Advancing Pharmacy Interoperability for Accurate Data Exchange and Reduction in Prescription Error

Closing Keynote Address: World Congress 5th Annual Executive Forum on Pharmacy Benefit Management Strategies

July 12, 2010

POINT-OF-CARE PARTNERS
HIT Strategy & Management Consultants

World Congress
Strategic Leadership for the Health Care Industry

Mihir H Patel, Pharm.D. – Consultant

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Agenda

- **Preliminaries**
- eMedication Management
- Improving Data Exchange
- Impact of HIT on Managed Care

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Today's Objectives

- Learn how information technology is key to improving medication-related errors and improving medication adherence among older adults
- Discover the tools, advances in transaction standards and improvements in terminology that are making data exchange easier for monitoring medication and reducing errors
- Learn how electronic health record technology may improve medication history collection and patient engagement
- Understand how enhancements to pharmacy claims will help Pharmacy Benefit Managers more accurately and efficiently calculate the return on investment from medication management programs

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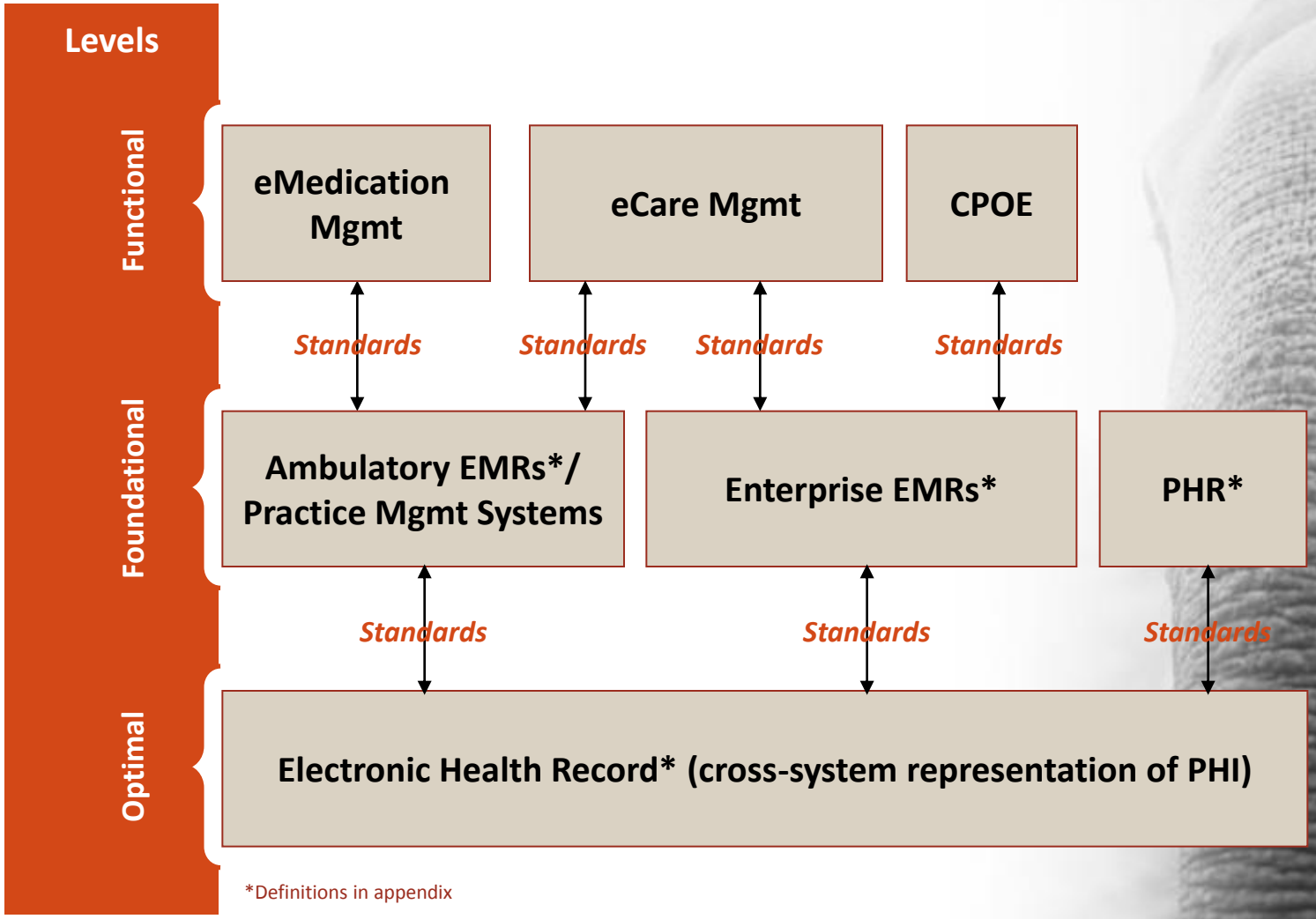
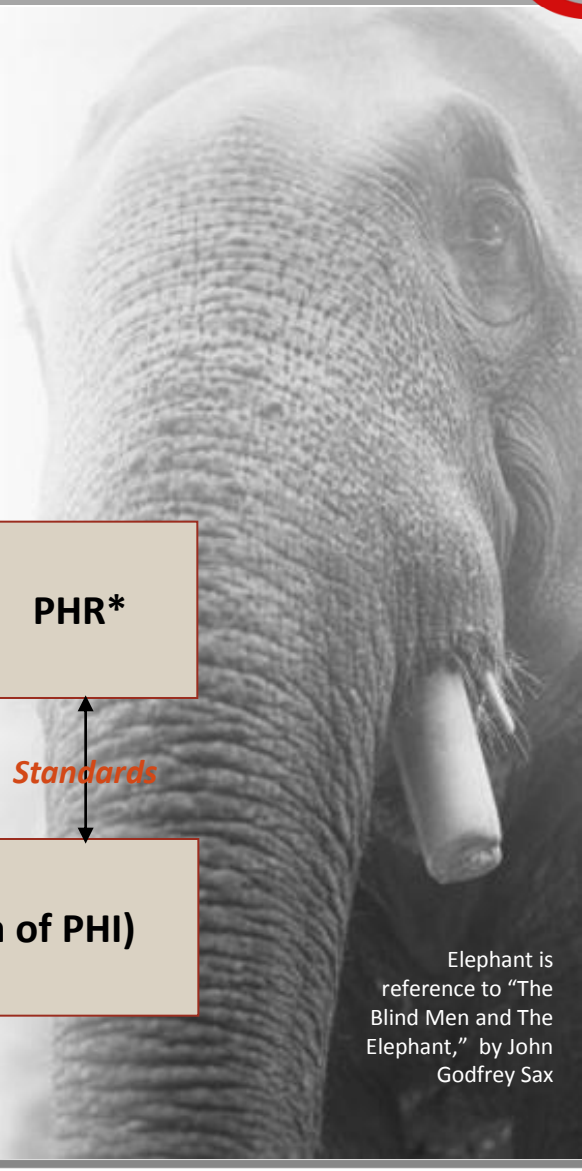
Health Information Technology



