ePrescribing: Best Practices for Implementation and Growth

Pre-Forum Workshop: World Congress 5th Annual Executive Forum on Pharmacy Benefit Management Strategies

July 12, 2010

Mihir H Patel, Pharm.D. – Consultant
Agenda

- Preliminaries
  - Overview of ePrescribing in the U.S.
  - ePrescribing: Market Drivers & Adoption Trends
  - Electronic Health Records: Market Drivers & Adoption Trends
  - Examining the truths and misconceptions around e-prescribing
  - Identifying the right model for your organization
Today’s Objectives

- The means to an end: Solidifying why e-Prescribing will improve quality of care and patient safety
- "Myth-Busters": Examining the truths and misconceptions around e-Prescribing
- Identify the best-fitting healthcare information technology and the necessary steps for successful implementation in your organization
- What are the current rules and regulations regarding ePrescribing for controlled substances and what is the potential impact?
- Uncover why health plan integration is crucial for the success of e-prescribing and medication management
- What are the primary trends and drivers around e-Prescribing adoption and utilization?
- What's next for e-Prescribing as it is now linked to the adoption and success of EHRs?
Agenda

- Preliminaries

- Overview ePrescribing in the U.S.
  - ePrescribing: Market Drivers & Adoption Trends
  - Electronic Health Records: Market Drivers & Adoption Trends
  - Examining the truths and misconceptions around e-prescribing
  - Identifying the right model for your organization
Health Information Technology

Levels

Functional

- eMedication Mgmt
- eCare Mgmt
- CPOE

Foundational

- Ambulatory EMRs*/ Practice Mgmt Systems
- Enterprise EMRs*
- PHR*

Optimal

- Electronic Health Record* (cross-system representation of PHI)

*Definitions in appendix

Elephant is reference to “The Blind Men and The Elephant,” by John Godfrey Sax

Copyright © 2009 Point-of-Care Partners, LLC

HIT Strategy & Management Consultants
proprietary and confidential – for internal purposes only
EMR Scope & Components

Ambulatory Electronic Medical Record “Foundation”

- Patient Medical History*
- Problem List*
- Meds List*
- Allergies & Adverse Reactions*
- Patient Consents & Directives
- Clinical Documentation Management
- Continuity of Care HIE*
- Clinical Workflow/Task Mgmt.*
- Results*
- Alerts & Reminders*
- Standard Care Plans, Guidelines, Protocols*
- Dx. Orders & Order Sets
- ePrescribing*

* Key to medication adherence management

Sources: CCHIT, POCP primary research
eMedication Management

- Prescribe
- Transmit
- Dispense
- Administer
- Monitor

E-Prescribing

- Treatment Guidelines & Messaging
- Interactions & Contraindications
- Therapy Management
- Patient Compliance & Adherence
- Refills & Renewals
- Medication Reconciliation
- Safety Surveillance

Adapted from Bell et al 2004
ePrescribing Components and Value

**Cost & Efficiency**
- Generic substitution
- Formulary compliance
- Renewal authorization
- Patient copay
- Pharmacy connectivity
- Prior authorization
- Eligibility

**Quality & Safety**
- Drug-drug interactions
- Drug-allergy interactions
- Drug adherence
- Drug-condition interactions
- Fraud & abuse detection
- Clinical guidelines
- Prescription writer
- Clinical contra-indications
- Drug reference guide
- Drug-lab interactions

**Measurable Value**
- Dispense drug history
- Prescribe drug history

**Foundation**
- Connectivity
- EMR/EHR Integration

**Complexity & Investment**
Early ePrescribing (often still there)

START
Practice Management

EMR or ePrescribing System

Medical benefit information

Formulary Database

New Rx
Faxes or prints & hands to patient

FINISH
Pharmacy

Source: POCP (2009)
True ePrescribing Interoperability

Physician Practice

EMR or ePrescribing System

Request Eligibility, eFormulary, Drug History

Surescripts Proprietary

Response

EDI vendors (e.g., Surescripts, eRx Network, RelayHealth)

New Rx

PBM or Plan

Claims Processing System (benefit plan rules, formulary, history)

Pharmacy

Response

Renewal Authorization/Denial

Renewal/Change Request

Source: POCP (2010)

A1

A2

A3

B
The Connectivity Roadmap

**HIPAA**
- Electronic transactions for the business of healthcare

**e-Rx (EDI)**
- Gains in accuracy and connectivity enhance safety and efficiency

**EHR**
- Integrated database allow decision support tools

**National Health Information Infrastructure**
- Streamlined information retrieval: valuable for epidemiology

**National Databases**
- Population-based outcomes and cost information readily available to consumers, physicians, payors

**“Evidence-Based” Medicine**
- Algorithm-driven medicine and decision making

- "Evidence-Based" Medicine
Although ePrescribing and electronic health records have been pending mass adoption for many years, key milestones in the past are likely to provide profound acceleration.

