

# **ePrescribing: Current Initiatives and Effect on Pharma**

Impacts of Health Information Technology (HIT)  
on the Bio/Pharmaceutical Industry

*June 27, 2008*

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# Agenda

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- ePrescribing Overview
  - Definitions
- Trends/Drivers
- Current Initiatives
- Impact on Pharma



# Overview

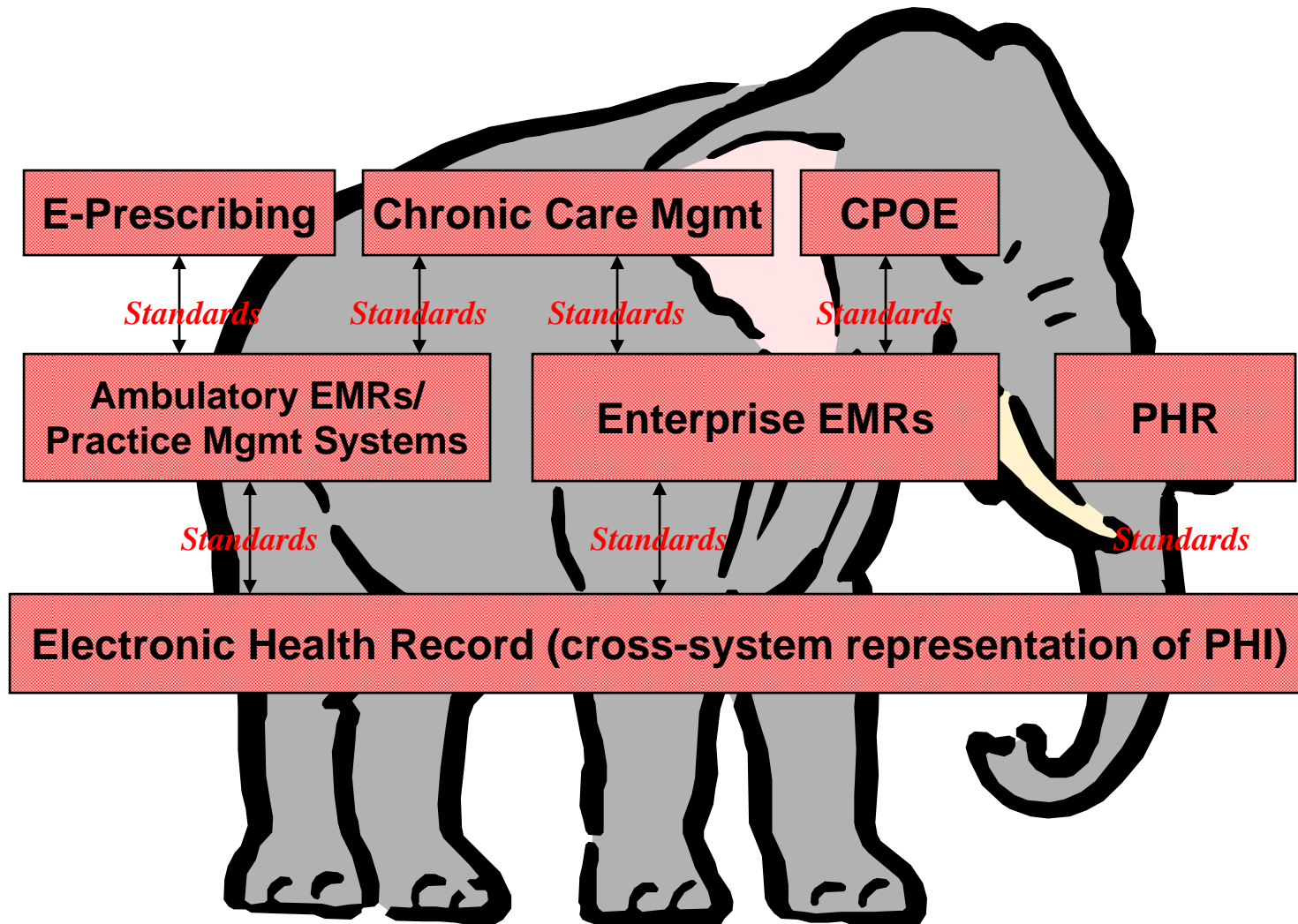


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# Health Information Technology

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# ePrescribing Definition

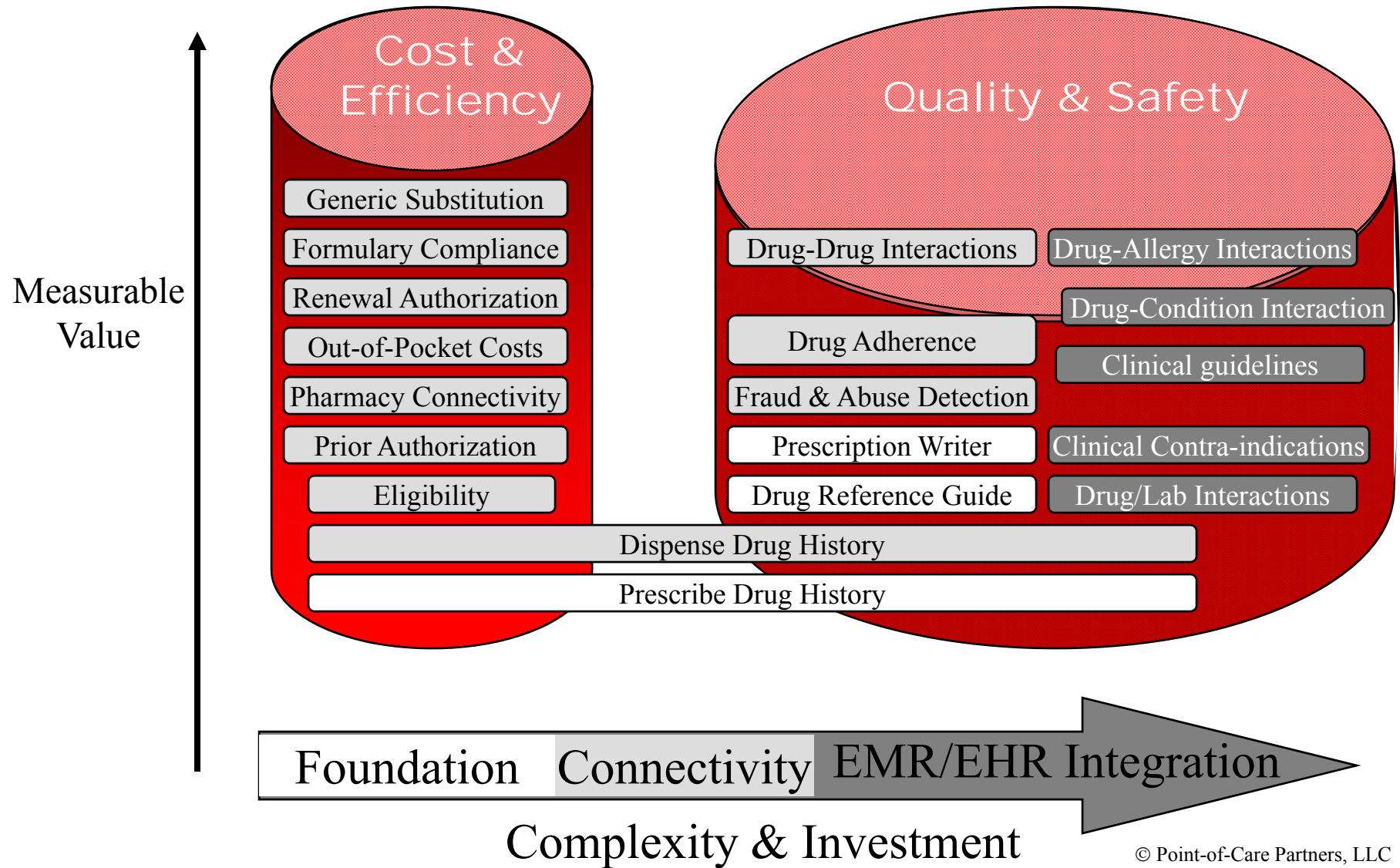
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*The transmission, using electronic media, of prescription or prescription-related information between a prescriber, dispenser, pharmacy benefit manager or health plan, either directly or through an intermediary. It includes:*

- ▶ *Two-way transmissions between the point-of-care and dispenser*
- ▶ *Decision support to aid in safer, more informed prescribing such as access to drug-to-drug interactions, patient medication history and formulary and benefits information*