*Definitions in appendix



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

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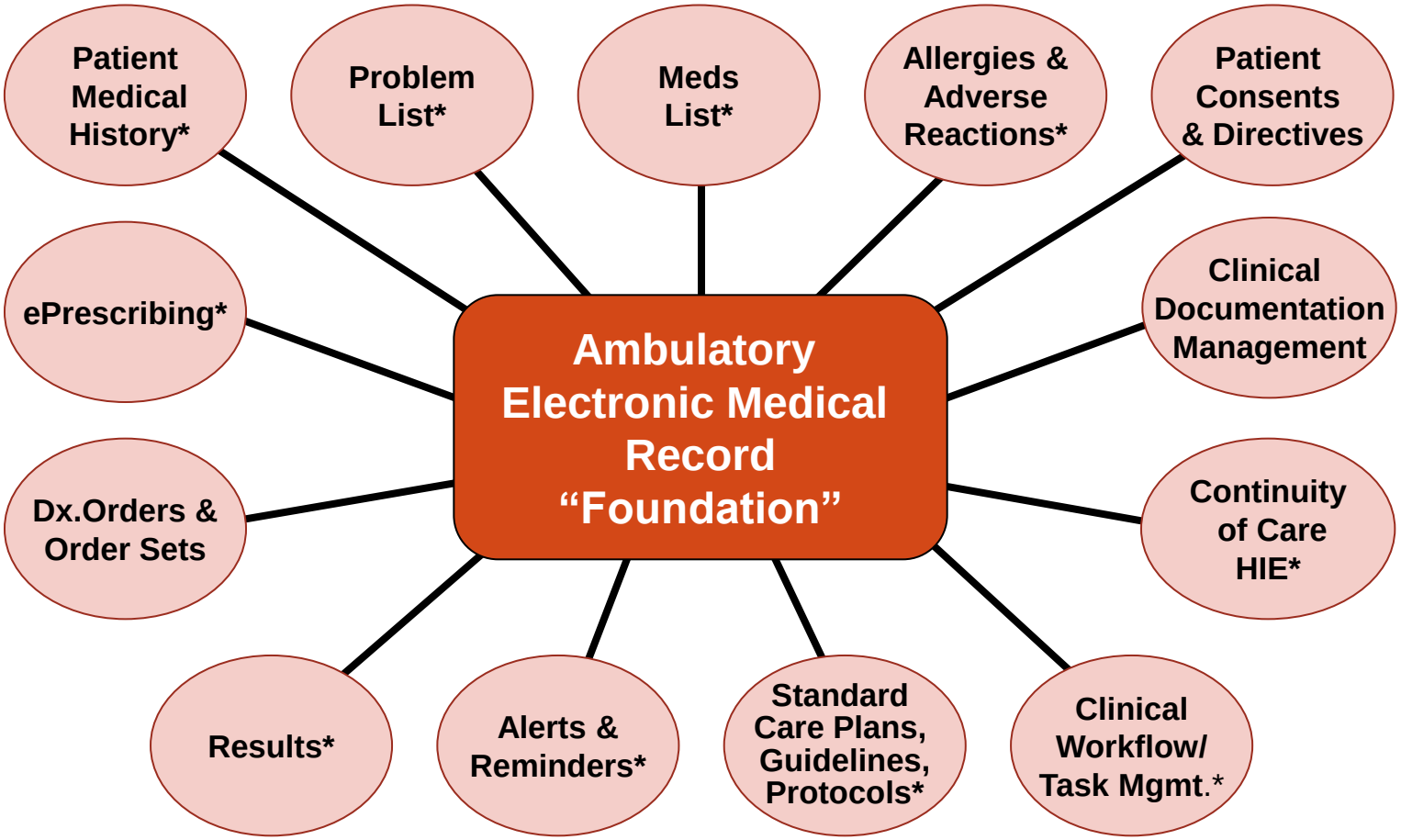
EMR Scope & Components



* Key to medication adherence management

Sources: CCHIT, POCP primary research

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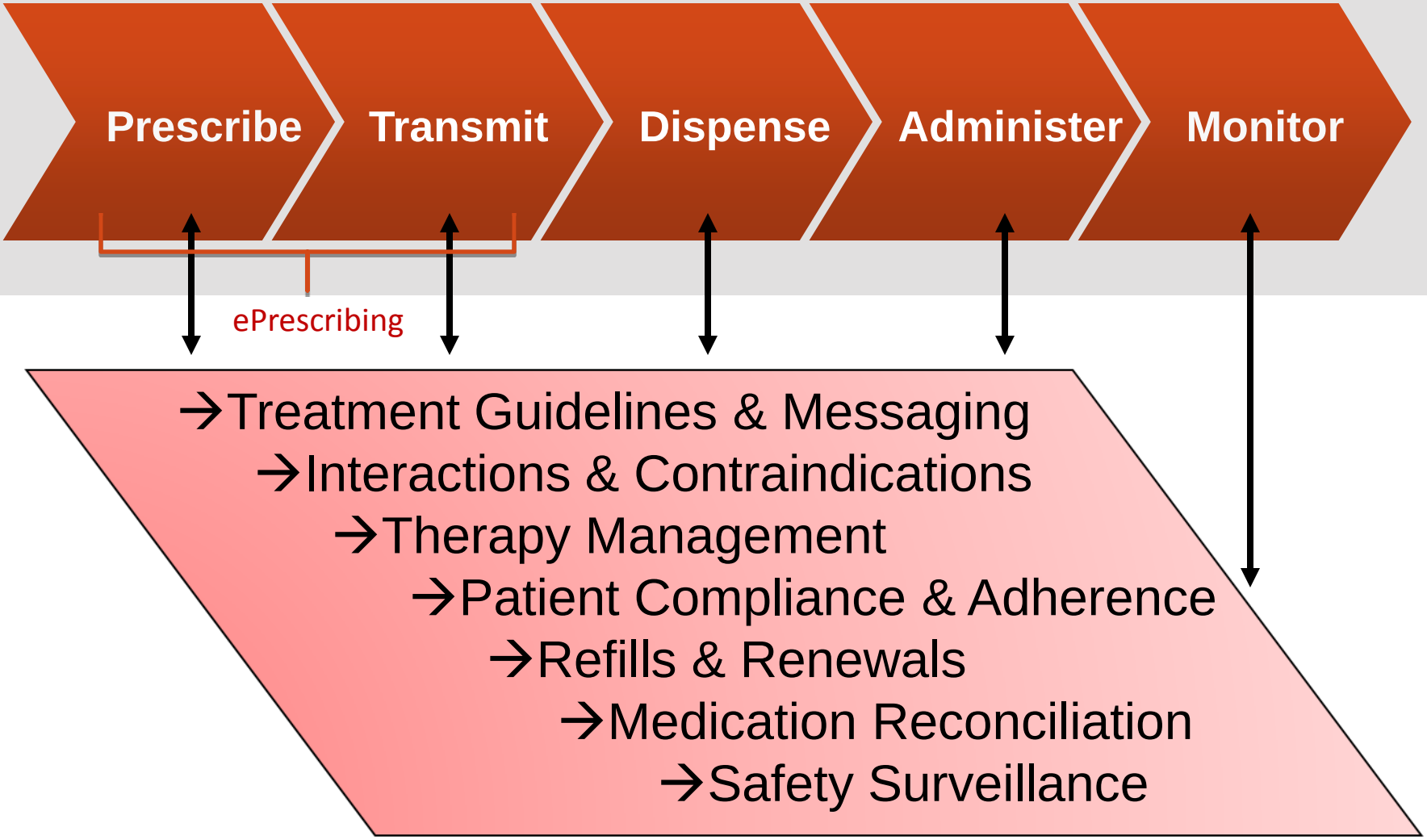
eMedication Management