- **ANSI Approval of HL7 Clinical Document Architecture** – allows groundwork for future interoperability
- **Medicare Improvements for Patients and Providers Act** – provides incentives for ePrescribing
- **Healthcare Reform** – provides incentives to improve health outcomes
- **RxHub SureScripts Merger** – removes barriers for ePrescribing and streamlined certification process
- **American Recovery and Reinvestment Act of 2009; Stimulus Package** – provides incentives for EMR use

**Milestones:**
- **Dec 2003**
  - Medicare Modernization Act of 2003 – mandates standards used for ePrescribing
- **April 2005**
  - RxHub SureScripts Merger
- **July 2008**
  - Healthcare Reform
  - ANSI Approval of HL7 Clinical Document Architecture
  - Medicare Improvements for Patients and Providers Act
- **July 2008**
  - American Recovery and Reinvestment Act of 2009; Stimulus Package
- **Feb 2009**
  - Healthcare Reform
- **Mar 2010**
Agenda

- Preliminaries
- Overview of ePrescribing in the U.S.

**ePrescribing: Market Drivers & Adoption Trends**

- Electronic Health Records: Market Drivers & Adoption Trends
- Examining the truths and misconceptions around e-prescribing
- Identifying the right model for your organization
Overview

- Landmark legislation stipulated if the clinician was ePrescribing, had to use standards.
- Called for hearings and pilots, which were held in ‘06.
- Initially named NCPDP Script, as the standard for ePrescribing.
- Relaxed Stark and Safe Harbor laws to permit hospitals to provide MDs with software.
- Process continued along timeline set out by the MMA, as indicated below.
- Work continues on standards not deemed ready for implementation.

### 2006 Pilot Recommendations

<table>
<thead>
<tr>
<th>Standards</th>
<th>Description</th>
<th>Pilot Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication History (NCPDP SCRIPT)</td>
<td>Dispensed/Claims Hx fx of NCPDP SCRIPT</td>
<td>Ready for Implementation</td>
</tr>
<tr>
<td>Formulary &amp; Benefit (NCPDP v.1.0)</td>
<td>Form status &amp; alternative drugs, copay</td>
<td>Ready for Implementation</td>
</tr>
<tr>
<td>Fill Status Notification (Fx of NCPDP SCRIPT)</td>
<td>Informs when Rx filled, not filled or partially filled</td>
<td>Ready for Implementation</td>
</tr>
<tr>
<td>Structured &amp; Codified SIG</td>
<td>Patient instructions incl. dose, route, freq., etc.</td>
<td>Needs More Work</td>
</tr>
<tr>
<td>RxNorm Clinical Drug Terminology</td>
<td>Std drug nomenclature meant to be intralingua</td>
<td>Needs More Work</td>
</tr>
<tr>
<td>Electronic Prior Authorization Messages</td>
<td>Provider request, payer response to PA criteria</td>
<td>Needs More Work</td>
</tr>
</tbody>
</table>

### Timeline

- **Deadline for Secretary to develop ePrescribing Standards**: Sept 1, 2005
- **Launch 1-yr voluntary ePrescribing pilot program; plans can offer P4P**: Jan 1, 2006
- **Evaluation results of pilot program due to Congress**: April 1, 2007
- **Deadline for Secretary to finalize and release standards**: April 1, 2008
- **All Medicare providers using ePrescribing must adopt finalized standards**: April 2009
MIPPA provides both carrots and sticks to prescribers that ePrescribe.

Physicians qualify by having ePrescribing functionality and writing 10% of their Rx orders electronically and submitting 25 unique ePrescribing events.

Criteria is self-reported to CMS (“attestation”).

### ePrescribing Forecast Model (2009, 2010)

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Beyond</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients per day</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>% of Practice Medicare</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>33%</td>
</tr>
<tr>
<td>Medicare Patient Per Day</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Revenue per Medicare Patient</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$85</td>
</tr>
<tr>
<td>Days per year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>250</td>
</tr>
<tr>
<td>Medicare Revenue Per Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$168,300</td>
</tr>
<tr>
<td>Potential % Increase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Incremental Revenue per MD per Yr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,366</td>
</tr>
</tbody>
</table>

* Increase or decrease in Medicare Part B revenue

*Source: Allscripts*
Initiatives Driving Adoption

1. Massachusetts
2. Rhode Island
3. Michigan
4. Nevada
5. Delaware
6. North Carolina
7. Pennsylvania
8. Connecticut
9. Maine
10. Arizona