# ePrescribing Components & Value

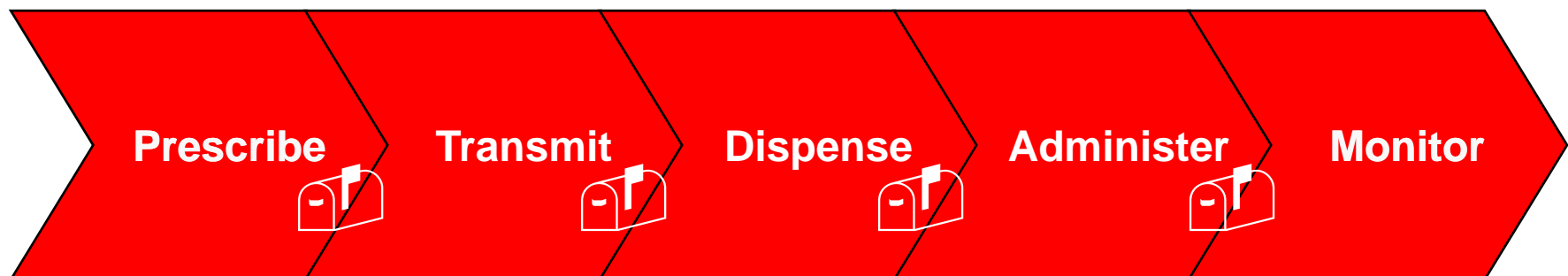


# Medication Management

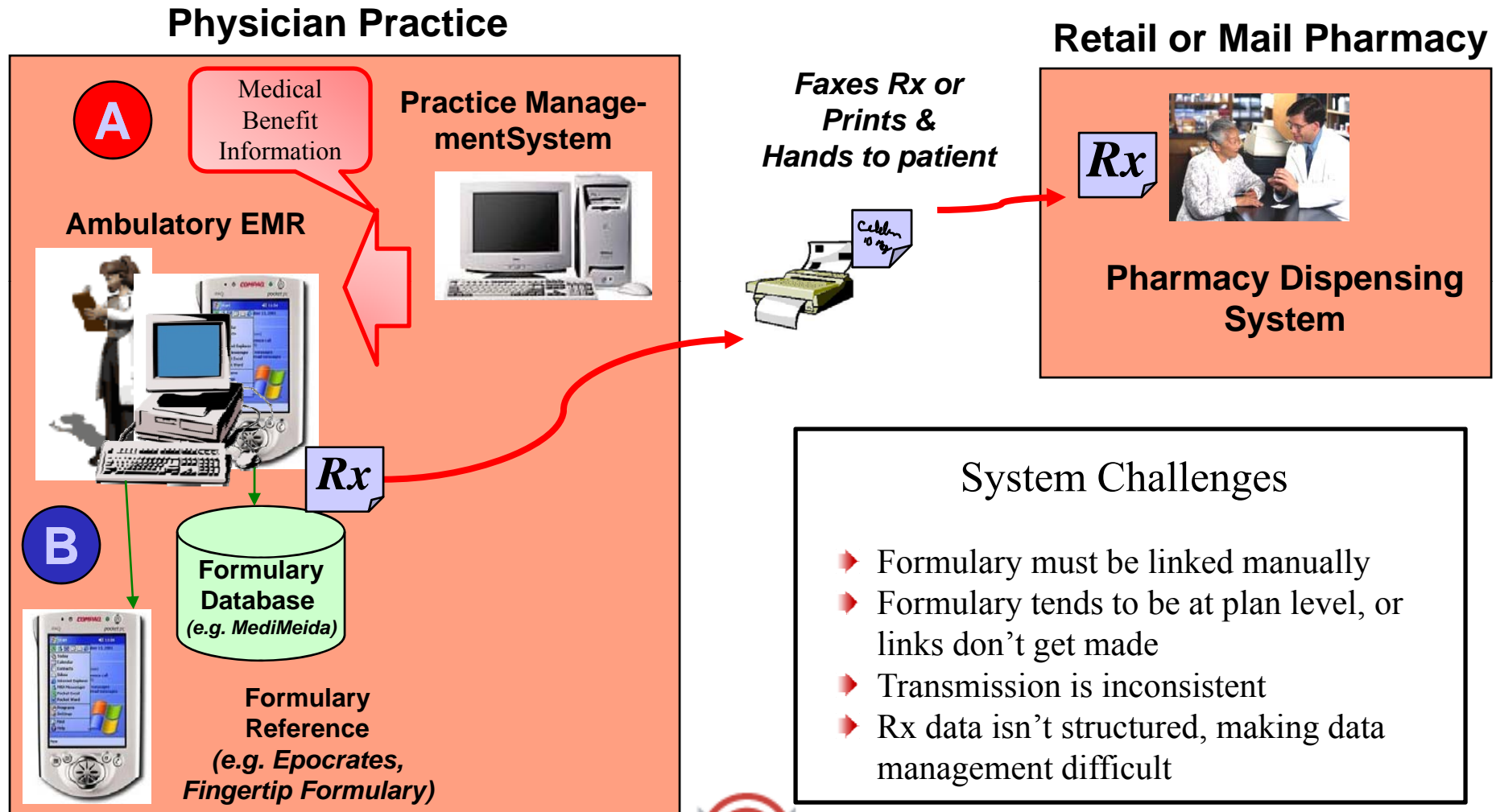
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Set of tools that targets improvements to the medication management process, including:

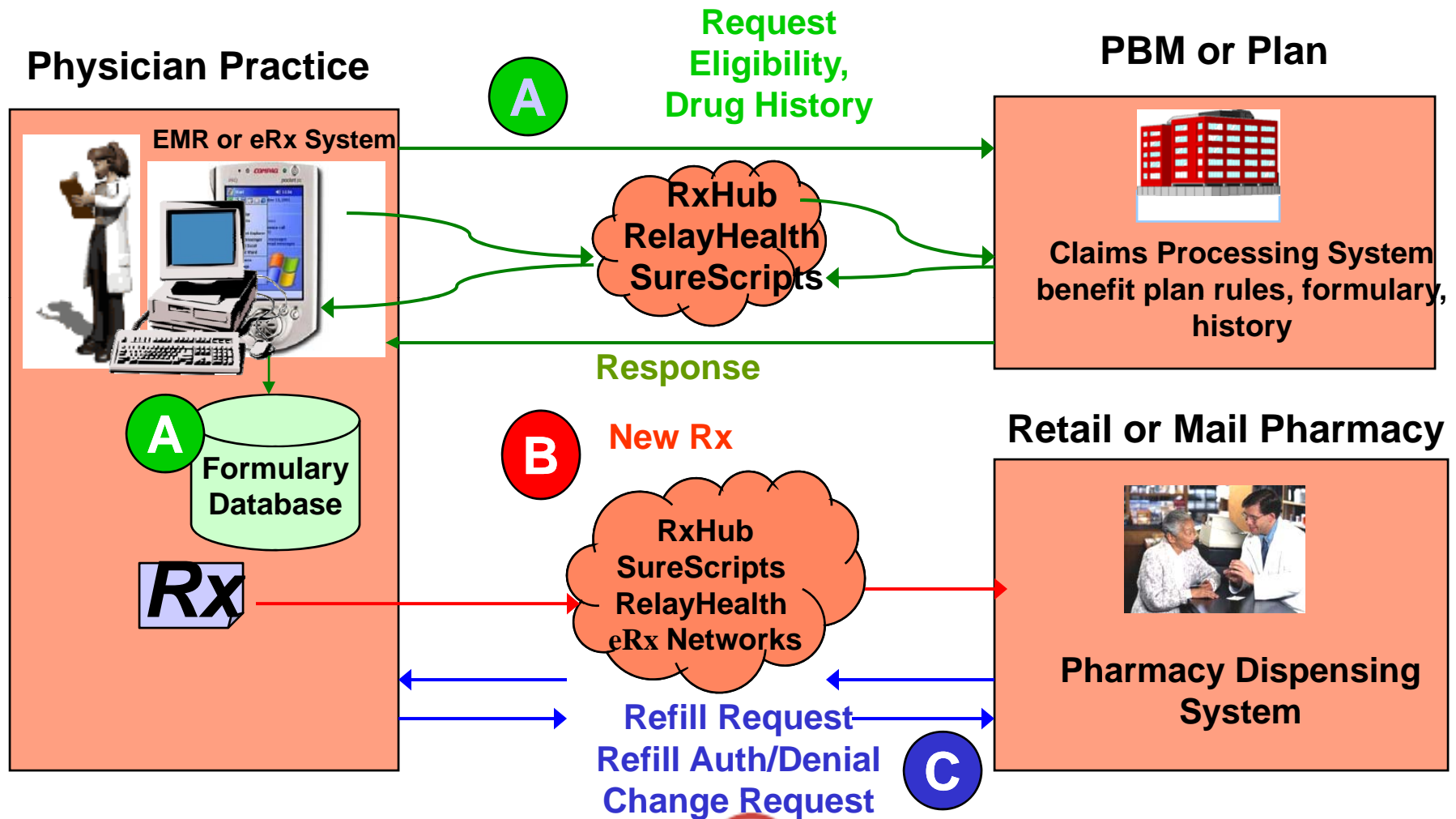
- Writing of the prescription
- Transmission between the prescriber and dispenser
- Dispensing of the medication and support for it's administration
- Monitoring of the impact



# Early ePrescribing (still there)



# Evolution of ePrescribing (Interoperability)



# Trends



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# ePrescribing by the numbers...

