six categories of medication. The estimation of the number of current brand-name prescriptions that could be switched to generic medication is a goal.

Florida Medicaid's current e-prescribing contractor has a track record of being able to measure the impact of the changes that will be generated from this proposal. The percentage of generic prescriptions before and after **GenRx** was available at each practice site. The baseline laboratory values and pharmacist interventions are a component of the electronic medical record and available for analysis. With one vendor handling the physician encounter data of academic detailing, the pharmacist intervention data, the medical and pharmacy claims and the patient encounter data, the analysis will be under one umbrella.

The fiscal goals will be measured comparing the percentage of brand-name medications to percentage of generic medications prescribed within the six therapeutic categories. The cost savings goal will be met by achieving a 50% switch from brand to generic medications. In addition, any cost savings will be beneficial, and the breakpoint would be cost savings greater than the increased cost of paying a dispensing fee for **GenRx** that is not part of the current cost structure. The clinical outcome will be considered as meeting its goals if a greater percentage of patients are treated to goal or a significant improvement is found in the clinical markers that define additional health

risks for the patient.

The technology for e-prescribing meets or exceeds the current safety standards for transcription of medication orders from the prescriber to the dispensing pharmacist. The transmission of the payment for **GenRx** will follow current practices for Medicaid pharmacy providers and meet industry standards.

5. Title: New Mexico Transformation Grant - E-Prescribing

ABSTRACT:

Historically in New Mexico, health care practitioners have made drug-prescribing decisions using minimal eligibility, medical, and treatment data, a concern due primarily to a lack of accessibility to effective and functional information-sharing systems. The current prescribing process in New Mexico is largely affected by the separateness of prescribers, patients and pharmacists; and is characterized not only by the state's mostly rural and frontier landscape, but also by a need for improved technology designed to enhance prescribing efficiency, communicate prescribing decisions, and reduce prescribing error rates.

Nationally, medical problems related to errors in prescribing are estimated to kill as many as 20,000 Americans annually, and affect many more because of adverse drug reactions.

The New Mexico Human Services Department, Medical Assistance Division, requests a budget of **$ 855,220** in Medicaid Transformation Grant funds to develop the qualitative, technological and collaborative infrastructure needed to modernize the prescribing process in New Mexico. Grant funds will allow New Mexico to utilize new technology to develop electronic prescribing (or e-prescribing) networks. In summary, grant funds will be used to accomplish the following goals:

• Make technical modifications to New Mexico's Medicaid Management Information System, Medicaid Prescription Drug Claims System to enable e-prescribing capabilities;
• Work in collaboration with key stakeholders to ensure that the needs of Medicaid providers, recipients and systems are represented in statewide e-prescribing initiatives; and
• Educate and incentivize the involvement of Medicaid providers, including rural, non-profits, Federal Qualified Health Centers, and Native American tribal providers, in e-prescribing.

The proposed project will improve the efficiency and effectiveness of the Medicaid Program in the
following ways: streamline operations and reduce Medicaid costs; promote generic drug dispensing, parallel the enhancements being made in Medicare; reduce adverse drug events and medication errors by improving practitioner access to information; and promote practitioner and pharmacy participation and collaboration. The anticipated outcomes of the project are to achieve Medicaid cost-savings and efficiencies, and to improve patient safety by transforming New Mexico's prescribing process through technology that will encourage and facilitate e-prescribing capabilities for Medicaid practitioners and pharmacists.

It is anticipated that the entire prescribing process available to New Mexico Medicaid recipients, providers and pharmacists would be transformed with grant funds. The proposed project will demonstrate to providers that e-prescribing is consistent with cost-effective

office management, and will eventually change the manner in which practitioners and pharmacies carry out the prescribing and delivery of pharmacy benefits to Medicaid recipients statewide. The continuing costs of this project after the grant funding period will be mainly for transaction and subscription fees that will be borne by providers. Once the initial technical changes have been made, ongoing costs to the Medicaid program will be minimal and can be sustained by the Human Services Department, Medical Assistance Division.

The New Mexico Medicaid program will follow the provisions of the statutory reporting requirements of Section 1903(z)(3)(C)(ii) and (iii) of the Social Security Act, which are specified in Section 6081 of Public Law 109-171 regarding reports on Medicaid Transformational Grants.

