

**Henry Ford Health System
E-Prescribing Case Study**



Henry Ford Health System Background

- ❑ 17,000 employees
- ❑ Henry Ford Hospital
 - Closed staff model
 - 700 Beds
 - Tertiary/Quaternary care: transplant, robotic surgery, CV, NS
 - 69,000 patient admissions/year to HFH
- ❑ 3 Regional Hospitals
 - Community based/private staff
- ❑ Ancillary Support
 - Home Care, DME, Pharmacy, Dialysis, Nursing Homes
- ❑ Health Alliance Plan (HAP)
 - 530,000 member managed care organization serving 2,800 employers
- ❑ 800 Physicians – Salaried Group Practice
 - Founded in 1915 by Henry Ford
 - 70% Specialists / 30% Primary Care
- ❑ 26 Medical Centers
 - 3 Free standing ED's (100K visits total)
 - 3 Ambulatory Surgery Centers (15K procedures)
 - 2 Radiation Therapy Centers
 - Full ancillary testing technology (MRI, PET/CT, etc)
 - Full spectrum of medical/surgical/primary care specialties
- ❑ Technology
 - Electronic medical record (EMR, called CarePlus) used throughout HFHG (clinics and hospital)
 - All primary care exam rooms have PCs with network access used to connect to the EMR
- ❑ Ambulatory Clinic Organization
 - Each clinic has a Primary Care Physician In Charge (PIC), an administrative supervisor, and a nursing supervisor
 - Key roles impacted by ePrescribing included physician, nurse, medical assistant, and customer service representative
- ❑ 22 million patient visits/year and over 51,000 outpatient surgical procedures/year
- ❑ 20% of ambulatory care and 10% of acute care services in southeast Michigan is provided by HFHS
- ❑ \$3.25 billion in revenue in 2006; net income \$134.9 million; \$104 million in uncompensated care
- ❑ Primary payor distribution:
 - 34% Medicare
 - 32% Health Alliance Plan (HAP)
 - 14% BCBS-MI
 - 11% Medicaid

Project History and Solution Overview

- September 2004 – GM asked HAP & HFMG to partner with auto companies to test ePrescribing via the Southeast Michigan ePrescribing Initiative (SEMI)
- October 2005 – HFMG agreed to be the incubator for testing ePrescribing and eight HFMG primary care clinics launch ePrescribing
- January 2005 – HFMG/HAP launched first 4 HFMG primary care clinics on ePrescribing
- April 2005 – Due to demonstrated benefit, HFMG decides to spread ePrescribing to entire medical group
- January 2006 – HFMG completed implementation at all primary care clinics
- January 2007 – HFMG completed implementation in all outpatient specialty care clinics
- February 2007 – Michigan is recognized for moving from the 10th highest ePrescribing state to the 6th for 2006
- April 2007 – HFMG launches first of 5 Emergency departments on ePrescribing
- The Institute of Medicine's (IOM) 2001 Crossing the Quality Chasm report identified six critical dimensions of quality in healthcare. ePrescribing impacts at least 4 of them (*):
 - Safe*
 - Efficient*
 - Effective*
 - Patient centered*
 - Timely
 - Equitable