Adapted from Bell et al 2004

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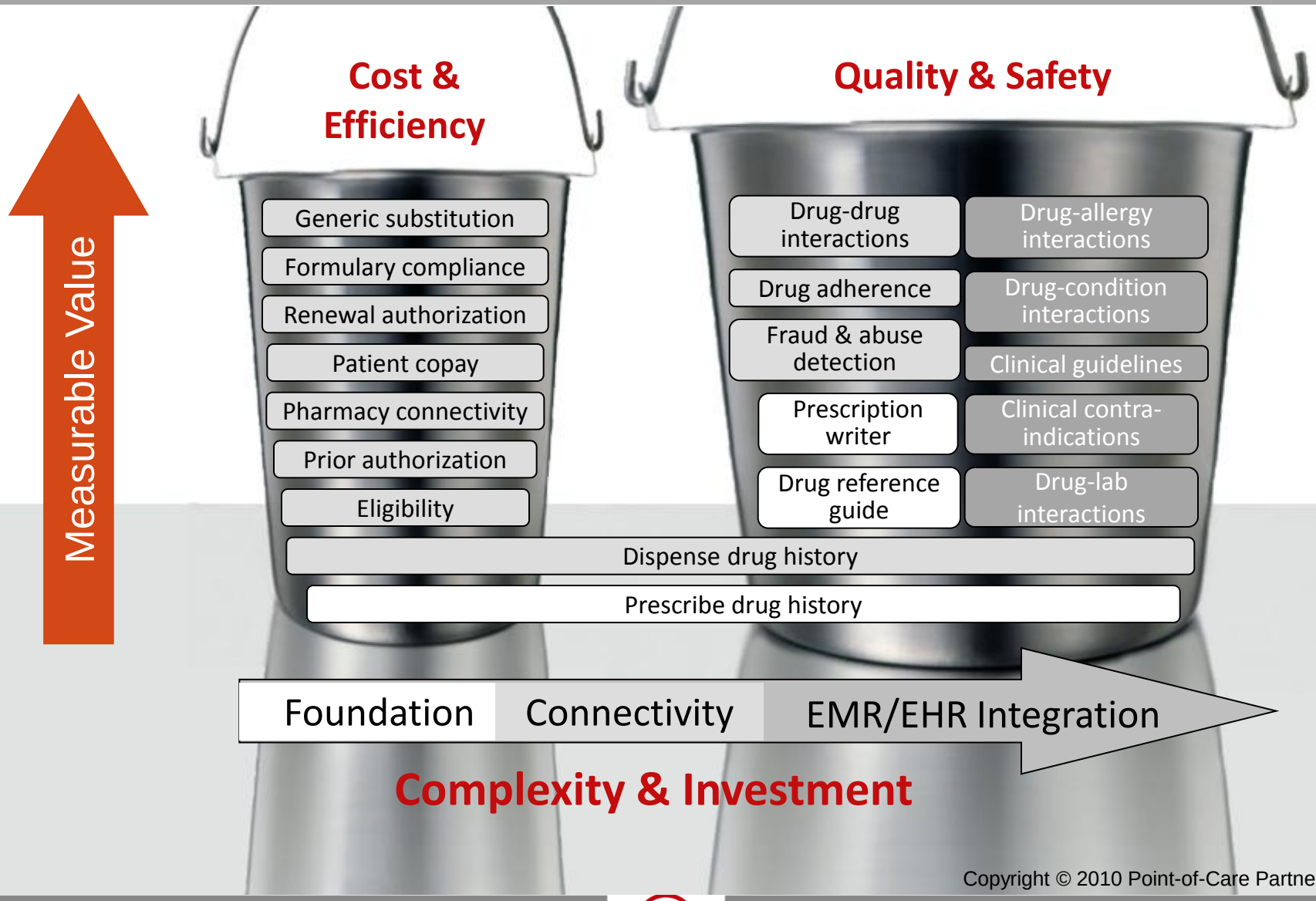
ePrescribing Components and Value