Statement of Project/Need:

Historically in New Mexico, health care practitioners have made drug-prescribing decisions using minimal eligibility, medical, and treatment data, a concern due primarily to a lack of accessibility to effective and functional information-sharing systems. The current prescribing process in New Mexico is largely affected by the separateness of prescribers, patients and pharmacists; and is characterized not only by the state's mostly rural and frontier landscape, but also by a need for improved technology designed to enhance prescribing efficiency, communicate prescribing decisions, and reduce prescribing error rates. Nationally, medical problems related to errors in prescribing are estimated to kill as many as 20,000 Americans annually, and affect many more because of adverse drug reactions, further indicating a need for an e-prescribing system.

The proposed project is devised to provide the qualitative, technological and collaborative infrastructure needed to modernize the prescribing process in New Mexico. Utilizing new technology, health care practitioners will be able to transmit prescription information over electronic prescribing (or e-prescribing) networks. While many New Mexico pharmacies have already achieved the technological capacity to accept e-prescriptions, technical enhancement of the state's Medicaid system and greater involvement of health care practitioners are needed to effectively improve patient safety, enhance quality of care, and reduce pharmacy program costs.

As an innovative approach to resolving the state's current prescribing challenges, the New Mexico Human Services Department, Medical Assistance Division (HSD/MAD) proposes to use Transformation Grant funding to:

• Make technical preparations and modifications to the state's Medicaid Management Information System (MMIS) and Medicaid Prescription Drug Claims System (PDCS) to facilitate e-prescribing processes, support requisite electronic data transactions, and respond to National Council for Prescription Drug Programs (NCPDP)-compliant e-prescription queries for recipient Medicaid eligibility, managed care enrollment, and Medicare Part D enrollment. These technical changes will ensure that prescribers will be able to access information concerning benefit limitations (e.g., pregnancy only or family planning only pharmacy benefits), pharmacy co-payment amounts, application of preferred drug lists (PDLs) or formulary restrictions, generic drug alternatives, prior authorization requirements for drug items, potential drug interactions, recipient drug allergies, therapeutic duplication, and drug over- or under-utilization.
• Make the systematic and programmatic changes needed to ensure that New Mexico's Medicaid program keeps pace with the development of e-prescribing technologies within the state's private sector; therefore ensuring parity for Medicaid recipients and individuals

enrolled in commercial insurance plans.

• Identify and cultivate the optimal partnering structure involving health care provider groups, pharmacies, health plans, pharmacy plans, professional organizations, institutions of higher education, government agencies, and other stakeholder groups to facilitate Medicaid implementation of e-prescribing through a collaborative and coordinated effort. The proposed project will work directly with the New Mexico Prescription Coalition (NMPIC), a statewide e-prescribing workgroup brought together by the New Mexico Medical Review Association (NMMRA). NMMRA has contracted with the Centers for Medicare and Medicaid Services (CMS) as New Mexico's Medicare Quality Improvement Organization (QIO) and to assist with the development of e-prescribing for Medicare Part D.

• Facilitate the involvement and education of Medicaid providers and pharmacies to encourage e-prescribing participation and support; and

• Assist rural non-profit medical providers (specifically, rural health clinics, federally qualified health centers in rural areas, small Indian Health Service (IHS) facilities, and tribal 638 compact clinics) whose patients are mostly Medicaid-eligible to develop full technological readiness to transmit prescriptions electronically. Some Transformation Grant funds would be used to assist these facilities with acquiring technology, completing the beta testing phase, and paying for first-year subscription or transaction fees. Because the private sector offers few incentives to encourage e-prescribing by rural non-profit providers, grant funds would ensure that these providers are included in the development of a statewide e-prescribing initiative.

One major e-prescribing goal of this grant is:

• Participation and leadership of the New Mexico Medicaid program in the development of statewide e-prescribing efforts, to ensure that the unique needs and concerns of Medicaid providers, recipients and systems are represented.

6. Title: Tennessee Electronic Prescription Pilot Project
Award Amount: $674,204

Abstract :

Governor Phil Bredesen of Tennessee created the eHealth Advisory Council to advise and support the state as it develops and implements an overall strategy for the adoption of electronic medical technology. Comprised of stakeholder representatives in the health care community across Tennessee the council will guide development of advanced systems.

This pilot project will target primary care providers in small rural counties to allow them to utilize an electronic prescribing system to increase efficiency, patient safety and reduce TennCare pharmacy costs. The program will provide computer technology for selected providers along with training and technical assistance to assure a smooth transition to eprescription technology.