ePrescribing: Value Proposition

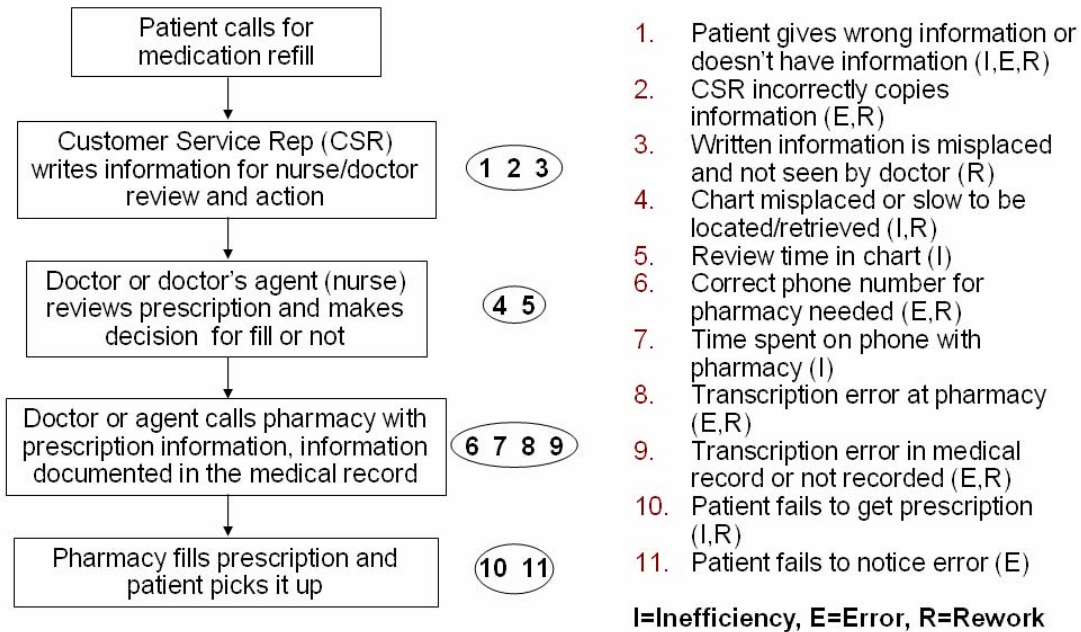
- Value Proposition
 - Safe - avoiding injuries to patients from care that is intended to help
 - Reduce rate of drug interactions
 - Eliminate legibility issues and subsequent medication errors
 - Efficient - avoiding waste of equipment, supplies, and resources
 - Eliminate or reduce "paper based" processes in the clinic
 - Reduce staff time required for prescription renewal process
 - Reduce pharmacy call backs to physician office
 - Effective - avoiding underuse and overuse
 - Improve ability to track patient medication adherence
 - Increase formulary adherence rate
 - Increase generic use rate
 - Patient centered - providing care that is responsive to patient values and needs
 - Reduce process time for patients (eliminates waiting at pharmacy)

Henry Ford Medical Group Results to Date

- Efficient
 - 2,100,000 PRESCRIPTIONS SENT ELECTRONICALLY TO DATE
 - Over 800 physicians and 2,000 clinic staff trained and using ePrescribing
 - Over 30,000 prescriptions generated per week
 - 72% said they use ePrescribing for 81-100% of their scripts
 - 57% agree that ePrescribing reduces the total time spent by support staff
 - 85% agree that ePrescribing has improved the practice of medicine at their clinic
 - 75% agree that ePrescribing improves the quality of the care that patients receive
- Safe
 - Over 200,000 prescriptions changed or cancelled due to drug to drug interaction warnings
 - Over 15,000 prescriptions changed or cancelled due to drug/allergy warnings
 - 77% agree that ePrescribing improves the safety of the care that patients received

ePrescribing Initiative – Process Improvement

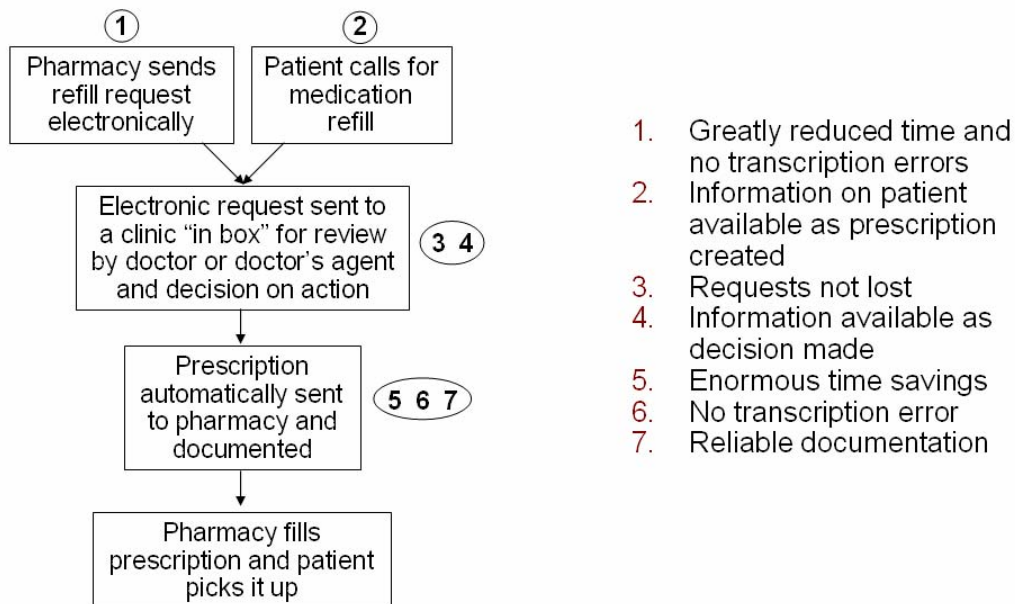
Sources of inefficiency, error and rework in refill process