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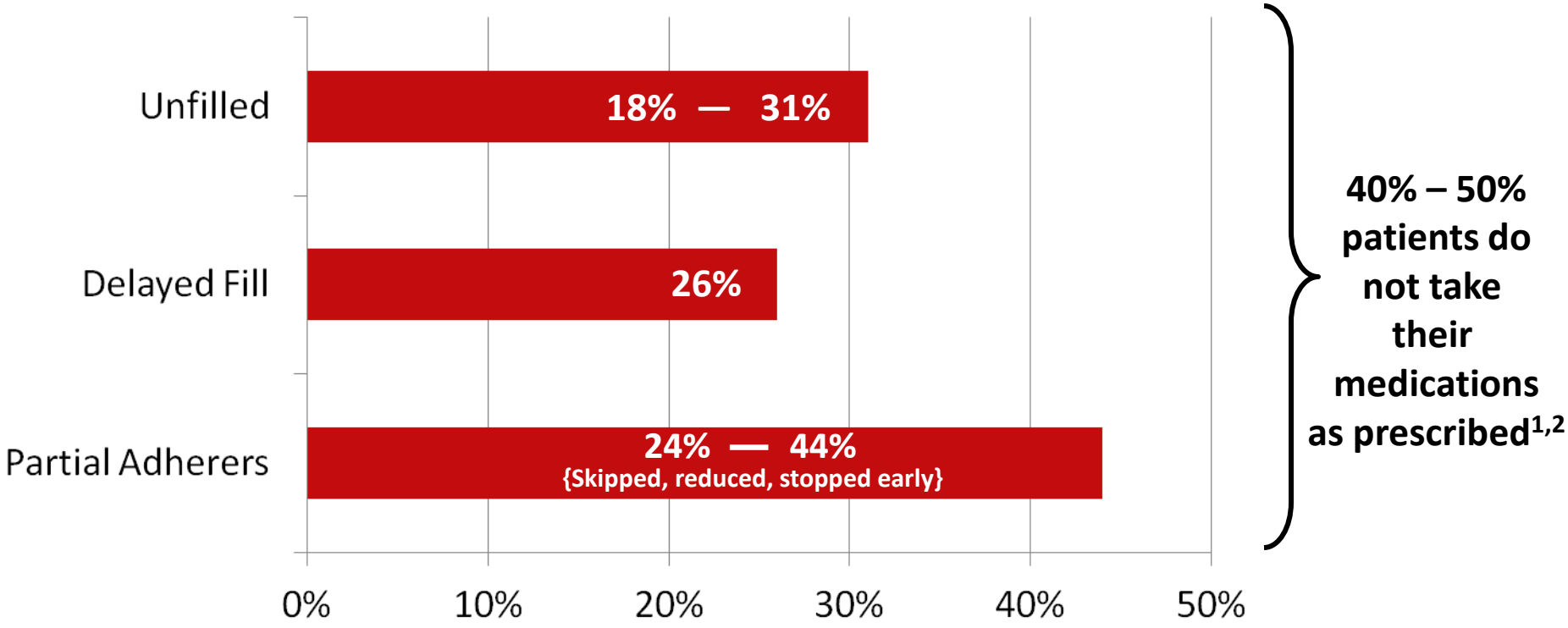
The Adherence Problem



- 800 million+ prescriptions in the US could be impacted by non-adherence[3]
- The total direct and indirect costs to U.S. society from prescription drug non-adherence are ~$177+ billion annually [4]

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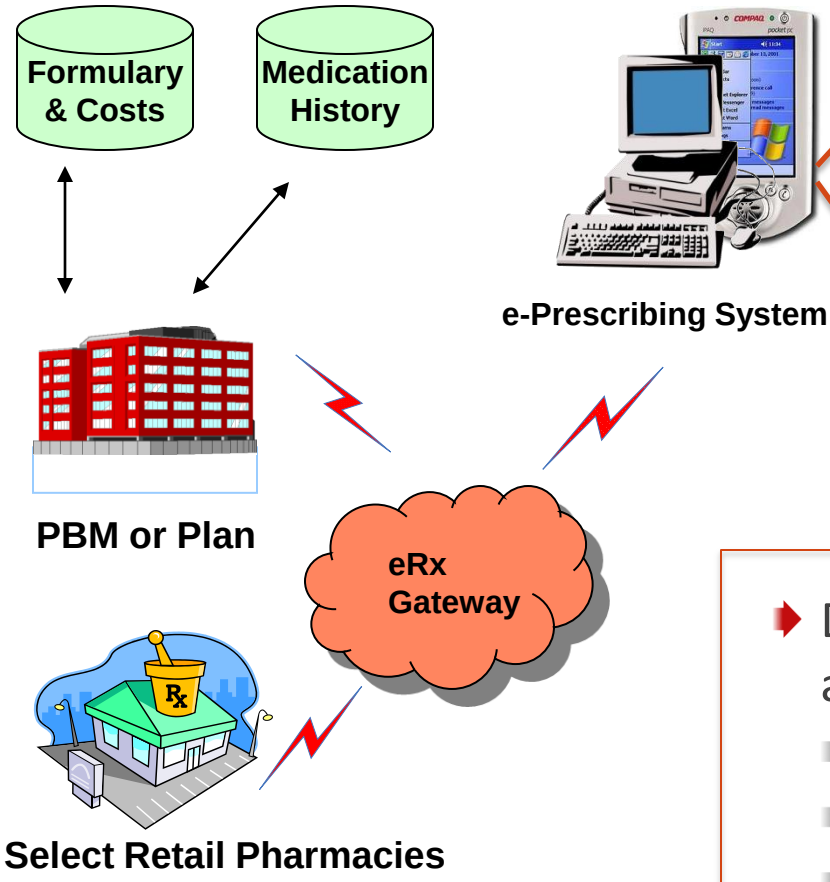
Medication History to Support Medication Adherence Monitoring



Basic Medication History

- Data fields currently used to detect possible adherence issues:
  - Drug name
  - Date of last fill
  - Quantity
  - Prescriber
  - Pharmacy

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Data Limitations Inhibiting Accurate Detection of Medication Adherence in ePrescribing and EMR systems

- Directions / SIG
- Accurate days supply
- Lack of industry use of Fill Status Indicator
- Drug Nomenclature
- Duplicate medication histories due to multiple requests and healthplan changes
- Filtering of sensitive medication histories (e.g. mental health, HIV)
- Data capture of medication events:
- Linking scripts prescribed electronically but changed verbally
- Capturing reasons for non-adherence