The technology will utilize personal data assistants and/or laptop computers to allow immediate provider access to patient records and provider formularies. The technology will allow direct routing of prescriptions to local pharmacies without the need of handwritten orders. We will target approximately fifty providers in rural counties with above average caseloads.

We believe that the lessons learned from this pilot project can be used to exhibit the advantages of technology in medical care and allow for greater acceptance among the provider community. The project will provide a laboratory for all the involved actors to

experience state of the art technology and consider progressive changes in provider – insurer relations, PBM - pharmacy communications and state regulation of medical practice.

Total budget for the project is $674,204 over the two year period. We anticipate a need for one project manager position to coordinate the program operation and outreach to the provider community. Successful implementation of the pilot project could lead to a statewide effort by the eHealth Advisory Council.

Status: Initial Pilot Completed

Tennessee's Medicaid program and one of its Medicaid managed care providers launched the e-prescribing pilot program in 13 of the state's rural counties in March 2008. The Bureau of TennCare plans worked with SharedHealth, a subsidiary of Blue Cross and Blue Shield of Tennessee on this initiative. Fifty physicians were recruited to join the program; each received free software, training, support and Internet access. The pilot ran through June 30.

Statement of Need :

Prescription medications continue to be a major cost driver for TennCare. Developing greater access for providers to an electronic prescription system will reduce the need for prior authorizations by providing real time access to preferred drug lists and patient records. Eprescribing can prevent medical errors, promote appropriate drug use and speed prescription renewals and increase the interconnectivity of physicians with other health care providers. TennCare currently pays our pharmacy benefit manager eight dollars for each prior authorization. Increasing eprescription utilization rates in provider practices will lower TennCare expenditures by reducing the need for prior authorizations.
Providers in rural counties face the most significant roadblocks to the implementation of technology at the practice level. Barriers include:

• Initial expense and time investment to implement a system

• Access to technology and broadband connectivity

• A lack of sufficient staff to utilize the system

• A lack of reimbursement and knowledge about benefits

These problems make it difficult for rural providers, who often have large Medicaid caseloads, to utilize state of the art electronic systems. Seventy-seven of ninety-five Tennessee counties have fewer than 100 licensed medical practitioners. The goal of this project is to target providers in a select group of small and medium size rural counties to increase electronic prescription utilization. We will target 50 physicians in these counties to receive the technology, training and support to implement an e-prescription system. All of these counties have a high ratio of TennCare enrollees per physician.

Goals and Outcomes:

This project will allow practices to become more efficient in health care delivery and enhance patient safety and satisfaction. Individual providers will have greater ability to access the multiple PDLs currently maintained by private insurers, Medicaid and Medicare Part D. Developing access to eligibility, prescription and medical information

for TennCare providers will integrate healthcare data for frontline providers and improve patient outcomes.

The immediate measurable target outcome of the pilot project will be to reduce the TennCare prior authorization rate by 25% among the volunteer adaptor group. We hope to have fewer unfilled prescriptions and reduce pharmacy cost to TennCare. Eprescription technology will lead to fewer overrides by TennCare managed care organizations and greater efficiency in provider practices.

7. Title: Developing a Utah Pharmacotherapy Risk Management System with an Electronic Surveillance Tool (Utah *e*PRM)

Abstract:

We propose to develop a Utah Medicaid Pharmacotherapy Risk Management System with an electronic tool (*e*PRM) to improve the quality and safety of medication use while simultaneously controlling costs and detecting fraud and abuse. The project has two objectives:

(1) Refine and implement a computerized surveillance and trigger tool to support medication therapy and risk management services. The *e*PRM tool will be used to (1) identify potential drug-therapy problems, which include quality, safety and cost-related problems; (2) select patients and providers for in-depth clinical reviews and possibly direct intervention (i.e., letter, phone call, Medication Therapy Management Services (MTMS), or Academic Detailing); (3) identify potential fraud and diversion of controlled substances; and (4) track patterns of medication use and evaluate *e*PRM performance, identify improvements, and direct policy change.

(2) Conduct innovative multi-pronged interventions that are guided by the *e*PRM trigger tool.

Clinical areas chosen for review include diabetes therapy, hypertension, asthma, antipsychotic therapy, pain management (opioid narcotics and anticonvulsants) and anticoagulation/antiplatelet drugs. Interventions in these areas will address potential under and overuse, or patient safety concerns. Clinical pharmacists and physicians will implement five types of inter-related interventions: a) provider level reviews, which includes prescribers' profiling and feedback for outlier prescribers; b) patient level reviews and letters to prescribers for high-risk patients; c) phone consultation and Academic Detailing with outlier prescribers; d) MTMS; and e) detecting and pursuing suspected fraud and abuse cases.