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**7%** MDs prescribing electronically

(Ayers, McHenry & Associates on behalf of PCMA, 2007)

**41,000** Pharmacies ePrescribing

(SureScripts *National Progress Report on ePrescribing*, December 2007)

**35 million** Prescriptions sent online to Pharmacies

(SureScripts *National Progress Report on ePrescribing*, December 2007)

**7.5%** US hospitals using CPOE for Rx orders

(KLAS, 2006)

**24%** Outpatient EMR use

(National Center for Health Statistics, 2006)

**150 million** Lives for whom formulary & benefits are contractually available through RxHub

**\$29 billion** Potential annual ePrescribing savings

(Center for Information Technology Leadership, 2004)



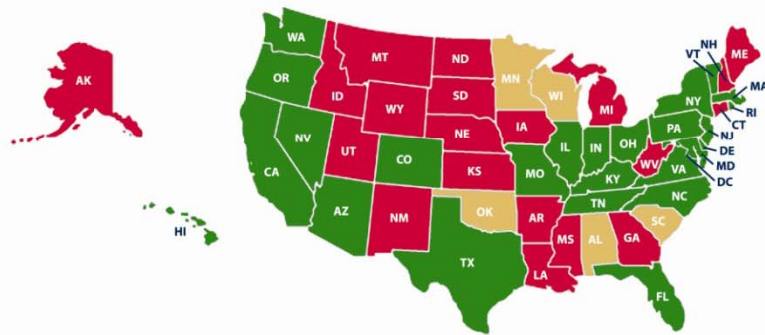
# ePrescribing Legal Nationwide

## States that Allow Electronic Prescribing

- Regulations Favorable
- In Progress
- Regulations Unfavorable

*Then...*

As of February 2, 2004



25 states cleared for electronic prescribing

*And now...*

As of August 12, 2007

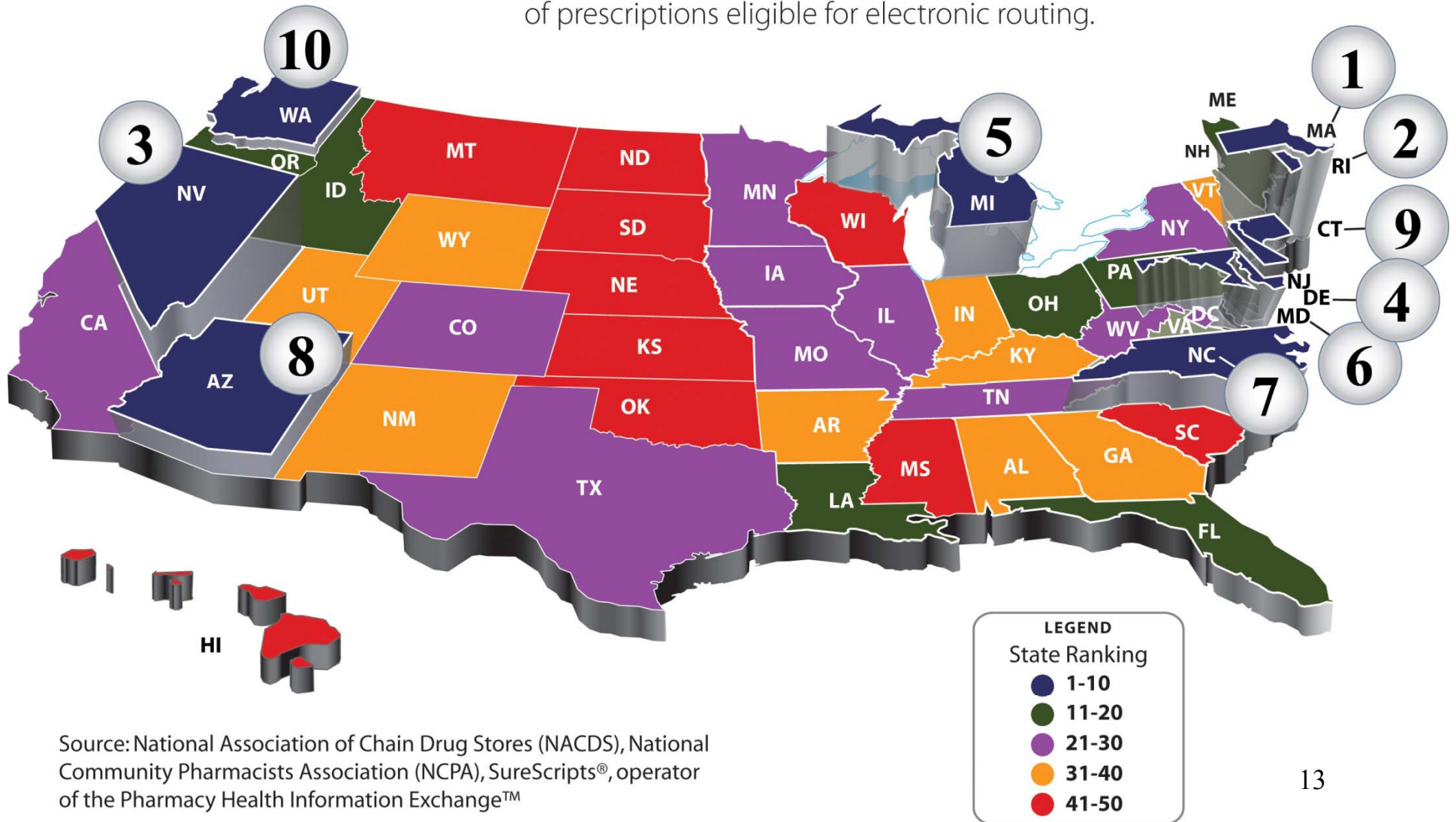


ALL STATES & Washington, DC cleared for electronic prescribing



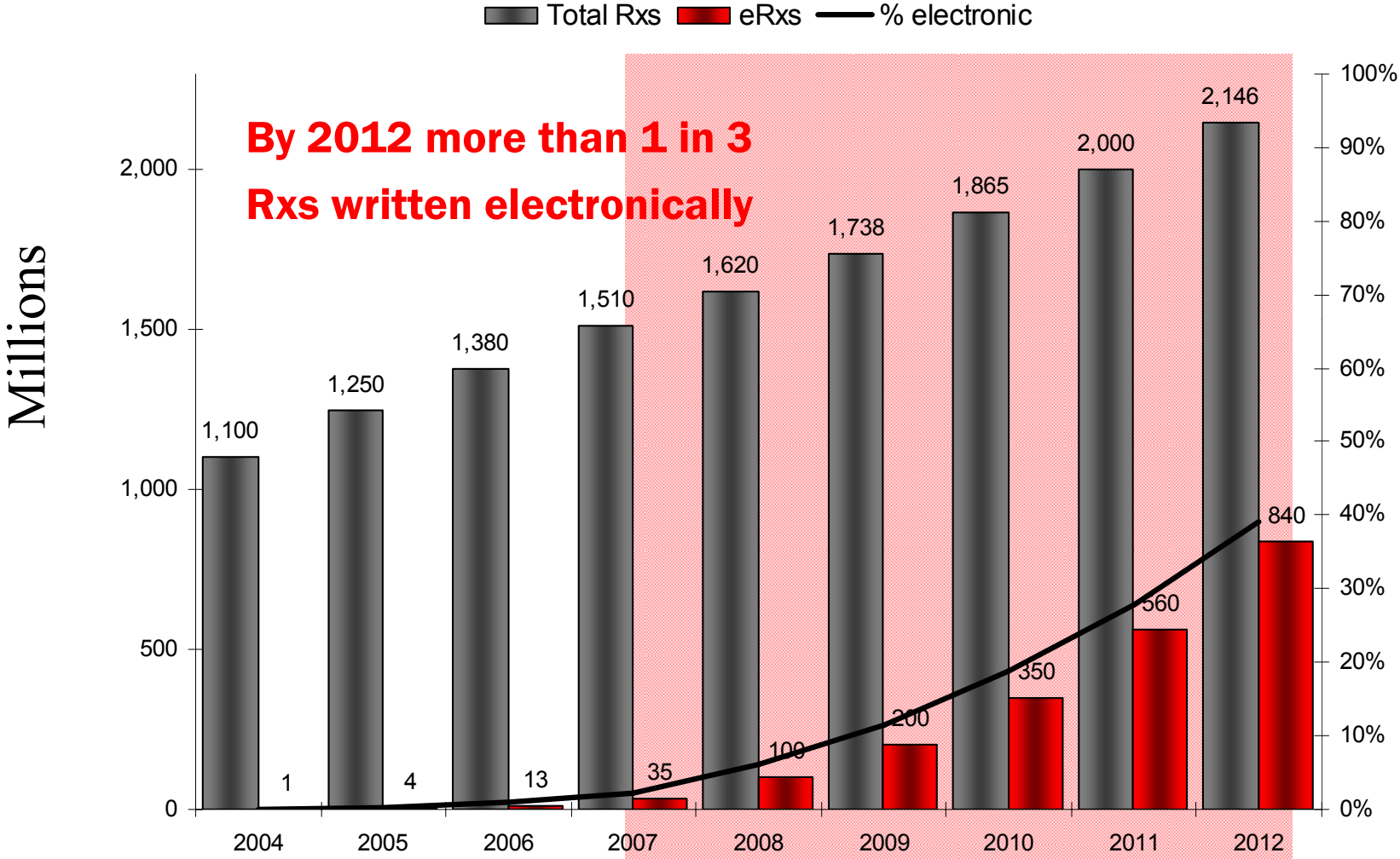
# Status of Electronic Prescribing Across the U.S.