Different Stakeholders Are Leading:
- Massachusetts – Health plans created eRx Collaborative
- Rhode Island – Multi-stakeholder collaborative with leadership from RI Dept. of Health and Rhode Island Quality Institute
- Nevada – Large multi-specialty clinic driven
- Michigan – GM, Ford, Chrysler created ePrescribing program supported by BCBSMI, HAP, Medco and CVS Caremark
### Published Studies: Value to Health Plan

<table>
<thead>
<tr>
<th>Study</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weingart et al 2009</td>
<td>ePrescribing alerts may prevent a substantial number of injuries and reduce adverse drug events</td>
</tr>
<tr>
<td>Brigham and Women’s 2008</td>
<td>Generic dispensing rate increased by 3.3%. Almost all movement was to generic alternatives</td>
</tr>
<tr>
<td>Aetna/Zix 2007</td>
<td>7% improvement in generic dispensing rate (GDR) and 5% improvement in formulary compliance</td>
</tr>
<tr>
<td>Affinity Health 2005</td>
<td>Average costs declined $4.12 for new Rx; per member per month (PMPM) declined 57¢ vs control; target drugs were 17.5% lower</td>
</tr>
<tr>
<td>Aetna 2005</td>
<td>No change in formulary compliance</td>
</tr>
<tr>
<td>Univ. of VA. 2003</td>
<td>Annual drug cost savings in a PCP academic group = 2%; Estimated adverse drug event (ADE) cost reduction of 62%</td>
</tr>
<tr>
<td>Tufts Healthplan 2002</td>
<td>Wide-spread deployment of ePrescribing could mitigate rising pharma costs by 2% or more</td>
</tr>
</tbody>
</table>
ePrescribing Controlled Substances

- Long awaited DEA rule allows ePrescribing of Schedule II-V medications
  - Providers must be authenticated by 3rd party
  - Providers must use 2 of the following:
    - Password
    - Token
    - Biometric
- ePrescribing systems must generate ePrescribing reports by Provider monthly
- Rule became law June 1, 2010

ePrescribing Impact:
- It is unclear whether HIT vendors will be able to include DEA requirements before ARRA (2011) – if not, may make it harder for some physicians to meet Meaningful Use requirement of 75% ePrescribing.
- Some vendors may require DEA authentication (Password, Token and/or Biometric) for ALL ePrescriptions, rather than require for only Schedule II-V to avoid duel processes
- DrFirst has already demonstrated compliance with DEA ruling as part of AHRQ study (June 2010)
ePrescribing Market Drivers

- Rising consumer expectations for convenience and quality
- Improve efficiency & quality of physicians’ practice
  - MMA-driven transaction standards
  - Prevent/reduce medication errors
    - Growth of drug spending
    - Managed care sponsorships
      - Proven cost savings

Pressures for change

ePrescribing
Today, 18% of prescriptions\(^1\) are being transmitted electronically.

By 2014, 50% of prescribers\(^2\) will be using ePrescribing technology.

Today, 18% of prescriptions\(^1\) are being transmitted electronically.

By 2014, 50% of prescribers\(^2\) will be using ePrescribing technology.

---

1. Defined by Surescripts as new and renewal non-Schedule II-V medications
2. Based on Surescripts historical data and Point-of-Care Partners projections

---

<table>
<thead>
<tr>
<th>Eligibility Transactions in 2009(^1)</th>
<th>Successful Hits (Surescripts(^2))</th>
<th>Encounters</th>
<th>Average Rxs /Encounter</th>
<th>Rxs Impacted by Surescripts</th>
<th>Total Scripts (that can be transmitted(^2))</th>
<th>Rxs Impacted by Surescripts formulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>303,000,000</td>
<td>.85</td>
<td>206,040,000</td>
<td>3</td>
<td>618,120,000</td>
<td>1,591,000,000</td>
<td>39%</td>
</tr>
</tbody>
</table>

\[ \frac{303,000,000 \times .85}{1,591,000,000} = 39\% \]
### Factors Accelerating and Decelerating ePrescribing Adoption 2010 - 2013