The estimated budget total for developing and implementing the *e*PRM is approximately $2,882,162 with $1,435,539 for Year 1 and $1,446,123 for Year 2.

The *e*PRM system will benefit about 174,000 non-institutionalized Medicaid members by improving medication therapy and, subsequently improving health status. Targeted clinical reviews will impact nearly 4,800 patients with high-risk medication therapies. As many as 600 of the high risk patients will receive the MTMS consultation. About 2,500 prescribers will receive feedback and recommendation for appropriately prescribing medications, with approximately 100 also receiving Academic Detailing visits. The *e*PRM team will conduct statewide surveillance and mailing/telephone interventions. Face-to-face interventions will be limited to the Wasatch Front area.

We intend to achieve the following outcomes for patients: a) increased diuretic prescriptions among hypertensive patients; b) increased appropriate use of diabetic and asthma medications; c) improved compliance with antipsychotics; d) reduced adverse events among patients using narcotics, anticonvulsants, anticoagulation and antiplatelet drugs.; and e) improved quality of care and health outcomes in patients referred to the MTMS. We expect substantial overall cost savings as a result of these modifications to the drug delivery and management system.

The Utah *e*PRM will make contributions to transform Medicaid pharmacy programs in the nation by piloting an electronically enhanced pharmacotherapy risk management system and making the *e*PRM tool to be available for free adoption by other Medicaid, Medicare part D, Veterans Administration, and other large pharmacy programs.

Statement of Project Need: Reducing Phamacotherapy Risk and Controlling Costs

Medication cost, quality, and safety are primary concerns for the Medicaid program in Utah. In this state, Medicaid spending for medications increased by 16% from July 2004 to June 2005. Excess costs and patient harm are associated with poor prescription practices. While inappropriate prescriptions have long been a concern, new evidence suggests that patient noncompliance is associated with up to 3.8 times the risk
for death and 1.5 times the risk for hospital admission.1 Investigations by the Utah Department of Health have revealed that adverse drug events are associated with at least 13.3% of all hospital admissions.

Strategies exist to mitigate the cost and morbidity of medications. Systems that integrate computerized surveillance tools with drug utilization review improve prescribing patterns and quality of care3. Furthermore, pharmacist-provided Medication Therapy Management Services (MTMS) have been found to reduce unscheduled physician visits, emergency department visits and overall costs.

We propose to develop an electronically enhanced Pharmacotherapy Risk Management (*ePRM*) system to improve the quality and safety of medication use while simultaneously controlling costs. The proposed system will transform Utah Medicaid into a provider that more actively measures and promotes quality. First, we will refine and extend an electronic surveillance/trigger tool that will allow us to conduct weekly surveillance of Medicaid claims data. This tool will identify patients and providers whose use or
prescription of medications is likely to engender excess cost or morbidity. Second, we will conduct multiple interventions, including feedback to providers, academic detailing, and pharmacy led Medication Therapy Management Services (MTMS).

Goals:

Objective 1: Electronic Surveillance and Trigger Tool for Targeted Interventions

Objective 2: Targeted Interventions Supported by Electronic Surveillance Tool

Expected Outcomes:

After one year of implementing each trigger-intervention, we expect to achieve the following quality and safety outcomes for patients: 1) increased diuretic prescriptions among hypertensive patients; 2) increased appropriate use of diabetic and asthma medication; 3) improved compliance of antipsychotics; 4) reduced adverse events among patients using

narcotics, anticonvulsants, anticoagulation and antiplatelet
drugs.; and 5) improved quality of care and health outcomes in patients referred to the
MTMS. We expect substantial overall cost savings as a result of these modifications to the
drug delivery and management system.

8. Title: West Virginia's Medicaid Transformation Initiative- Healthier Medicaid Members through Enhanced Medication Management

Abstract:

Healthier Medicaid Members through Enhanced Medication Management will
establish an automated prior authorization system which allows the pharmacist to
submit claims through a Point of Sale System and significantly reduce cost. This
system will encourage more appropriate prescribing; enhance provider relations, and
free pharmacists in the Rational Drug Therapy Program to have time for meaningful
discussions and skilled clinical review. A web portal will be added to allow prescribers
and pharmacists to view medical and pharmacy claims as they are submitted. A clinical
rules engine will alert prescribers of clinical expectations and pharmacy management
issues.