States are ranked based on the number of prescriptions routed electronically in 2007 as a percentage of the total number of prescriptions eligible for electronic routing.



Source: National Association of Chain Drug Stores (NACDS), National Community Pharmacists Association (NCPA), SureScripts®, operator of the Pharmacy Health Information Exchange™

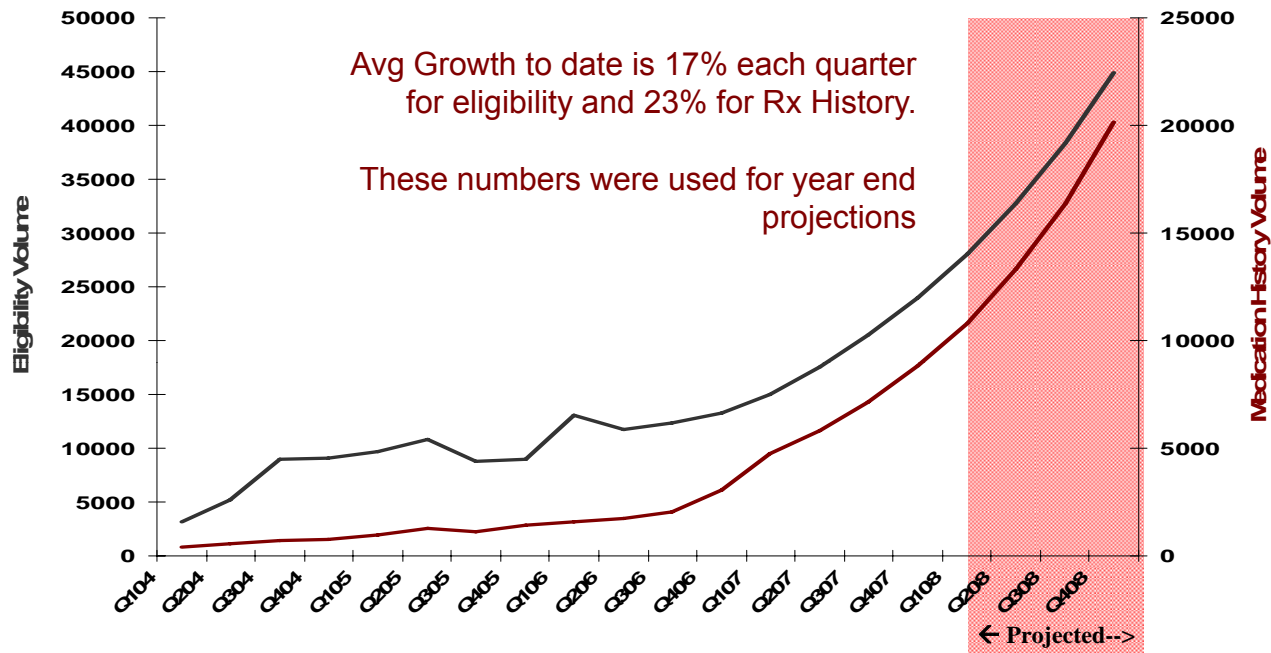
# SureScripts Volume



Source: SureScripts National Progress Report on ePrescribing, December 2007



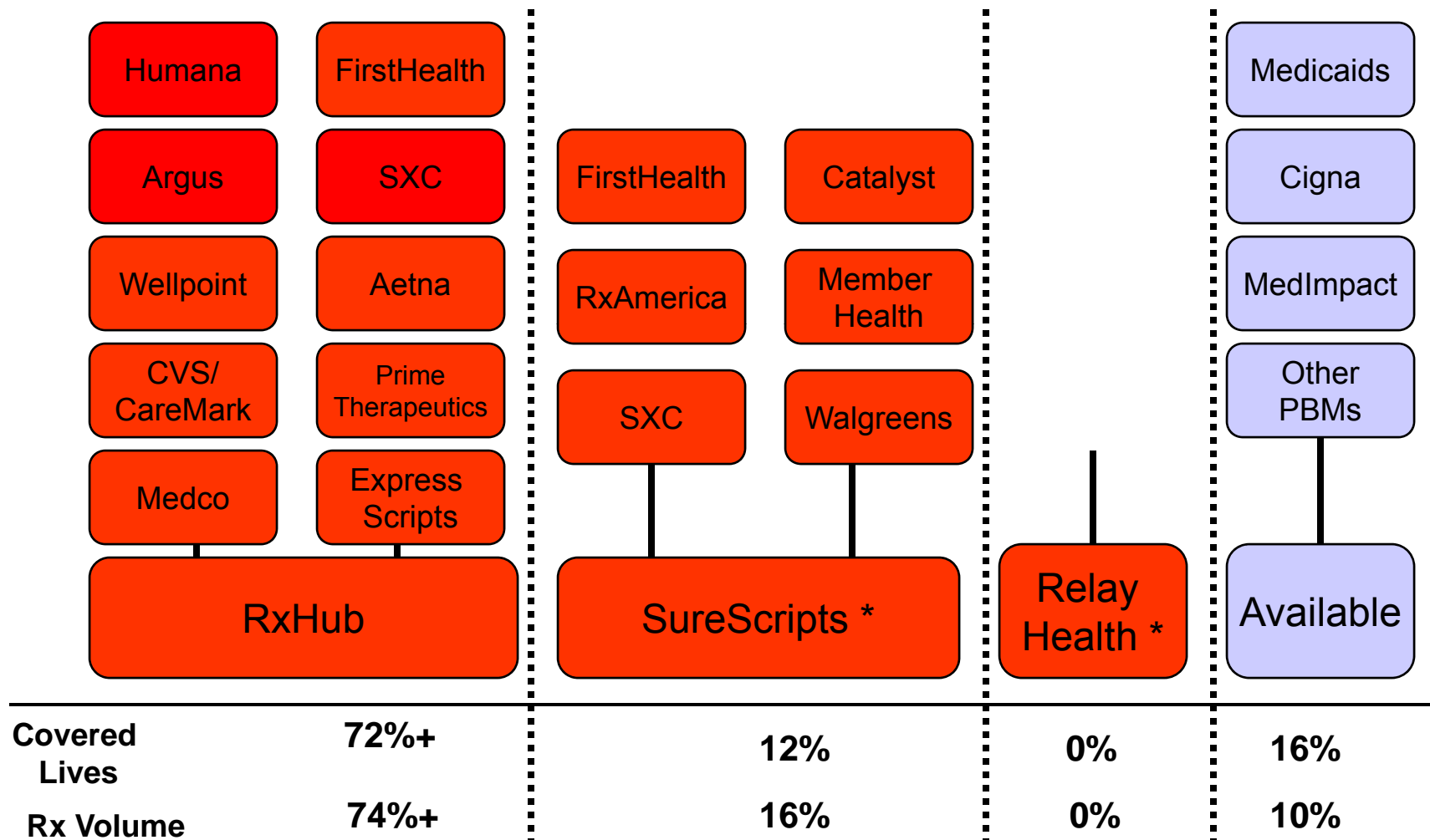
# eRx Eligibility, Med History Adoption



- ▶ RxHub does not release formulary statistics
  - ▶ Can impute formulary transactions by eligibility
  - ▶ Each eligibility equals a patient encounter with 2 prescriptions
  - ▶ Equates to 80 – 100 million formulary review transactions
- ▶ Competition having little impact



# Integrated Formulary/Eligibility Marketplace



NOTE: Values are approximate and reflect current contracts. Lives and Rx Volumes are estimates and are not all implemented.

