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### The Leading E-Prescribing State in the US

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Over the past 5 years, payers and providers in Massachusetts, US have implemented web-based, handheld and electronic medical record integrated e-prescribing.

As a result of early pilots, the RxCollaborative and the e- Prescribing Gateway, Massachusetts was named the leading e-prescribing state in the US as of February 2007. A first pilot in 2001 was implemented by the Tufts Health Plan, Caremark (a pharmacy benefits management company) and Zix Corporation's PocketScript launched to distribute software to Tufts Health Plan network providers on handheld devices, enabling physicians to electronically write and securely fax prescriptions. The software was piloted at 15 physician sites by 77 primary care physicians and 36 nurse practitioners/physician assistants.

The pilot demonstrated:

- A reduction of 8.93 medication errors per physician per year,
- A reduction in the rate of increase of inpatient admissions,
- A decrease in hospital days,
- Verification that patients had filled their narcotic prescriptions for those situations in which patients would call to say a prescription had been lost and needed a new one,
- Improved provider office personnel efficiency,
- Pharmacist time savings,
- Decrease in rejection of prescriptions due to illegibility and drug interactions, and
- Cost savings for generic over brand prescriptions.

Our second pilot in 2002 included Blue Cross Blue Shield of Massachusetts (BCBSMA), Zix Corporation as the sponsoring software application, and Express Scripts Inc. (ESI), a pharmacy benefits management company. Recognizing the value of collaboration to minimize confusion in the marketplace and the possible economies of scale, BCBSMA, Tufts Health Plan, and Zix Corporation merged their efforts in 2003 to create the Massachusetts eRx Collaborative.

The BCBSMA and Tufts Health Plan initial investment in the eRx Collaborative was \$3 million and the plans have continued providing financial support to increase adoption.

To further encourage e-Prescribing, BCBSMA offered a pay-for-performance program to participating primary care providers (PCPs). Those eligible earned \$1 per member per month based on their e-Prescribing use. In 2004, approximately \$1.5 million in physician incentive monies was awarded for e-Prescribing use out of \$4 million for pay-for-performance technology use overall. Analysis indicated that PCPs who were given incentives adopt and e-Prescribe at higher levels than other PCPs. At the beginning of the program, practices with high-volume prescribers were targeted, but by late 2004, the focus changed to contract with any interested PCP or specialist, with targeted specialist recruitments in early 2005.

The most recent eRx Collaborative update indicates that there were more than 2.6 million electronic prescriptions transmitted in 2005 alone and three million electronic prescriptions sent through the program overall. The eRx Collaborative exceeded its goal of deploying e- Prescribing

technology to more than 3,400 prescribers. Our lessons learned include:

- *One-on-one training* and support upon initial deployment is needed to set expectations.
- *Strong marketplace sponsorship* is required to move e- Prescribing initiatives forward while sustainability requires a longterm view of marketplace needs. Payers/health plans must clearly communicate the benefits of e-Prescribing as a vehicle to improve quality and affordability of care not only for the Plans, but also for the provider and the patient.
- *Pay-for performance* incentives can be significant catalysts for the e-Prescribing movement.
- *Vendor monitoring and outreach* is essential to ensure clinicians have functional software and hardware platforms. Proactive outreach and "high touch" support ensures that the application is used over time. There are significant gaps between those who have the tool available to them, those who are actually using it, and those who use it at a high rate.
- *Workload impact on the physicians*. Although manual prescribing workflows are delegated to office staff in many practices, e-Prescribing is done by the physician directly. This requires an adjustment to new work flows and new workloads by the clinician. Once the e-Prescribing application is deployed, pages/calls to physicians to clarify prescription details decrease dramatically, so the initial increase in workload does stabilize over time. High-volume prescribers, generally in primary care, internal medicine and its subspecialties, as well as pediatrics and obstetrics/ gynecology, tend to reap the earliest benefits. Office staff generally finds their time associated with processing refills to be dramatically reduced when true electronic two-way pharmacy connectivity is available.

We also learned that a community-wide, unified approach to e-prescribing among all payers and providers would accelerate the adoption of e-Prescribing. In 2006, we implemented a statewide Rx Gateway which enables all stakeholders to connect to a single electronic point of contact for all e-Prescribing operations. Some of the key features of the Rx Gateway include:

- *Robust e-Prescribing capability*. Working in concert with the clinician's Electronic Medical Record (EMR) application, the Rx Gateway enables the exchange of prescription data among providers, payers, and pharmacies. Prescribers are able to complete in real time all of the key functions underlying the electronic prescription, including reviewing the patient's health plan eligibility and coverage, reviewing the payer's formulary, reviewing consolidated dispensed medication history, creating new prescriptions, and approving pharmacy-initiated requests for medication renewals and refills.
- *Standards-based exchange*. Through its adherence to standards-based information exchange, the Rx Gateway provides connectivity to a large variety of payer, provider, and vendor services and data.
- *Flexible integration options*. The Rx Gateway provides flexibility in the way it integrates with the great variety of commercial, custom, and proprietary solutions. While the Rx Gateway encourages the use of industry standards, and common protocols where industry standards are not adequate, it also supports custom interfaces and message translation for partners who are not in a position to use current methods.
- *Insulation from change*. The Rx Gateway insulates net work participants from changes in industry standards and other connectivity requirements. With the expansion of the use of e-Prescribing to satisfy performance requirements and industry demand, there is a concurrent expansion and evolution of industry standards and connectivity protocols. The Rx Gateway translates among versions of standards used by its partners, and it offers simplified interfaces whereby one participant may communicate with the Rx Gateway using a simplified protocol which the Rx Gateway translates into a standardsbased format for communication with another partner.
- *Connectivity to a variety of business partners*. The Rx Gateway provides connectivity to the key national e- Prescribing service providers as well as regional, state, and local partners such as regional health plans, state agencies, and local data and service providers and consumers. Using a community utility for connectivity rather than a vendor solution allows the community to set direction for which partners will connect to the community network to derive the greatest mutual benefit.
- *Compliance with state, regional, and local requirements*. The Rx Gateway may be configured by the community to satisfy requirements imposed by the community and the jurisdictions in which it operates, and the results support compliance for the participant organizations.

The e-Prescribing Gateway currently serves the physicians of Beth Israel Deaconess in Boston and will soon include the physicians of Brigham and Women's Hospital By connecting EMR and hospital information system products to the gateway, we expect to offer standardized e-Prescribing services to the majority of physicians in the state over the next 3 years.

We believe that end to end medication management, facilitated by e-Prescribing, is our most important initiative for the next several years. Quality imperatives, pay for performance initiatives and stakeholder awareness of the benefits of electronic prescribing provide a powerful sense of urgency for these projects. We will continue to monitor the impact of our efforts and measure the impact on our patients, providers and payers.

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