<table>
<thead>
<tr>
<th>Accelerating Factors</th>
<th>Decelerating Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARRA incentives (starting in 2011) and penalties (starting in 2015) will drive adoption</td>
<td>Governmental delays in “Meaningful Use” regulations and certification programs will delay software development for EHRs as well as prescriber adoption</td>
</tr>
<tr>
<td>“Meaningful Use” and certification are making ePrescribing a standard EMR application</td>
<td>Physician confusion around software options, “Meaningful Use”, and ARRA is slowing down sales</td>
</tr>
<tr>
<td>Consolidation of small practices with larger practices that have EMRs</td>
<td>Ramp-up of EMR implementation services may not keep pace when demand spikes in late 2010/2011</td>
</tr>
<tr>
<td>Well run Regional Extension Center (REC) and/or HIEs may increase adoption</td>
<td>Focus now on more costly EMRs with ePrescribing functionality, non-adopters less willing to adopt more costly ePrescribing solution.</td>
</tr>
<tr>
<td>Final DEA rule provides legal clarity around controlled substances</td>
<td>Vendor interpretation of DEA rule may be burdensome on prescribers</td>
</tr>
<tr>
<td>P4P programs like NY Medicaid will boost adoption</td>
<td>Recent adoption increases driven by adding ePrescribing to EMRs - little opportunity left</td>
</tr>
<tr>
<td></td>
<td>Non-adopters tend to be smaller, more remote groups that will be more difficult to engage</td>
</tr>
<tr>
<td></td>
<td>Prescribers may not be willing to adopt where pharmacies are not connected or refuse to accept ePrescriptions for various reasons</td>
</tr>
</tbody>
</table>

### Analysis

- **ARRA incentives (starting in 2011) and penalties (starting in 2015) will drive adoption**
- **“Meaningful Use” and certification are making ePrescribing a standard EMR application**
- **Consolidation of small practices with larger practices that have EMRs**
- **Well run Regional Extension Center (REC) and/or HIEs may increase adoption**
- **Final DEA rule provides legal clarity around controlled substances**
- **P4P programs like NY Medicaid will boost adoption**

- **Physician confusion around software options, “Meaningful Use”, and ARRA is slowing down sales**
- **Governmental delays in “Meaningful Use” regulations and certification programs will delay software development for EHRs as well as prescriber adoption**
- **Ramp-up of EMR implementation services may not keep pace when demand spikes in late 2010/2011**
- **Focus now on more costly EMRs with ePrescribing functionality, non-adopters less willing to adopt more costly ePrescribing solution.**
- **Vendor interpretation of DEA rule may be burdensome on prescribers**
- **Recent adoption increases driven by adding ePrescribing to EMRs - little opportunity left**
- **Non-adopters tend to be smaller, more remote groups that will be more difficult to engage**
- **Prescribers may not be willing to adopt where pharmacies are not connected or refuse to accept ePrescriptions for various reasons**
Agenda

- Preliminaries
- Overview of ePrescribing in the U.S.
- ePrescribing: Market Drivers & Adoption Trends

Electronic Health Records: Market Drivers & Adoption Trends

- Examining the truths and misconceptions around e-prescribing
- Identifying the right model for your organization
In January, 2009, signed into law the American Reinvestment and Recovery Act of 2009 (ARRA). The HITECH component:

- Set aside a potential ~$27 billion in funds to encourage adoption and use of electronic health records (EHRs)
- The “goal of meaningful use of an EHR is to enable significant and measurable improvements in population health through a transformed health care delivery system.”
- Patient-Centered Medical Home pilot, which has electronic prescribing as a key ingredient
- A new Bureau of Health Information, which would be responsible for collecting and reporting health information across agencies.

“In the economic recovery plan ... we’ll make sure that every doctor’s office and hospital ... is using cutting edge technology and electronic medical records.” – remarks by President-elect Barak Obama Radio Address, December 6
ARRA Appropriated Funds

$2 billion in gross outlays

<table>
<thead>
<tr>
<th>Program</th>
<th>Distribution Agency</th>
<th>Use of Funds</th>
<th>Recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIE Planning and Development</td>
<td>ONC</td>
<td>Planning Grants</td>
<td>State-designed Entity</td>
</tr>
<tr>
<td>EHR Adoption Loan Program</td>
<td>ONC</td>
<td>Implementation Grants</td>
<td>States</td>
</tr>
<tr>
<td>Health IT Extension Program</td>
<td>ONC</td>
<td>Loan Funds</td>
<td>Health Care Providers</td>
</tr>
<tr>
<td>Workforce Training Grants</td>
<td>HHS, NSF</td>
<td>Health IT Research Center</td>
<td>Indian Tribes</td>
</tr>
<tr>
<td>New Technology Research and Development Grants</td>
<td>NIST, NSF</td>
<td>Regional Extension Centers</td>
<td>Nonprofits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medical Health Informatics</td>
<td>Least-advantaged Providers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EHR in Medical School Curricula</td>
<td>Federal Government Labs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Health Care Information Enterprise Integration Research Centers</td>
<td>Higher Education Medical Graduate Schools</td>
</tr>
</tbody>
</table>

