

ePrescribing: Snapshot, Direction and Impact on Pharma

Bio/Pharmaceutical Health Records & Data Summit:

Overcoming the Obstacles of Access to Patient, Provider and Payer Databases

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Agenda

- ➔ Snapshot
 - ➔ ePrescribing Overview
 - ➔ ePrescribing Landscape
- ➔ Direction
 - ➔ Drivers/Trends
- ➔ Impact on Pharma

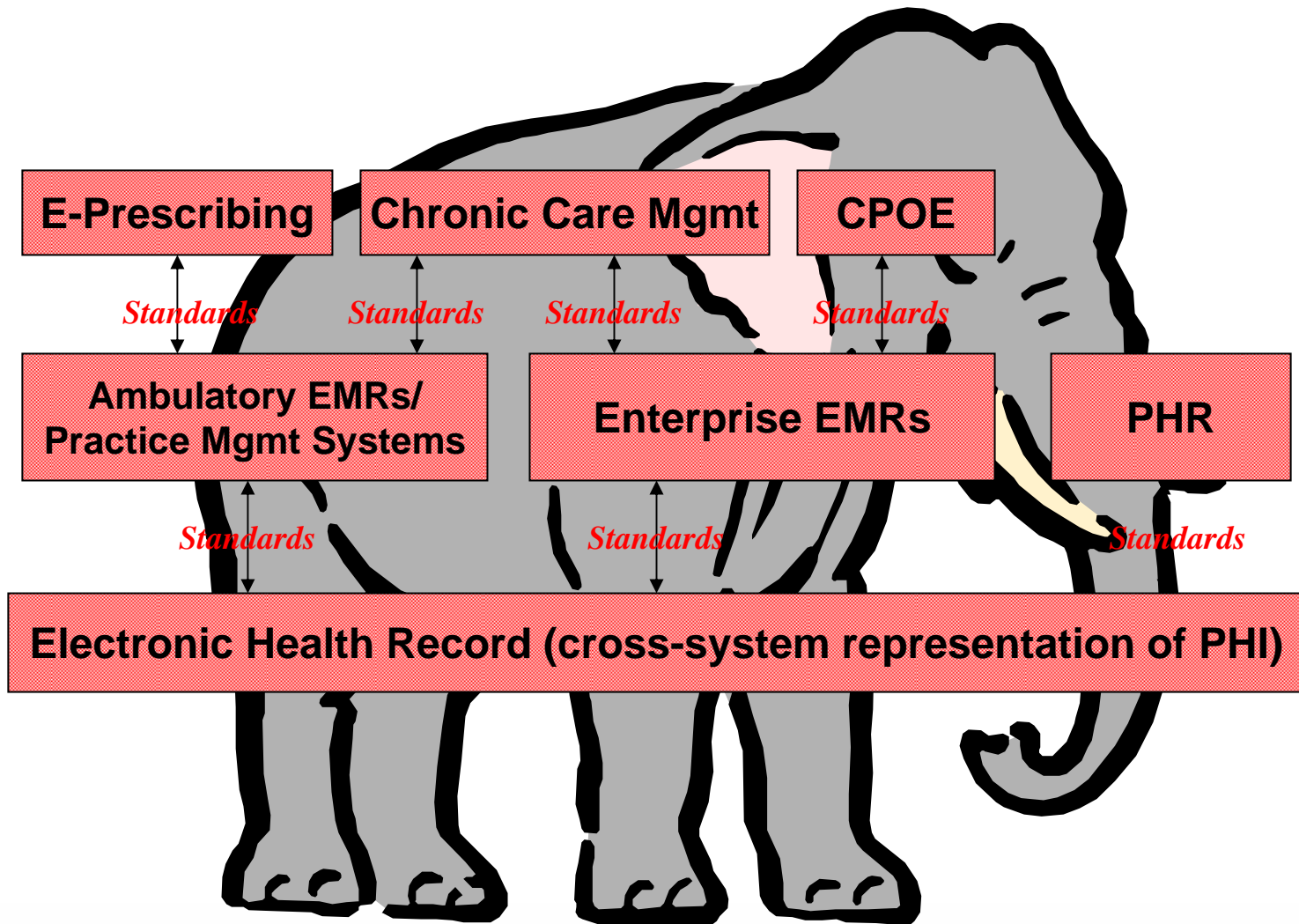


Snapshot

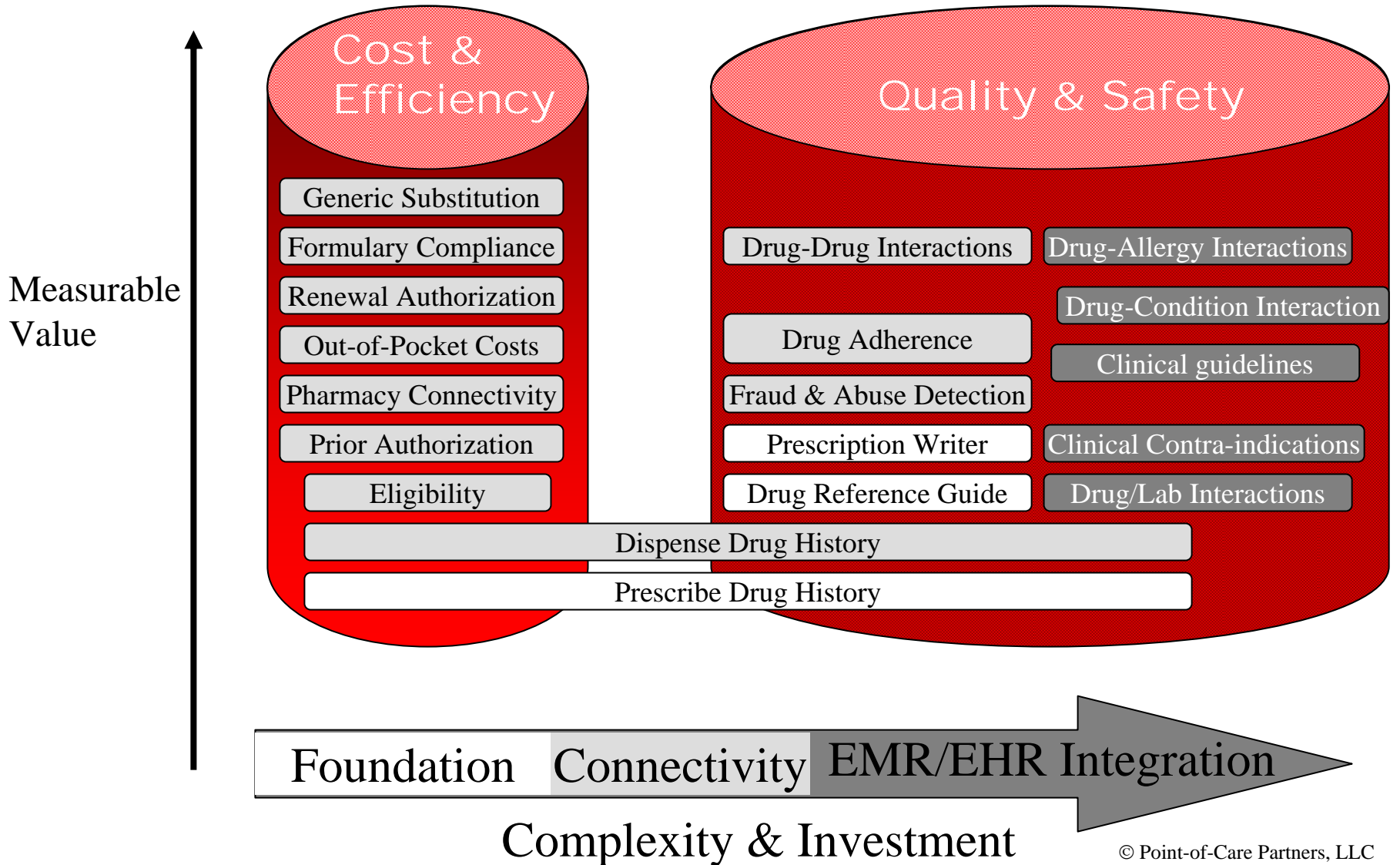


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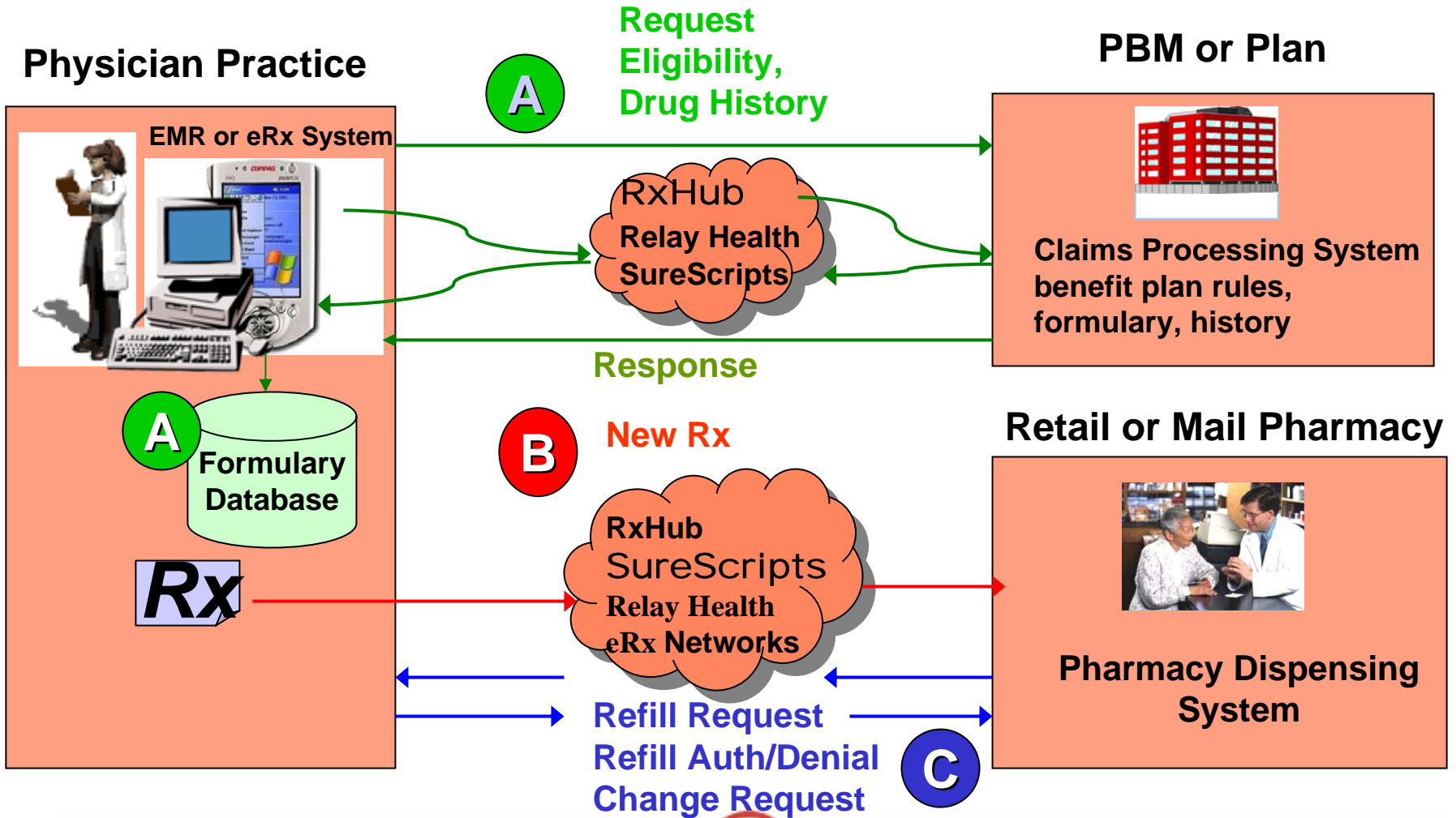
Health Information Technology



ePrescribing Components & Value



Data Flow of Interoperable ePrescribing



ePrescribing Market Landscape