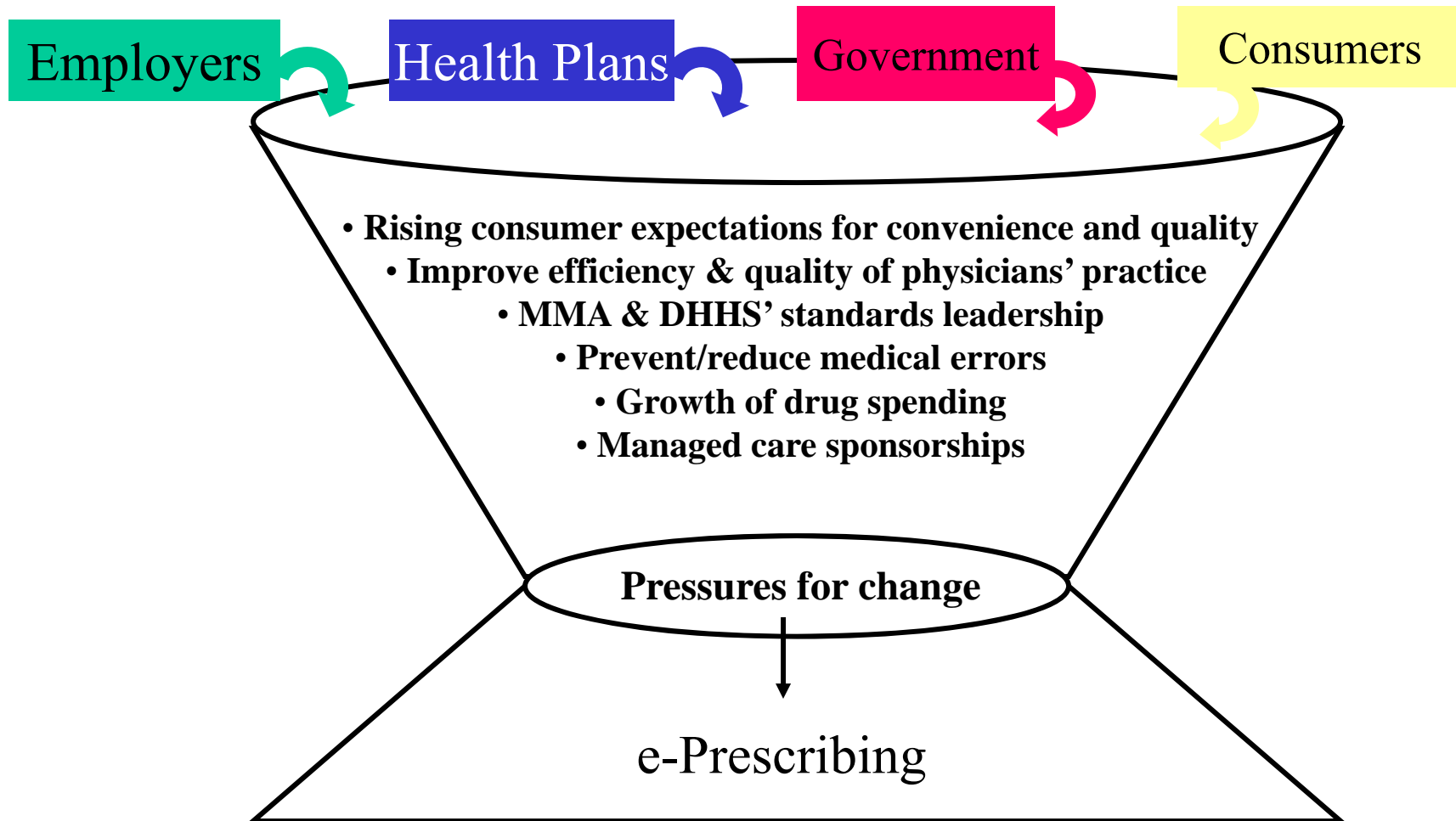
# ePrescribing Drivers



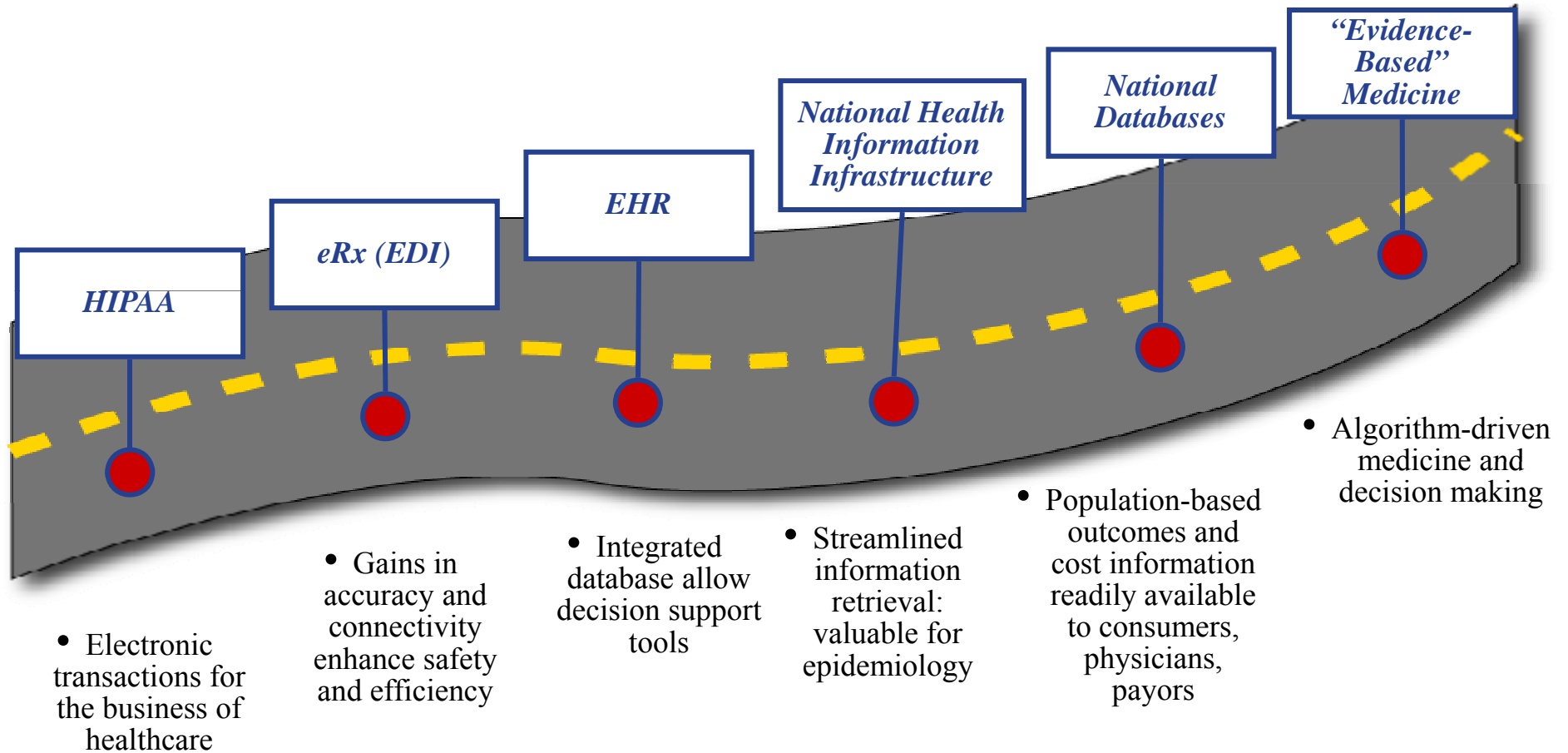
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# ePrescribing Market Drivers