Adapted from California HealthCare Foundation 2009
Regional Extension Center (REC) Grants

- **Goal:** To build capacity necessary for EPs to meaningfully use EHRs
  - Creates a national Health Information Technology Research Center (HITRC) and Regional Extension Centers (RECs)
  - Will offer education, health care organization readiness assessment, best practices, and technical assistance to support and accelerate adoption of EHRs

- **Principal focus:**
  - Primary care providers practicing in small offices (<10 physicians)
  - Medical professionals practicing in rural and underserved areas

- **The Extension Program establishes 60 RECs**
  - The first cycle of grants awarded February 10th to 32 state/state designated entities (SDEs)
  - Second cycle awarded on April 10th to 28 states/SDEs

- **Funding for the RECs ($598M) from ARRA largely concludes by December 2012 at which point it is anticipated that the RECs will be largely self sustaining. Some minimal funding ($45M) is available for 2 additional years**

- **Programs may support at least 100,000 physicians**
Health Information Exchange (HIE) Grants

Goal: “...development of a nationwide health information technology infrastructure that allows for the electronic use and exchange of information and that...promotes a more effective marketplace, greater competition...[and] increased consumer choice”. (Section 3001(b))

ARRA authorizes grants ($548M) to fund the building of HIEs to enable the sharing of electronic health information among a patient’s providers of care

- The first cycle of grants were awarded February 12th to 40 HIEs planned or operated by states/SDEs
- The second cycle was awarded on March 15th to 16 HIEs planned or operated by states/SDEs
- Some states or SDEs (6) that received HIE grants also were awarded grants for RECs; these states are developing an integrated organizational structure to promote the adoption of EHRs

HIEs receiving grants will be evaluated annually to determine if they are meeting specified milestones; especially year 2:

- Does progress demonstrate reasonable likelihood that the state HIE will meet the HIE-related requirements of EHR Meaningful Use by 2015?
Transforming Healthcare with ARRA’s EHR “Meaningful Use”

$27 billion in gross outlays

Program

| Medicare Payment Incentives | Medicaid Payment Incentives |

Distribution Agency

| CMS |

| CMS and States |

Use of Funds

| Incentive Payments through Carriers |

| Incentive Payments through State Agencies |

Recipients

Acute Care and Children’s Hospitals

Physicians and Dentists

Nurse Practitioners and Midwives

FQHC

For providers 1) using *certified electronic health records* 2) that are “*meaningful users*”

Adapted from California HealthCare Foundation 2009
ARRA Incentives by Adoption Year

**Medicare Incentives**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>$18,000</td>
<td>$12,000</td>
<td>$8,000</td>
<td>$4,000</td>
<td>$2,000</td>
<td></td>
<td></td>
<td>$44,000</td>
</tr>
<tr>
<td>2012</td>
<td>$18,000</td>
<td>$12,000</td>
<td>$8,000</td>
<td>$4,000</td>
<td>$2,000</td>
<td></td>
<td></td>
<td>$44,000</td>
</tr>
<tr>
<td>2013</td>
<td>$15,000</td>
<td>$12,000</td>
<td>$8,000</td>
<td>$4,000</td>
<td></td>
<td></td>
<td></td>
<td>$39,000</td>
</tr>
<tr>
<td>2014</td>
<td>$12,000</td>
<td>$8,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$24,000</td>
</tr>
<tr>
<td>2015+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$ Penalties</td>
</tr>
</tbody>
</table>

**Medicaid Incentives**

<table>
<thead>
<tr>
<th>Cap on Net Average Allowable Costs, per the HITECH Act</th>
<th>85 percent Allowed for Eligible Professionals</th>
<th>Maximum Cumulative Incentive over 6-year Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25,000 in Year 1 for most professionals</td>
<td>$21,250</td>
<td>$63,750</td>
</tr>
<tr>
<td>$10,000 in Years 2-6 for most professionals</td>
<td>$8,500</td>
<td></td>
</tr>
<tr>
<td>$16,667 in Year 1 for pediatricians with a minimum 20 percent patient volume, but less than 30 percent patient volume, Medicaid patients</td>
<td>$14,167</td>
<td>$42,500</td>
</tr>
<tr>
<td>$6,667 in Years 2-6 for pediatricians with a minimum 20 percent patient volume, but less than 30 percent patient volume, Medicaid patients</td>
<td>$5,667</td>
<td></td>
</tr>
</tbody>
</table>
Meaningful Use and EHR Certification

Health care providers and hospitals must meaningfully use “Certified EHR Technology” to receive the ARRA EHR Medicare or Medicaid incentives of up to $27 billion (est.)