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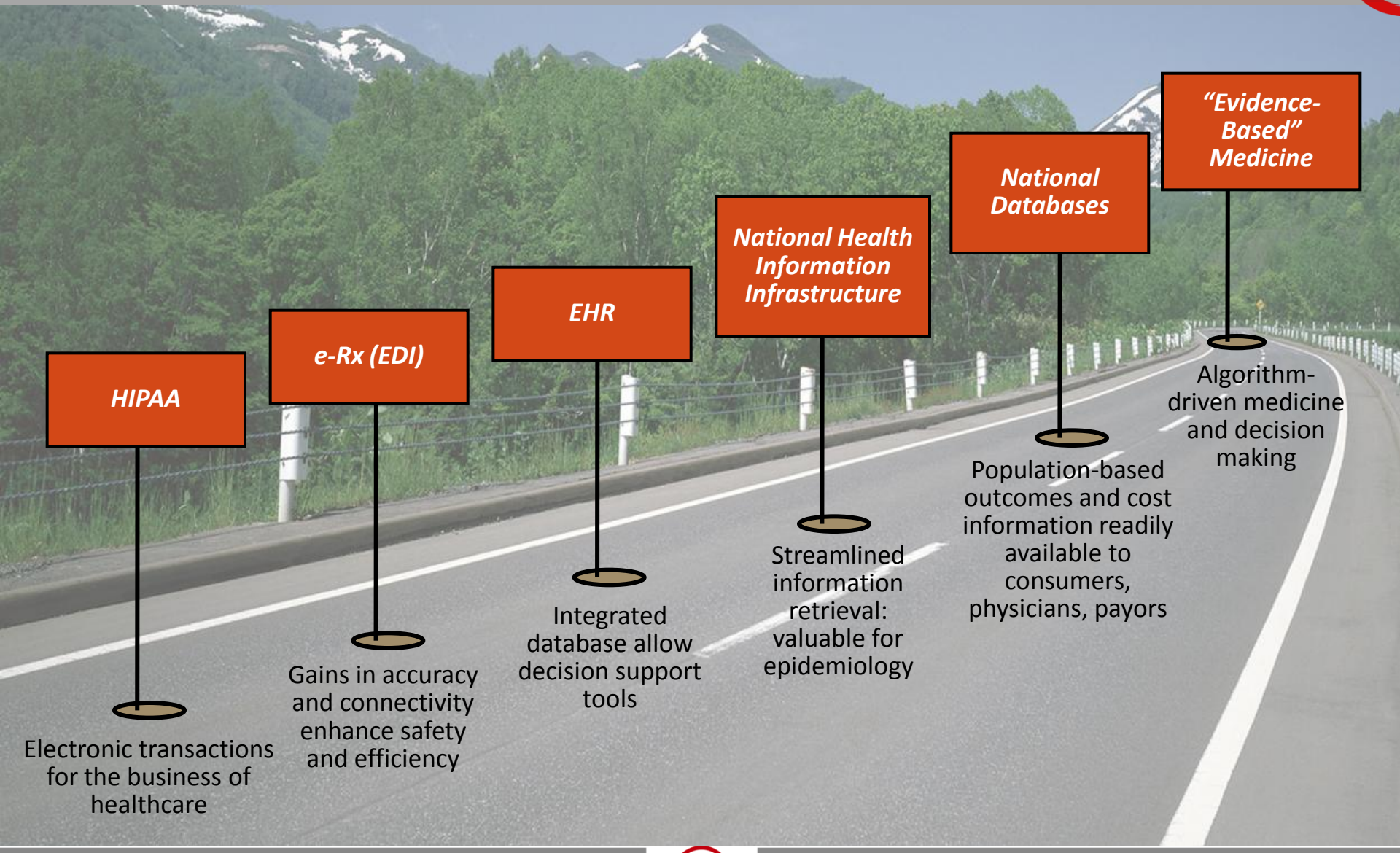
The Connectivity Roadmap



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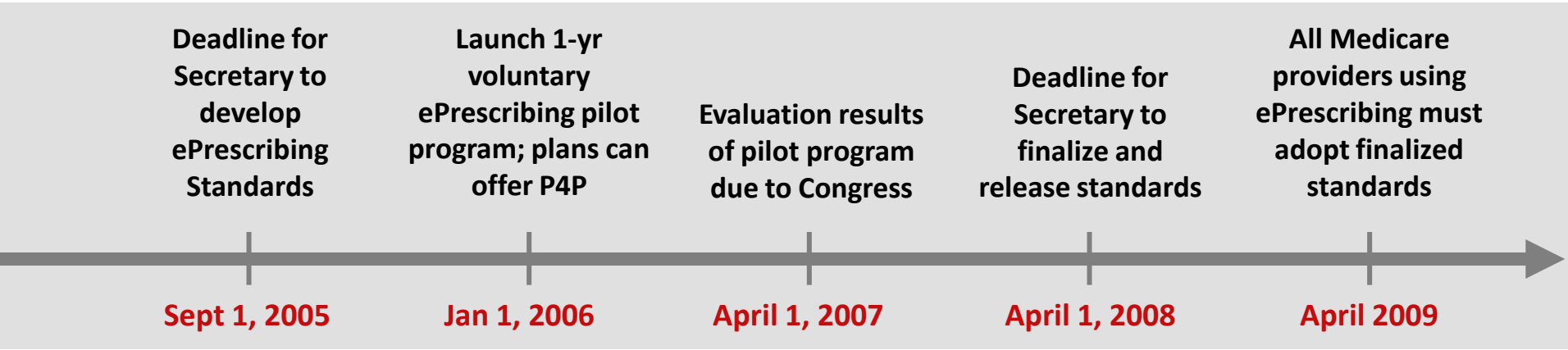
Impact of MMA (Medicare Part D)