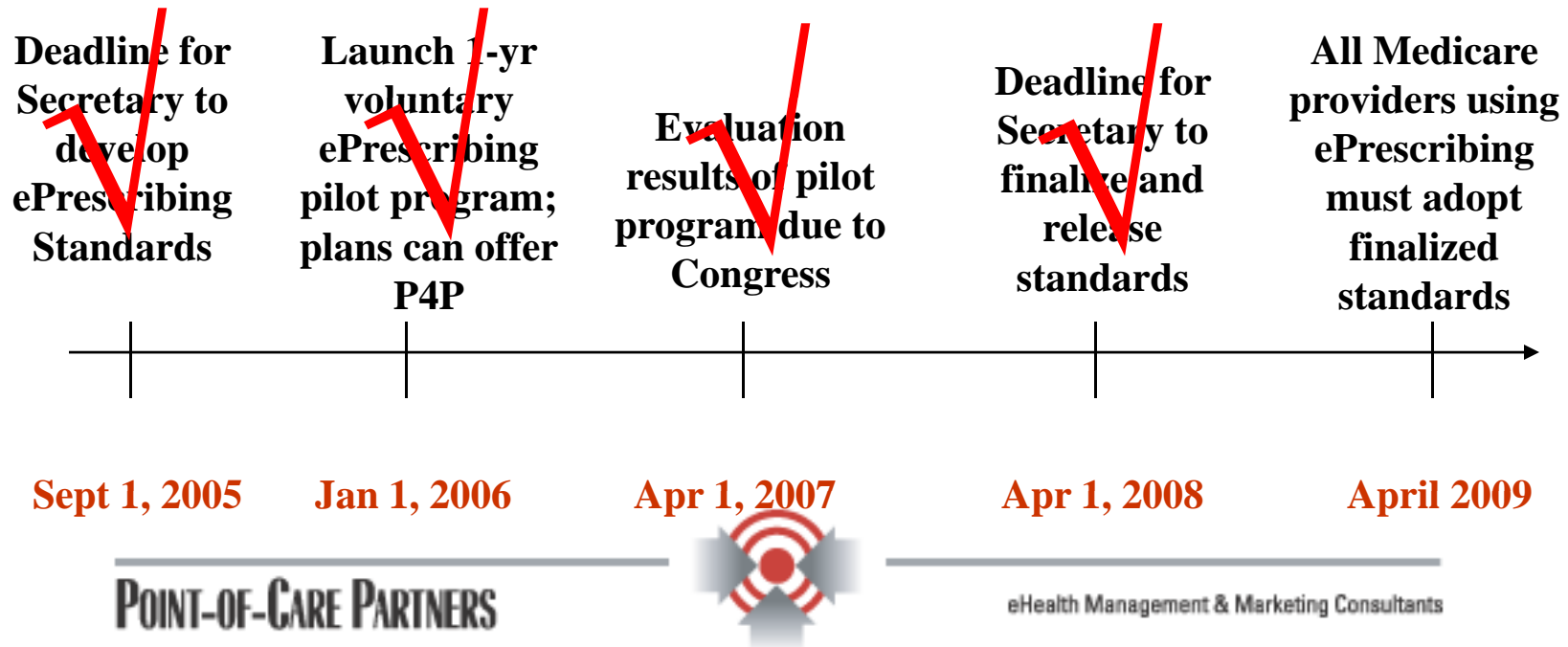
# The Connectivity Roadmap



# Impact of MMA (Medicare Part D)

## ➤ Progress-to-date

- Issued final rule naming foundation standards (11/05)
- Awarded 5 grants for ePrescribing pilots (12/05)
- New regulations exempting interoperable EHRs from safe harbor & Stark laws (08/06)
  - Clarification from IRS on not-for-profit entity subsidies expected soon (03/07)
- Published results from pilots (04/07)
- Announced a 5-year financial incentive program/demonstration project for 1,200 small- to medium-size Physician groups (10/07)
- Issued final rule (4/08)



# ePrescribing Standards

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## Required Standards

- ▶ SCRIPT (new Rx, renewal, change, cancel, admin functions)
- ▶ ASC X12N 270/271
- ▶ NCPDP Telecommunication
- ▶ Medication History
- ▶ Formulary & Benefits
- ▶ SCRIPT (fill status)

## Needs More Work

- ▶ Structured & Codified SIG
- ▶ Prior Authorization (X12N 278 and X12N 275 + HL7 PA Attachments)
- ▶ RxNorm (new Rx, renewal, cancel)



# What Else Is Being Done?

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- ▶ Some believe additional legislation is necessary
  - ▶ Make ePrescribing mandatory for Part D
  - ▶ Offer incentives (e.g, bonuses for use)
- ▶ Resolution of the DEA issue
  - ▶ A great deal of pressure has been put on the DEA to permit electronic transmittal of controlled substances by the industry and Congress
    - Hearing before Senate Judiciary Committee in December 2007
  - ▶ DEA is drafting an NPRM
    - Although it has not yet been made public, its response is not in a manner that is yet acceptable to the industry



# Legislative Solution is Picking Up Traction

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- ▶ A number of bills were introduced in Congress in the last year or so affecting adoption of technology that requires the electronic transmission of prescriptions
  - ▶ The one that is most likely to pass is the Medicare Electronic Medication and Safety Protection Act of 2007 (E-MEDS Act of 2007)
  - ▶ This bi-partisan legislation would provide incentives for adoption and use, and penalties for non use of ePrescribing, for Part D by 2011



# Regulatory Impact

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- ▶ If such legislation starts driving adoption, as intended, then its impact will occur much after that, if the HIPAA adoption experience is any indication.
- ▶ If it doesn't, then the Federal government will likely implement the draconian policy of not paying for Medicare prescriptions that are transmitted electronically.
- ▶ Even if the E-MEDS legislation were enacted today and the DEA issued an NPRM, implementation could be a number of years away



# Potential Regulatory Timeline

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## 2008

- ▶ April — HHS adopts eRx standards for Part D
- ▶ June — E-MEDS passes, assuming 2011 implementation date
- ▶ December — DEA issues NPRM for eRx for controlled substances

## 2009

- ▶ April—Comment period closes for DEA NPRM
- ▶ April—Implementation begins for e-rx standards for Part D
- ▶ June—CMS issues NPRM on E-MEDS
- ▶ September—Comment period closes for E-MEDS NPRM

## 2010

- ▶ January—DEA issues final rule
- ▶ June—CMS issues final rule for E-MEDS

## 2011

- ▶ June E-MEDS implementation begins (can earn \$2K)

## 2012

- ▶ January — Implementation begins for DEA eRx requirements

## 2013

- ▶ June – E-MEDs penalties kick in



# Current Initiatives



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# Partial List of Payer Initiatives

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- ▶ CareFirst Expansion (2005)
- ▶ Horizon Expansion (2005)
- ▶ Fallon Clinic (2005)
- ▶ Taconic IPA (2004)
- ▶ BCBSTN (2004)
- ▶ Affinity Health (2004)
- ▶ Florida Medicaid Expansion (2004)
- ▶ CareFirst (2004)
- ▶ Kaiser Expansion (2004)
- ▶ Wellpoint (2004)
- ▶ BCBSMA/Tufts (2003)
- ▶ Horizon BCBS (2003)
- ▶ GHI (2002)
- ▶ Tufts Health Plan (2002)
- ▶ AZHEC (2007)
- ▶ New Hampshire – Wellpoint/NEPSI (2007)
- ▶ Wellpoint-GM – Ohio (2007)
- ▶ TennCare (2007)
- ▶ Illinois E-Rx Collaborative (2007)
- ▶ e-Prescribe Florida (2007)
- ▶ North Carolina (2006)
- ▶ Aetna – New Jersey (2005)
- ▶ Highmark (2005)
- ▶ IBC (2005)
- ▶ SEMI - GM, Ford, Chrysler, Medco, BCBSMI  
CVS Caremark, HAP (2005)

- ***Trend is toward broader collaborations among stakeholders***
- ***Success impacted by leadership, strong project management and incentives***



# Primary Goals of Health Plan eRx Initiatives

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- ▶ Increasing generic utilization
  - ▶ BCBS Mass – “Savings of 3 ½% of total pharmacy cost with 1,100 high prescribers; Member savings of \$20-25 per month”
- ▶ Patient safety through ADE avoidance
  - ▶ BCBS Mass – “Approx 2% of Rx being changed due to DUR alerts, more than 90,000 Rx’s in 2 years.”
  - ▶ HAP – “More than 100,000 Rx’s have been changed or canceled due to drug interaction alerts (in 3 years)”



# Published Studies: ROI to Health Plan

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Study	Results
Aetna/Zix 2007	7% improvement in GDR and 5% improvement in formulary compliance
Affinity Health 2005	Avg costs ↓ \$4.12 for new Rx; PMPM ↓ 57¢ vs control; target drugs were 17.5% lower
Aetna 2005	No change in formulary compliance
Univ. of VA. 2003	Annual drug cost savings in a PCP academic group = 2%; Estimated ADE cost reduction of 62%
Tufts Healthplan 2002	Wide-spread deployment of eRx could mitigate rising pharma costs by 2% or more
Medco 2002	15.3% improvement in generic substitution; 8.1% ↑ in generic dispensing
Allscripts 2000	Aggregate impact by plan varied, ranging from 75¢ to \$3.20/Rx



## Outcome of Prescribers' use of e-Prescribing Technology (in-depth analysis of selected pilots)

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**33% to 50%**      Formulary compliance warnings resulting in a change or cancellation

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**33%+**              Drug/drug interaction alerts resulting in a change or cancellation

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**33% to 50%**      Drug/allergy interaction alerts resulting in a change or cancellation

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**99%+**              Generic substitutions allowed

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**1% – 5%**            Improvement in generic dispensing rate

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**50%**                 Reduction in time spent by physician practice staff on refills & clarifications

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# What drives increased generic prescribing?