“Certified EHR technology” is either a 1) “Complete EHR“ or 2) combination of “EHR modules” that:

- Has all attributes of a “Qualified EHR“:
  - Capability to support: a) storage of patient health information, b) clinical decision support, c) CPOE, d) quality reporting, and e) health information exchange;
  - Enables providers to meet all the EHR meaningful use criteria; and
  - Is certified by one of the certification entities/processes endorsed by HHS-ONC*

If “EHR modules” are involved, the responsibility rests with the health care provider or hospital to ensure that the combination of EHR modules meets the “Certified EHR technology” requirement

Announcement from June 21st 2010 provides details on the temporary certification program

* ONC published NPRM with 2-phase certification process in March, 2010
Meaningful Use is divided into three stages

- Stage 1 was defined on December 30, 2009 in an interim final rule
- Stages 2 and 3 sketched by the HIT Policy Committee, but not yet defined

There are two categories of providers

- Eligible Professionals (EPs)
  - Hospital-based professionals that furnish substantially all services in a hospital in-patient or ER setting are not allowed to receive incentive dollars
- Hospitals

There are three separate incentive programs

- Medicare EHR Incentive Program
- Medicare Advantage (MA) EHR Incentive Program
- Medicaid EHR Incentive Program

If an EP, must choose one program

- Can switch programs once
### Stage 1 Elements of Meaningful Use

<table>
<thead>
<tr>
<th>1. Use Computerized Provider Order Entry (CPOE)</th>
<th>14. Implement 5 clinical decision support rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Implement drug-to-drug, drug-to-allergy, formulary checks</td>
<td>15. Check insurance eligibility electronically</td>
</tr>
<tr>
<td>3. Maintain an up-to-date problem list of current and active diagnoses</td>
<td>16. Submit claims electronically</td>
</tr>
<tr>
<td>4. Generate and transmit permissible ePrescriptions</td>
<td>17. Provide patients with electronic copy of their health info</td>
</tr>
<tr>
<td>5. Maintain active medication lists</td>
<td>18. Provide patients w/ timely electronic access to their health info</td>
</tr>
<tr>
<td>6. Maintain active medication allergy list</td>
<td>19. Provide clinical summaries for patients</td>
</tr>
<tr>
<td>7. Record demographics</td>
<td>20. Capability to exchange key clinical information</td>
</tr>
<tr>
<td>8. Record and chart changes in vital signs</td>
<td>21. Perform medication reconciliation</td>
</tr>
<tr>
<td>9. Record smoking status for patients 13 years or older</td>
<td>22. Provide summary care record for each transition of care, referral</td>
</tr>
<tr>
<td>10. Incorporate clinical lab-test results into EHR</td>
<td>23. Capability to submit electronic data to immunization registries</td>
</tr>
<tr>
<td>11. Generate lists of patients by specific conditions</td>
<td>24. Capability to provide electronic syndrome surveillance data to public health agencies</td>
</tr>
<tr>
<td>12. Report ambulatory quality measures to CMS and the states</td>
<td>25. Protect electronic health information created or maintained by the certified EHR technology</td>
</tr>
<tr>
<td>13. Send reminders to patients per their preference for preventative/follow-up care</td>
<td><strong>Items in bold may be achieved through ePrescribing</strong></td>
</tr>
</tbody>
</table>

**Note:** Items in bold may be achieved through ePrescribing.
As ePrescribing continues to grow, more and more ePrescribing will come from EMRs

**EMR Prescriptions as a Percentage of Total ePrescribing Volume**

- **2006**: 43%
- **2007**: 58%
- **2008**: 70%
- **2009 Est.**: 82%

*Source: 2009 Estimate from Harry Totonis World Research Group Presentation, September 2009*
### Ambulatory EMR Adoption Rates: U.S.

<table>
<thead>
<tr>
<th>Year</th>
<th>Physicians Using Any EMR</th>
<th>Physicians Using EMR with all features of Meaningful Use</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>41.5%</td>
<td>4.4%</td>
<td>Hsiao et al. (2009) NCHS Survey</td>
</tr>
<tr>
<td>2007-08</td>
<td>17.0%</td>
<td>4.0%</td>
<td>DesRoches et al. (2008) RTI Study</td>
</tr>
<tr>
<td>2007</td>
<td>34.8%</td>
<td>3.8%</td>
<td>Hing &amp; Hsiao (2010) NCHS Survey</td>
</tr>
<tr>
<td>2006</td>
<td>29.2%</td>
<td>3.1%</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>23.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>14.1%</td>
<td></td>
<td>Gans et al. (2005) MGMA Survey</td>
</tr>
</tbody>
</table>

In the new era of “Meaningful Use” this adoption statistic is an important indicator the true baseline for physicians meaningfully using EMRs.