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

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



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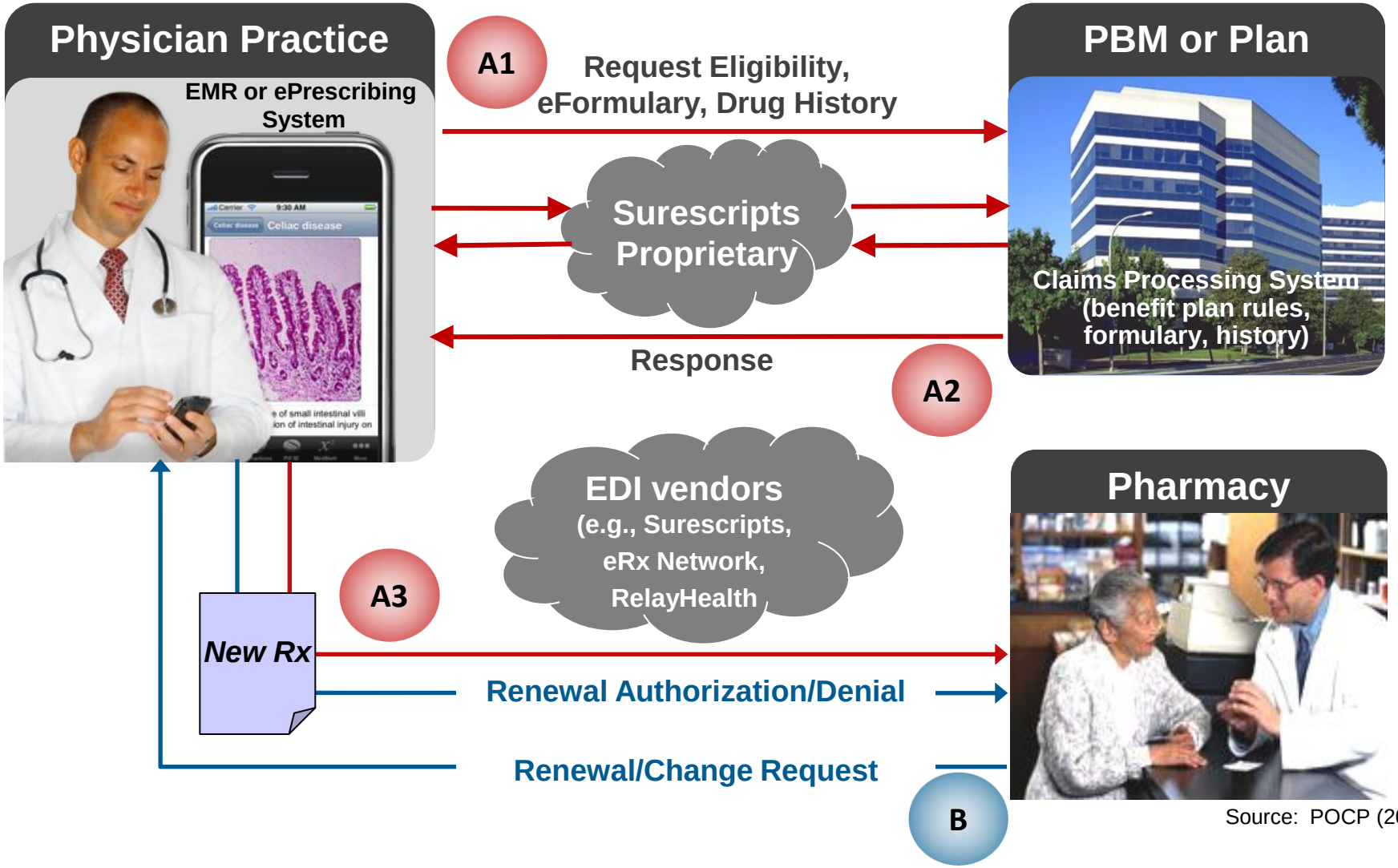
True ePrescribing Interoperability



Source: POCP (2010)

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Medicare Improvements for Patients and Providers Act of 2008 (MIPPA)

- MIPPA provides both carrots and sticks to prescribers that ePrescribe.
- Physicians qualify by having ePrescribing functionality and writing 10% of their Rxs electronically and submitting 25 unique ePrescribing events.
- Criteria is self-reported to CMS ("attestation").

Incentive*	Year	Penalty*
+2%	2009	None
+2%	2010	None
+1%	2011	None
+1%	2012	-1%
+.5%	2013	-1.5%
None	Beyond	-2%

* Increase or decrease in Medicare Part B revenue

ePrescribing Forecast Model (2009, 2010)	
Patients per day	24
% of Practice Medicare	33%
Medicare Patient Per Day	8
Revenue per Medicare Patient	$85
Days per year	250
Medicare Revenue Per Year	$168,300
Potential % Increase	2%
Incremental Revenue per MD per Yr	$3,366

Source: Allscripts

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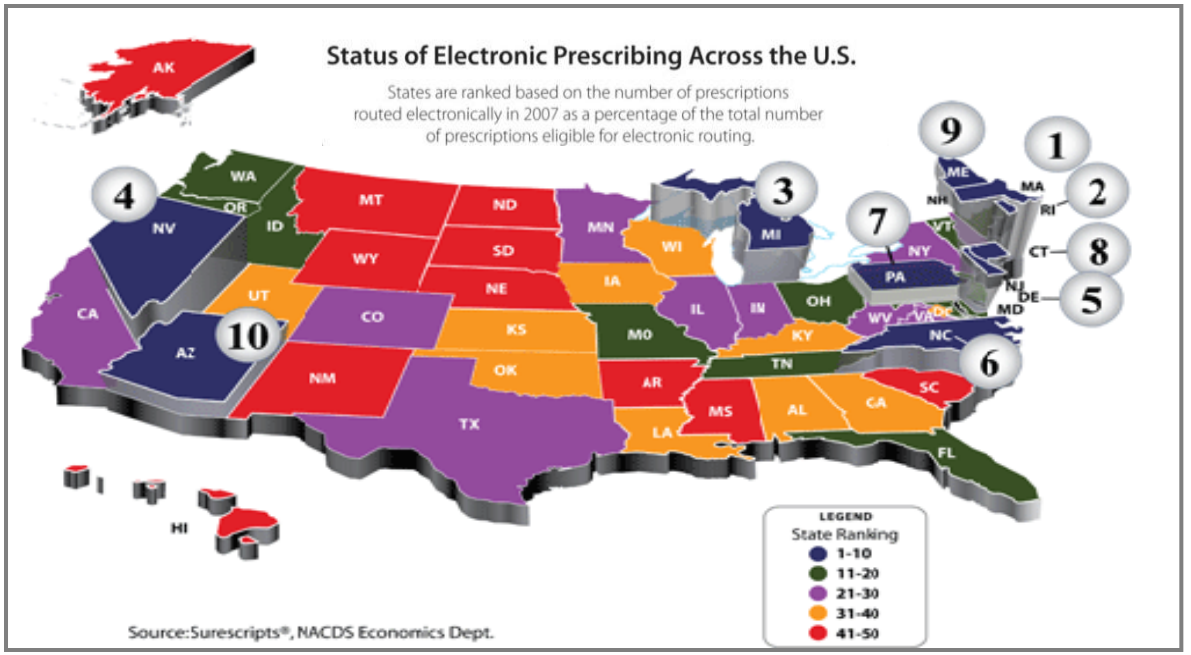
Initiatives Driving Adoption

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



Initiatives are key contributors in high volume, highest percentage and most improved states

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

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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)