- ▶ Software that automatically allows for generic substitution
  - MMA Pilots (Ohio KeyPro) found GDR higher even though OH pharmacies required to substitute for generics
- ▶ Software that presents alternatives to chosen meds, emphasizing generics

The screenshot displays the RelayHealth eScript Prescription interface. The main window shows medication details for Stella Brandin, including Medication Name (Lovastatin), Strength/Form (OR TABS 20 MG - Preferred), Quantity (30), SIG (once daily), and Refills (3). A 'Formulary Color Key' dialog box is overlaid, showing a list of formulary statuses: Prescription Insurance Not On File, Preferred (green), Accepted (blue), Requires Prior Approval (pink), and Not Approved (red). The 'Preferred' status is highlighted. Below the dialog, a 'Confirm Prescription' dialog box is visible, displaying a 'FORMULARY ALERT!' for a patient's sodium. A list of alternative drugs in the same category (Pepic Ulcer - Proton Pump Inhibitors) is shown, including Prevacid (lansoprazole) and Prilosec (omeprazole magnesium) in various forms and strengths. The 'Substitution Permissible' radio button is circled in blue in the main window.

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# eRx Collaborative (BCBS-MA)

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- ▶ 2006 (3<sup>rd</sup> full year of operation):
  - ▶ 2,500 prescribers
  - ▶ 4.5M electronic prescriptions (50% increase YOY)
  - ▶ 88,000 prescriptions changed due to drug safety alerts
  
- ▶ Key performance indicators:
  - ▶ Rate of adoption
    - % prescribers, eRx volume, program attrition
  - ▶ Clinical
    - Prescription changes due to drug-drug and drug-allergy alerts
  - ▶ Financial
    - Formulary compliance
    - Generics usage
    - Comparisons to non-e-Prescribers:
      - ▶ Copayment costs
  - ▶ Operational
    - Provider office efficiencies

*Source: eRX Collaborative*



# Southeast Michigan ePrescribing Initiative (SEMI)

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- ▶ GM, Ford, Chrysler, BCBS-MI, Health Alliance Plan and Medco are major sponsors
  - ▶ 3,000 physicians participating
- ▶ Program launched in January 2005
  - ▶ 6.8 million eRx written on certified vendors
    - Phase 3 vendors: Allscripts, DrFirst, MedPlus, Misys eScript, NextGen, Relay Health, RxNT
  - ▶ Current run-rate: 400,000 eRx per month
- ▶ Of a sample of 4.2 million eRx:
  - ▶ D-to-D alerts were presented for 1M+ scripts (33%)
    - 500K eRx (40%) were changed or canceled
  - ▶ D-to-A alerts were presented for 100K scripts
    - 49K eRx (40%) were changed or canceled
  - ▶ 224K MedHxs were downloaded