These adoption rates are the most credible; NCHS Surveys consistently report higher adoption rates; we consider them overstated due to NCHS’ broad definition of EMR and what constitutes usage.
And EMR usage will increase rapidly in the next decade

Ambulatory EMR adoption by Calendar Year

Source: POCP projections
Large medical groups will be the major vehicle for EMR adoption

- Large medical groups will be the primary source of growth in EMR adoption by physicians in the foreseeable future
  - Almost 90% of large medical groups will be EHR users in 2015
  - 48% of growth in physician EMR adoption will occur from within large medical groups (2010-2015)

These groups should be the primary target for health plan investments intended to leverage EMR technologies to improve health outcomes
Patient-Centered Medical Home is gaining momentum

Goal

- Continuous access to primary care
- Coordinate patient care across various settings & specialties
- Manage care with integrated health records and evidence-based care guidelines

Performance Measures

- Improved patient satisfaction
- Better clinical outcomes
- Reduced utilization of urgent care, emergency services

2-Tier Model of Capabilities

- Tier 1: Track tests, follow-up, referrals; 24x7 access; Integrated care planning, **Medication reconciliation**; Patient self-management
- Tier 2: **EMR; Coordination of care; performance measurement & reporting**

Health IT is a core enabler to all PCMH capabilities defined in both tiers

20+ Initiatives including:
- BCBS Michigan
- Geisinger Health System
- Group Health
- Taconic (NY) IPA
- Medicare & Medicaid Demonstrations

**HIT Strategy & Management Consultants**

proprietary and confidential – for internal purposes only
Agenda

- Preliminaries
- Overview of ePrescribing in the U.S.
- ePrescribing: Market Drivers & Adoption Trends
- Electronic Health Records: Market Drivers & Adoption Trends
- Examining the truths and misconceptions around e-prescribing
- Identifying the right model for your organization
Financial Implications

- ePrescribing is associated with a 3% increase in generic share *
  - a $75 million savings
- ePrescribing is associated with an 11% increase in prescription volume**
  - a $68 million increase in drug spend instead of a $75 million savings

2009 Drug A sales (in billions)

- 2009 US sales
- + generic dispensing rate impact when 100% eRx
- + overall Rx volume increase if 100% eRx

* In 2007, IMS, Surescripts, and Walgreens collaborated on a study that found dispensed Rxs increased 11.21%. [http://www.surescripts.net/benefits-e-prescribing-pharmacists.html]

** While various studies have found effects from 3%-7%, we used a conservative estimate based on Arch Intern Med. 2008;168(22):2433-2439.

Source: POCP 2009
Other Misconceptions

- After installation and training are completed, the system will be used
- Physicians/prescribers are the users
- Medication history is being accessed
- Formulary and Benefit information is available in all certified systems
- Mail order appears as an option in all certified systems
- Prior authorization can be streamlined
- Almost all pharmacies are connected
Agenda

- Preliminaries
- Overview of ePrescribing in the U.S.
- ePrescribing: Market Drivers & Adoption Trends
- Electronic Health Records: Market Drivers & Adoption Trends
- Examining the truths and misconceptions around e-prescribing
- Identifying the right model for your organization
### Health Plans Investing in ePrescribing

<table>
<thead>
<tr>
<th>Health Plan</th>
<th>EHR Vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aetna</td>
<td>HAP</td>
</tr>
<tr>
<td>BC CA</td>
<td>Highmark</td>
</tr>
<tr>
<td>BCBS AZ</td>
<td>Horizon</td>
</tr>
<tr>
<td>BCBS FL</td>
<td>Humana</td>
</tr>
<tr>
<td>BCBS IL</td>
<td>Independence BC</td>
</tr>
<tr>
<td>BCBS MA</td>
<td>Kaiser</td>
</tr>
<tr>
<td>BCBS MI</td>
<td>Lovelace</td>
</tr>
<tr>
<td>BCBS NC</td>
<td>United</td>
</tr>
<tr>
<td>Excellus</td>
<td>UPMC</td>
</tr>
<tr>
<td>Geisinger</td>
<td>WellPoint/Anthem</td>
</tr>
</tbody>
</table>

*Note: Selectively representative list*
Health Plan ePrescribing Strategies

- **ePrescribing is seen as one part of an overall physician technology and connectivity strategy.**
  - “Part of overall physician connectivity”
  - “Stepping stone to EHR”
  - “Part of broader physician connectivity”
  - “Would like physicians to participate in HIEs”

- **Actively working on an ePrescribing strategy**
  - “Searching for a national strategy. Wants to be the leader in physician technology.”
  - Will likely have ePrescribing in budget

- **Wait and see position on ePrescribing. Will follow marketplace but not be proactive.**
  - “Will sit on sideline and wait for marketplace”
  - “Wait and see position”

- **ePrescribing is seen as a standalone technology with its own strategy**
  - “ePrescribing is its own strategy. It has proven its worth.”