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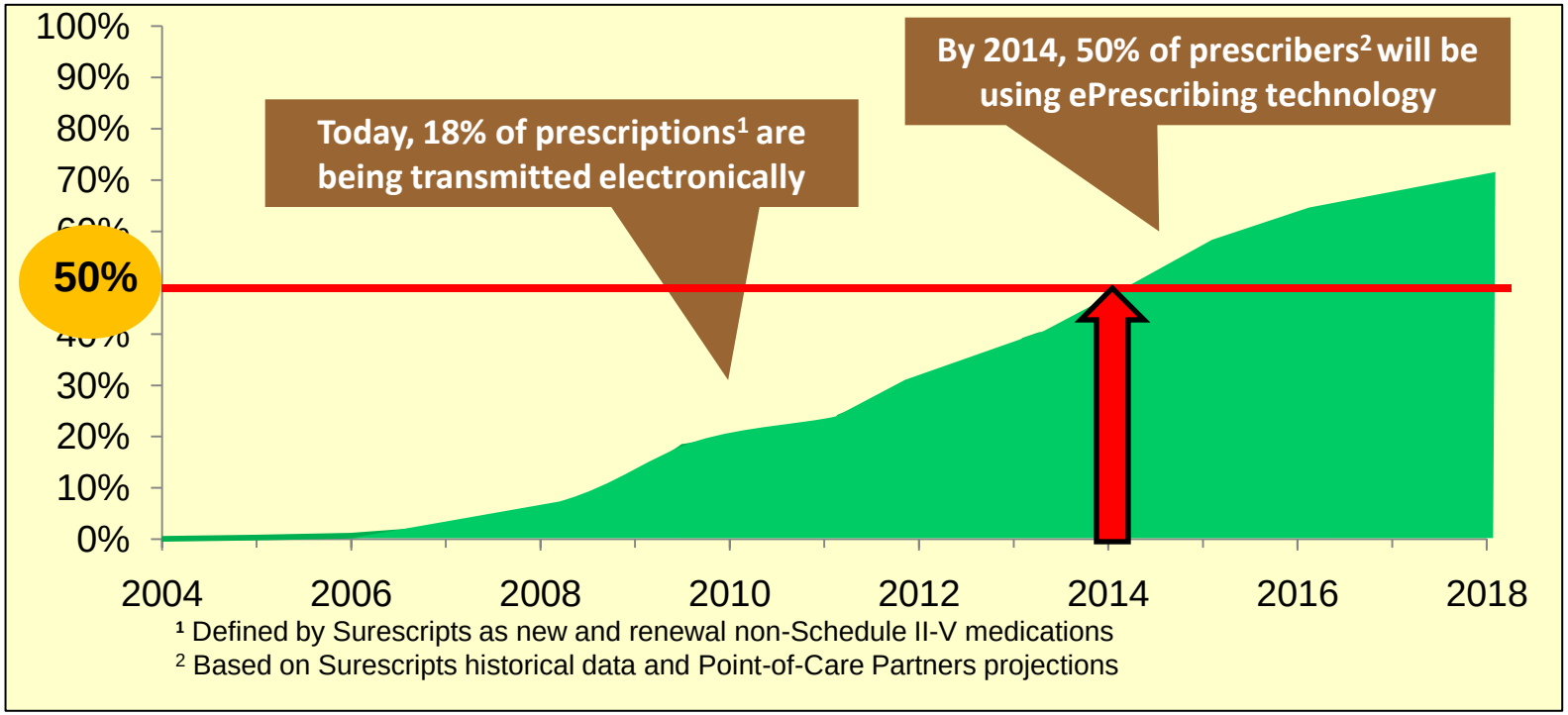
ePrescribing Can No Longer Be Ignored



[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

Eligibility Transactions in 2009[1]		Successful Hits (Surescripts[2])		Encounters		Average Rxs /Encounter		Rxs Impacted by Surescripts		Total Scripts (that can be transmitted[2])		**Rxs Impacted by Surescripts formulary**
303,000,000	x	.85	=	206,040,000	x	3	=	618,120,000	÷	1,591,000,000	=	**39%**

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ARRA and the HIT Advocate-in-Chief

- 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*

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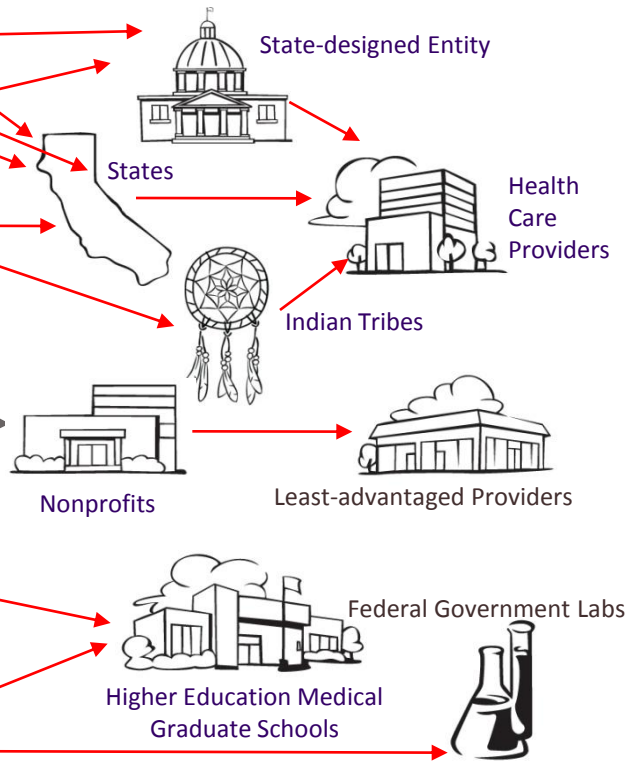
ARRA Appropriated Funds

$2 billion in gross outlays

Program	Distribution Agency	Use of Funds
HIE Planning and Development	ONC	Planning Grants, Implementation Grants
EHR Adoption Loan Program	ONC	Loan Funds
Health IT Extension Program	ONC	Health IT Research Center, Regional Extension Centers
Workforce Training Grants	HHS, NSF	Medical Health Informatics, EHR in Medical School Curricula
New Technology Research and Development Grants	NIST, NSF	Health Care Information Enterprise Integration Research Centers



Adapted from California HealthCare Foundation 2009

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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

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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 (NJ has separate HIE and REC entities)
- 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?