The West Virginia Bureau for Medical Services is requesting $4,287,110 from the
Centers for Medicare & Medicaid Services (CMS) to support *Healthier Medicaid
Members through Enhanced Medication Management.* This initiative will enable
pharmacist to complete patient profiles, allow for the identification of chronic disease
that is not being treated according to evidenced-based guidelines, as well as preventing
the progression of chronic disease. The pharmacist will be integrated into the care team
of the Medicaid member and will provide point of sale assistance to the member in
preventing and managing the care of chronic disease.

Statement of Project/Need:

The State of West Virginia is one of the first in the nation to redesign its Medicaid program
under the authority granted by the Deficit Reduction Act of 2005 (DRA 2005) to improve the
health of enrolled members through enhanced access to preventive and disease
management services, defined personal health management goals and responsibilities and
rewards for healthy behavior. The State Medicaid program has established an innovative
approach to encourage Medicaid members to take a greater role in managing their health in
collaboration with a team of community health providers to create a new model for health
maintenance and chronic disease self-management. Part of this initiative involves enhanced
medication management capabilities for the system.

Project Goals and Outcomes:

The West Virginia Medicaid program is currently utilizing the only Windows-based
commercial off-the-shelf unified relational database, software application, and claims
processing system in the nation. This system offers a web portal for providers to view the
status of claims that have been submitted for payment.

With this proposal, we will add an additional portal which to allow prescribers and
pharmacists to view medical and pharmacy claims as they are submitted, enabling Medicaid
providers to view their patient's medical and pharmacy profiles. Prescribers will have the
capability of viewing and downloading claims data submitted for their patients (drug claims,

diagnosis codes, CPT codes, etc.) over a period of 24 months.

With a clinical rules engine added, prescribers can be alerted regarding clinical exceptions and management issues for the patients. They will also be able to examine specific formulary issues, along with prior authorization criteria. Suggested prescribing alternatives and best practice information will be included in this clinical rules module.

The same web portal access will be provided to pharmacists who will be able to review claims and clinical history. This real-time access will prevent fraud and abuse that occurs when patients are drug seekers and visit many providers, as well as emergency rooms, in order to obtain controlled substances. This tool will protect Medicaid members from receiving drugs that are inappropriate for their conditions, from adverse drug-drug interactions, from duplicate therapies and support prescribers by furnishing real time information regarding patient drug and medical history. In addition to web portal access for pharmacists and prescribers, care for members can also be delivered at the pharmacy point of service.

Medicaid members make an average of 9-10 visits per year to a pharmacy, making the pharmacist the healthcare professional they see most consistently. An enhancement will be made at the Point of Service that will fit into the pharmacists' workflow process, utilizing widely accepted transmission protocols for real-time transactions. This enhancement will identify any patient with a chronic condition, highlight any deviation from the standard of care for that condition, and attach an intervention notification to the pharmacy via the NCPDP 5.1 transaction. A follow-up fax with detailed intervention information, documentation and reference will be sent to the pharmacy in time for the pharmacist to consult with the patient regarding the information generated. Surveillance algorithms can be developed to ensure that recommended interventions are performed, including data records for evidence of recommended provider visits, lab tests, and drug refills Since pharmacists, prescribers, and patients each hold information essential to coordinating care and bringing patients care in line with established treatment standards, this tool is the key that brings all of the elements together that are necessary for truly coordinated care management. This tool will also aid in profiling prescribers who employ evidence-based treatment protocols and are eligible for enhanced reimbursement, based on their standard of care. Prescribers who do not engage in current standards will be identified and targeted for educational interventions.

Most prescribers lack time with patients to discuss and reinforce standards of care, With this tool the pharmacist will be able to review the complete patient profile, integrate both medical and pharmacy information into the review, and capitalize upon the relationship that patients have established with them. An incentive will be provided to pharmacists for their cognitive services. Many chronic conditions, such as asthma, hypertension, heart failure, coronary artery disease, depression, migraines, chronic obstructive pulmonary disease, osteoporosis, gastrointestinal disease, and substance abuse, will be addressed with this tool. Recent studies have shown that many of the psychotropic agents cause weight gain and contribute to the development of diabetes and other associated chronic conditions. The addition of a clinical rules engine and the capability of alerting the pharmacist of a need for care coordination at the Point-of-Sale will enhance care management for Medicaid members and their providers. Credentialed pharmacists will be engaged to deliver interventions at the point of service with members, which will aid in identifying patients with chronic diseases.

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