Source: POCP e-Prescribing Initiative survey (2009)
**Health Plan ePrescribing Strategies**

- **National Plans**
  - Sufficient evidence to provide a clear ROI.
  - ePrescribing tends to be seen as a part of a broader physician technology and connectivity strategy. No specific ePrescribing strategies at this time.
  - **Will rely on their PBM or Surescripts working with ePrescribing and EMR Software Vendors, along with MIPPA and ARRA incentives to pull through ePrescribing on a national level.**
    - National plans lack market share in a given physician’s office to drive utilization or merit direct sponsorship. ePrescribing must be driven across multiple plans.
  - May participate in select sponsored initiatives, coalitions or joint public/private projects to gain experience and satisfy important provider group demands.

- **Regional and local plans**
  - Well established ROI model based on generic utilization
    - Don’t perhaps have the tools for tight plan design and formulary management
  - **Will implement their own direct initiatives with providers in their markets**
  - This model will not support broad national deployments

*Source: POCP e-Prescribing Initiative survey (2009)*
Increasing generic utilization is a primary goal of ePrescribing

- “Goal is lowest out of pocket cost to patient by pushing to lowest tier”
- “Currently saving 3 ½% of total pharmacy cost with 1100 high prescribers. Members saving $20-25 per month”
- “It is believed ePrescribing will help with generic utilization but no current data”
- “Generic use has risen from 57 to 70 percent over 2 years. ePrescribing represents 40% of prescriptions.”
- Sees opportunity for financial benefit

Patient safety is a primary goal of implementing ePrescribing; primarily through ADE avoidance.

- “Want to document improved patient outcomes as a result of pharmacy utilization management”
- “Approx 2% of Rx being changed due to DUR alerts, more than 90,000 Rx’s in 2 years.”
- “More than 100,000 Rx’s have been changed or canceled due to drug interaction alerts (in 3 years)”
- “Patient safety is the top priority”

Source: POCP e-Prescribing Initiative survey (2009)
Identifying Best Model

- What are your goals?
- What type of relationship do you have with your network providers?
- Size of provider offices
- Technology vendor selection process
  - RFP
  - Evaluation process
    - Functionality
    - Connectivity
    - Certification
    - Support
    - Reporting
- Value assessment
- External Factors
  - REC
  - HIE
  - PQRI
Health Plan Integration is Key

- Formulary & Benefit information
- Medication History Data (complement retail claims data)
- Mail order
- Generic and preferred brand messaging
- Prior Authorization messaging
- Streamlined Prior Authorization process
- Basic Clinical Decision Support
On the Horizon

- Advanced Clinical Decision Support
- Electronic Prior Authorization (ePA)
- Fill Status Notification
- Adherence alerts
- Rx Norm
- Codified SIG
Summary

- ePrescribing will become the prominent form for transmitting prescriptions within the next few years
- Numerous drivers are affecting the adoption of HIT
- Benefits of ePrescribing stretch beyond the writing of the initial prescription
- ePrescribing functionality is evolving to become more robust
  - Clinical Decision Support
  - ePa
  - Adherence messaging
- There are multiple models that support ePrescribing
- Health plan integration is key
Thank You!

Mihir H. Patel, PharmD

mihir.patel@pocp.com
Appendix
Definition of Key Terms

- **Ambulatory EMR**
  - Electronic medical record and clinical applications designed specifically to support physician office workflow.

- **Enterprise EMR**
  - Electronic medical record and application architecture originally designed to support hospital workflows; extensions to support physician offices may exist.

- **Personal Health Record (PHR)**
  - A web-based set of tools enabling individuals to self-manage their health information, health, and health care:
    - Comprehensive and longitudinal view of a person’s health and health care
    - Owned and managed by the individual
    - Separate and complementary to provider- and payer-sourced health records
    - Hub for communications with trusted sources

- **Electronic Health Record**
  - In contrast to EMRs, which are legal records of the provider organization, EHRs are owned by the patient or stakeholder
  - Contain a subset of info from various providers where patient has had encounters
  - Provides interactive patient access & the ability for the patient to append info
  - Designed to connect into the National Health Information Network (NHIN)

*Sources: HIMSS Analytics (2005), POCP*