10

ePrescribing Initiative – Process Improvement

Sources of improved efficiency and decreased error



11

- ❑ Although everyone agreed on the benefits of the new process physicians remained concerned about the *impact on total time they spend* in the prescription process
 - Early concerns that process increased physician time in exam room
- ❑ Conducted a time study early in the course of the roll out to assess the impact
 - Compared time spent in 2 pilot sites to 2 similar control sites
 - Used an in office observer and paper logs
 - Conducted the study over 4 – 5 days at each site
 - Total scripts at each site ranged from 129 – 174
- ❑ Measured time spent/script by staff and prescription type
 - Staff: Providers and support staff (RN, MA, CSR)
 - Prescription Types:
 - Renewals/New Scripts
 - In Exam Room/Phone Requests
- ❑ Effective
 - ❑ Over 80,000 prescriptions changed or cancelled due to formulary warnings
 - ❑ HFMG has improved its HAP generic use rate overall from 56.7% to 70.5% (24% improvement)
- ❑ Patient-Centered
 - ❑ 70% agree that ePrescribing improves patient satisfaction
 - ❑ Patients report satisfaction with elimination of script drop off and reduction in wait times at pharmacy
- ❑ Closely monitoring formulary messaging to ensure value and reduce message fatigue
- ❑ Ability to detect prescription fraud
 - Schedule II reporting
 - Audit reporting capabilities for every prescription
- ❑ Ability to measure and deliver realtime medication adherence information
 - NIH grants
- ❑ Ability to automate additional processes
 - Prior authorization
 - Patient renewal requests

Return on Investment

- ❑ For HFMG capitated membership
 - HAP/HFMG initial capital investment of \$1.6 million plus annual operating costs averaging \$590,000 reaps total savings of more than \$1.9 million in total for 2005 and 2006
 - Future estimated savings through 2009 will average \$4 million per year
 - Based on the 2005 and 2006 realized improvement in generic use rate, the five year Return On Investment is now estimated to be over \$14M
 - Key sources of cost reduction benefit are:
 - ❑ GUR Improvement – totaling \$1.5 million for 2005 & 2006 and estimated at \$3 million/year for 2007-2009
 - ❑ Administrative savings – totaling \$700,000 for 2005 & 2006 and estimated at \$560,000/year for 2007-2009

- Estimated impact of reduced adverse drug events (ADEs) – totaling \$540,000 for 2005 and 2006 and \$540,000/year for 2007-2009

Repeatable Implementation Approach Points

Key Approach Points

- Provide rigorous project management
- Identify the best vendor (rigorous selection process)- DrFirst
- Focus system design on assisting office processes
- Select “early adopter” sites for pilot implementation
- Demonstrate results that demonstrate value for stakeholders

Project Management

- Tight timeline required focused effort
- Project management focused on working with practices to identify and standardize prescription processes (define staff roles, establish standards)
- Provided real time, highly effective implementation support (key for physician engagement)
- Tracked progress and celebrate successes (pizza lunches, internal recognition, external award applications)

Software Selection Process

- Identified top 3 vendor options through research and recommendations
- Developed 4 – 6 key functional scenarios that the application needs to support
- Conducted one day vendor evaluation with key clinical and administrative leaders
- Validated technical and financial requirements
- Executed contract negotiations

System Design

- Make it easy for the physician to use
- Pre-load as much good data as possible

Use “Early Adopter” Pilot Sites

- Site leaders are the key
- All sites have at least one “late adopter or laggard”
- Insure success and create a “pull” force to drive subsequent spread

Demonstrate Results

- Identify measures of success
- Measure and communicate results
- ePrescribing can be implemented fairly quickly and easily
- Practice support is key
- ePrescribing shows measurable value in the areas of:
 - Improved generic use rate
 - Streamlined administrative processes
 - Reduced adverse drug events