Source: SEMI



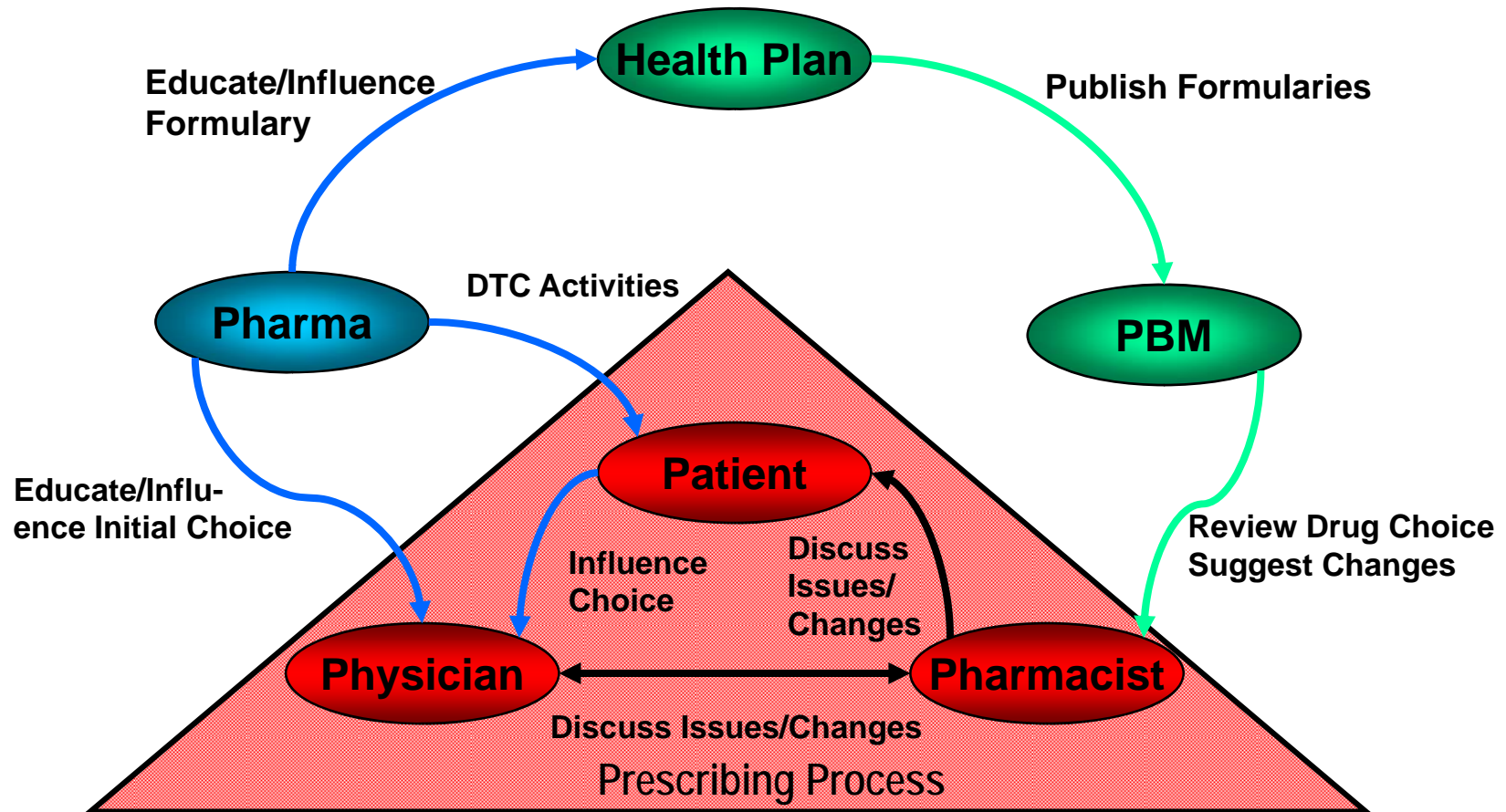
# Impact on Pharma



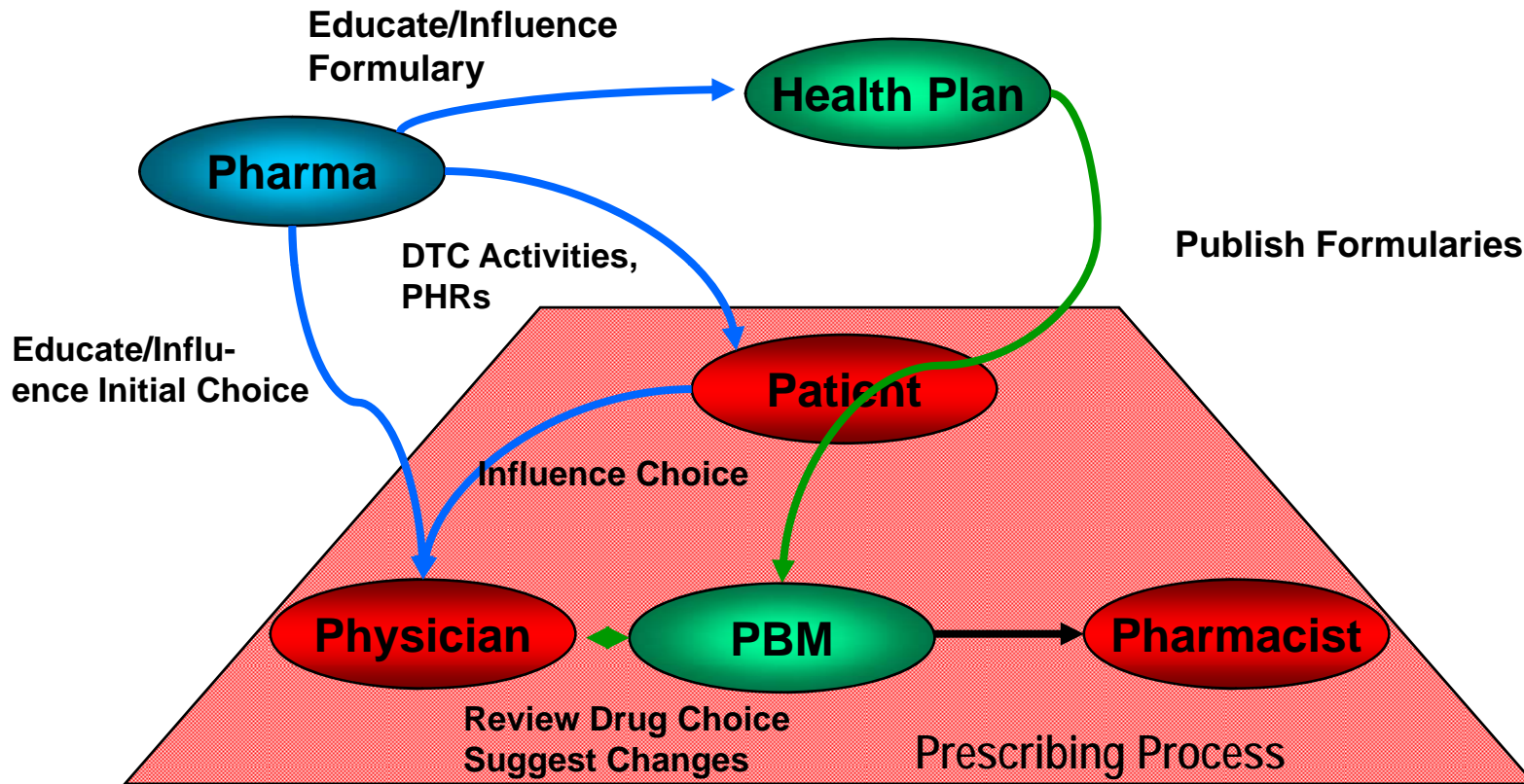
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# Legislative Impact: Pre-MMA Influences



# Legislative Impact: Post-MMA Influences



# Implications of ePrescribing to Pharma

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- ▶ **Medication Management:** eRx technology leveraged to improve quality and manage costs
  - ▶ Potential to **increase compliance** with prescribed medications
  - ▶ Source of information for earlier **detection of post-market safety** issues
  - ▶ Electronic prior authorization may reduce barriers to appropriate ordering of branded medications
  - ▶ Point-of-care platform for managing specialty medication therapy with:
    - Embedded protocols
    - Electronic prior authorization
    - Formulary compliance
  - ▶ RxNorm may enhance the quality of aggregated prescription data in support of evidence-based outcomes analysis and development/measurement of clinical care guidelines
- ▶ **Formulary management:** eRx used to control costs
  - ▶ ePrescribing will generally increase use of generic medications
  - ▶ Key frame/objectives of managed care contracts may shift
    - Negotiated status should be granular enough to reflect eRx and EMR software user interfaces (UIs), as they could have a profound impact on prescribing and marketshare
    - Contracts should reflect impact of P4P programs, which may be more restrictive than formularies



# Medication History Impact on Pharma

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## ➤ Opportunity

- Ability to improve outcomes through improvement in adherence & compliance
  - Enables aEMR and eRx systems to proactively inform of potential non-adherence and compliance behaviors
  - Leverage PHR for improved self management by patients

## ➤ Threats

- No perceived threat to Pharma



# F&B Impact on Pharma

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## ➤ Opportunity

- If formulary is eligibility-driven, communication of preferred brand status can be enhanced

## ➤ Threats

- Makes formulary placement a more significant component of the drug selection process
- Gives more power to the PBMs to influence prescribing behaviors



# Fill Status Impact on Pharma

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## ➤ Opportunity

- Assist industry in identifying a business model
  - MTM for pharmacies or physicians, P4P for physicians around certain chronic care conditions
  - Possible additional enabler for adherence & compliance

## ➤ Threats

- No perceived threat to Pharma



# ePrior Auth Impact on Pharma

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## ➤ Opportunity

- Help shape development of standards, guidelines via participation in standards development, involvement in pilots
- Encourage third-party development of guidelines, protocols

## ➤ Threats

- Lack of involvement may lead to payer-dominated solution



# Structured & Codified Sig Impact on Pharma

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## ➤ Opportunity

- To enhance the quality of data being captured from the electronic prescribing process to include dosing-related information

## ➤ Threats

- No perceived threat to Pharma



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# Appendix



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# “The Blind Man and the Elephant”

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It was six men of Indostan  
To learning much inclined,  
Who went to see the Elephant~(Though all of them  
were blind),  
That each by observation~Might satisfy his mind.

The First approached the Elephant,  
And happening to fall  
Against his broad and sturdy side, ~ At once began to  
bawl:  
"God bless me! but the Elephant ~ Is very like a wall!"

The Second, feeling of the tusk,  
Cried, "Ho! what have we here?  
So very round and smooth and sharp? ~ To me 'tis  
mighty clear  
This wonder of an Elephant ~ Is very like a spear!"

The Third approached the animal,  
And happening to take  
The squirming trunk within his hands, ~ Thus boldly up  
and spake:  
"I see," quoth he, "the Elephant ~ Is very like a snake!"

The Fourth reached out an eager hand,  
And felt about the knee.  
"What most this wondrous beast is like ~ Is mighty  
plain," quoth he;  
"Tis clear enough the Elephant ~ Is very like a tree!"

The Fifth who chanced to touch the ear,  
Said: "E'en the blindest man  
Can tell what this resembles most; ~ Deny the fact who  
can,  
This marvel of an Elephant ~ Is very like a fan!"

The Sixth no sooner had begun  
About the beast to grope,  
Than, seizing on the swinging tail ~ That fell within his  
scope,  
"I see," quoth he, "the Elephant ~ Is very like a rope!"

And so these men of Indostan  
Disputed loud and long,  
Each in his own opinion ~ Exceeding stiff and strong,  
Though each was partly in the right ~ And all were in  
the wrong!

- *John Godfrey Saxe*



# A Partial List of eRx Vendors

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- ▶ **Allscripts**
- ▶ **Gold Standard**
- ▶ **DrFirst**
- ▶ **ZixCorp**
- ▶ **iScribe**
- ▶ **MedPlus**
- ▶ **Instant Dx**
- ▶ **RxNT**
- ▶ Purkinje
- ▶ Prematics
- ▶ EZ Script
- ▶ Relay Health
- ▶ Axolotl
- ▶ Recare
- ▶ Phytel
- ▶ RxRite
- ▶ SafeMed
- ▶ Synamed
- ▶ DAW Systems
- ▶ OA Systems
- ▶ Bluefish
- ▶ H2H Solutions
- ▶ Kryptiq
- ▶ eHealth Resources

**Bold** = market leaders in terms of adoption and utilization. Most are mature, easy to use and return measurable value to their clients.



# A Partial List of Ambulatory EMR Vendors

- ▶ Allscripts
- ▶ Sage
- ▶ EPIC
- ▶ GE Centricity
- ▶ NextGen
- ▶ Misys EMR
- ▶ eClinicalWorks
- ▶ Allmeds EMR
- ▶ AthenaHealth
- ▶ ComChart EMR
- ▶ Companion Tech
- ▶ Digichart
- ▶ Greenway
- ▶ iGreat
- ▶ iMedica
- ▶ Emdeon Intergy
- ▶ JMJ EncounterPro
- ▶ LSS EMR (Meditech)
- ▶ Physician Microsystems
- ▶ Docs, Inc.
- ▶ Medent
- ▶ MediNotes
- ▶ Synamed
- ▶ Acermed
- ▶ Bond
- ▶ Wellogic
- ▶ Digichart
- ▶ MedicWare
- ▶ Pulse
- ▶ MDanywhere
- ▶ Chartconnect