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Transforming Healthcare with ARRA's EHR "Meaningful Use"

$27 billion in gross outlays

Program	Distribution Agency	Use of Funds
Medicare Payment Incentives	CMS	Incentive Payments through Carriers
Medicaid Payment Incentives	CMS and States	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

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ARRA Incentives by Adoption Year

Medicare Incentives

Certified Meaningful User	2010	2011	2012	2013	2014	2015	2016	Total Incentive
2011		$18,000	$12,000	$8,000	$4,000	$2,000		**$44,000**
2012			$18,000	$12,000	$8,000	$4,000	$2,000	**$44,000**
2013				$15,000	$12,000	$8,000	$4,000	**$39,000**
2014					$12,000	$8,000	$4,000	**$24,000**
2015+								**$ Penalties**

Medicaid Incentives

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

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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

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Meaningful Use and EHR Certification

- 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

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Stage 1 Elements of Meaningful Use

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

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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**

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EMR usage has been creeping up for years…

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

Year	Physicians Using Any EMR	Physicians Using EMR with all features of Meaningful Use	Source
2008	41.5%	**4.4%**	Hsiao et al. (2009) NCHS Survey
2007-08	17.0%	**4.0%**	DesRoches et al. (2008) RTI Study
2007	34.8%	**3.8%**	Hing & Hsiao (2010) NCHS Survey
2006	29.2%	**3.1%**	
2005	23.9%		
2005	14.1%		Gans et al. (2005) MGMA Survey

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

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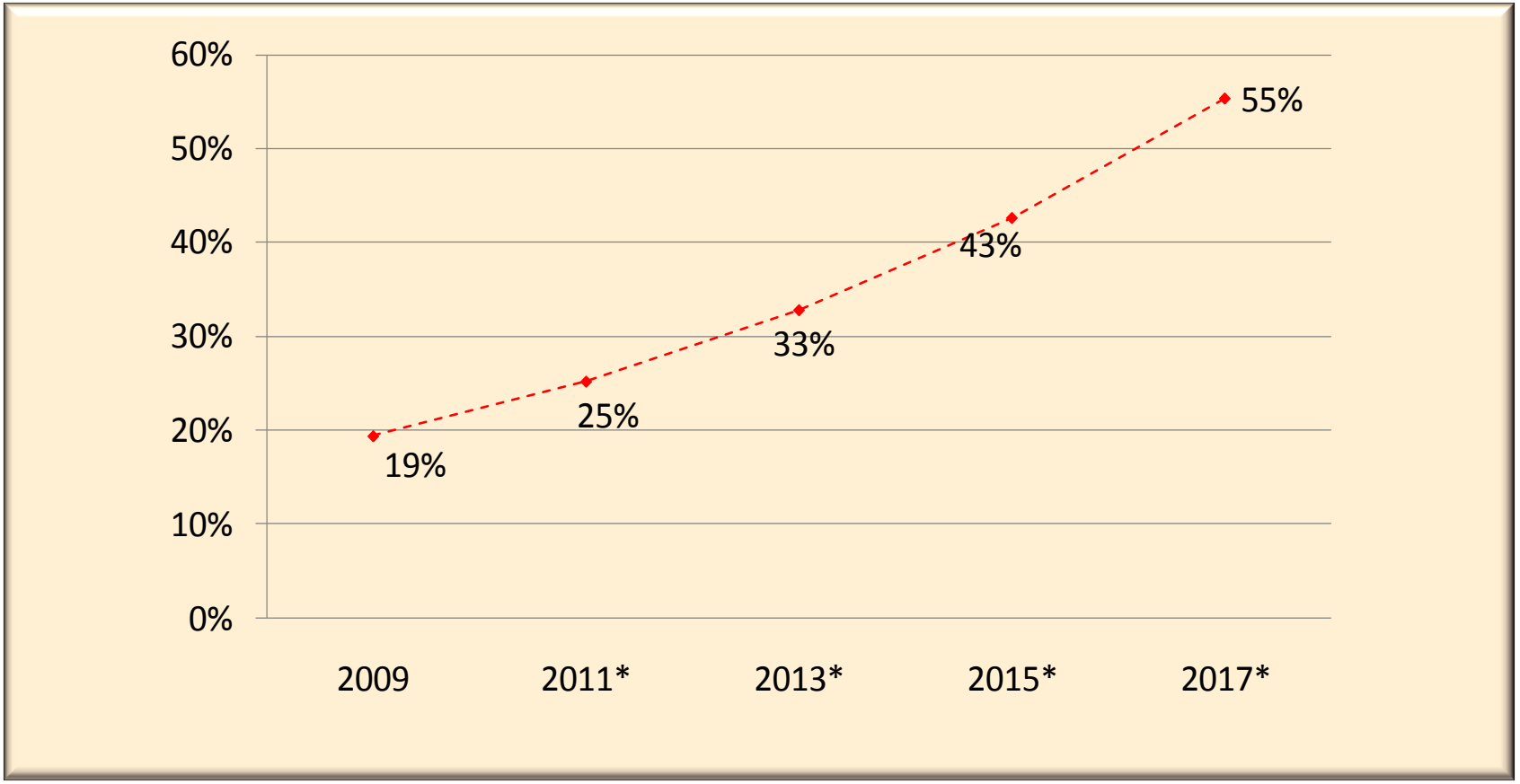
And EMR usage will increase rapidly in the next decade

Ambulatory EMR adoption by Calendar Year



Source: POCP projections

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Published Studies: Value to Health Plans

Study	Results
Weingart et al 2009	ePrescribing alerts may prevent a substantial number of injuries and reduce adverse drug events
Brigham and Women's 2008	Generic dispensing rate increased by 3.3%. Almost all movement was to generic alternatives
Aetna/Zix 2007	7% improvement in generic dispensing rate (GDR) and 5% improvement in formulary compliance
Affinity Health 2005	Average costs declined $4.12 for new Rx; per member per month (PMPM) declined 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 adverse drug event (ADE) cost reduction of 62%
Tufts Healthplan 2002	Wide-spread deployment of ePrescribing could mitigate rising pharma costs by 2% or more

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Adherence and Compliance when ePrescribing is Used

Study	Results
Medco 2005	A net reduction in disease-related medical costs was associated with higher levels of medication adherence [General, not ePrescribing-specific]
GHI 2006	15% of electronic prescriptions unfilled; Almost ½ doctors preferred to address the issue on the next visit
Surescripts/Walgreens 2007	11% increase in prescriptions filled after doctors began using electronic prescribing; study not published in peer-reviewed journal
CVS Caremark 2008	28% of electronic prescriptions unfilled after 60 days; Significant improvement in patient compliance when doctors were provided with patient-specific messages
Brigham and Women's 2010	22% - 28% of electronic prescriptions not picked up at the pharmacy; Age of data (2005) and analytical methods used make validity of study questionable
Henry Ford 2010	Adherence of inhaled corticosteroids was 35.7% higher among patients who[illegible] ava[illegible]

When ePrescribing is used, non-adherence can be quantified and tracked, therefore allowing targeted interventions.

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Other Opportunities for Managed Care

- Collaborate to ensure success of the Regional Extension Centers
- Collaborate with Health Information Exchanges
- Enhance data capture and mining
- Pilot Electronic Prior Authorization
- Implement Adherence Programs
- Leverage Quality Reporting
- Create mHealth Strategy

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Thank You!

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Appendix

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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

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