ePrescribing Vendor	Formulary	Drug List	EDI	Comments
AllScripts	RxHub, Infoscan, SureScripts	MediSpan	SS, RxHub	Recognized leader in ePrescribing
DrFirst	RxHub, Plans, SureScripts	FDB	SS, RxHub	Established itself as second to Allscripts; Also has EMR embedded strategy
Sage	Infoscan	MediSpan	Medavant (SS)	Large physician footprint provides significant runway for eRx adoption, especially when customer base accepts Intergy
ZixCorp	RxHub, PBM, SureScripts	Multum	SS, RxHub	Focused; primarily focused on managed care; Aetna vendor in New Jersey
Gold Standard – Informed Decisions	FL Medicaid	Gold Std	SS, RxHub	Clinical Pharmacology fully integrated
RxNT	RxHub	FDB	SS, RxHub	Relatively quiet company should pass GSM in 2007
iScribe	RxHub, Infoscan	FDB	Medavant (SS), RxHub	Only available to/through Caremark customers, though strategy may be changing
MedPlus	RxHub	Multum	SS, RxHub	Emphasis on managed care; combines lab and prescription orders, but emphasis on lab
InstantDx	RxHub	FDB	SS, RxHub	Distributes thru NDC PMS vendors



A Partial List of Ambulatory EMR Vendors

- ▶ Allscripts/
A4Health
- ▶ EPIC
- ▶ GE Centricity
- ▶ **NextGen**
- ▶ Misys EMR
- ▶ Allmeds EMR
- ▶ AthenaHealth
- ▶ ComChart EMR
- ▶ Companion Tech
- ▶ Docs, Inc.
- ▶ Digichart
- ▶ eClinicalWorks
- ▶ Greenway
- ▶ InteGreat
- ▶ iMedica
- ▶ JMJ EncounterPro
- ▶ LSS EMR
(Meditech)
- ▶ McKesson/
Physician
Microsystems
- ▶ MediNotes
- ▶ Synamed
- ▶ Acermed
- ▶ Bond
- ▶ Wellogic
- ▶ Digichart
- ▶ MedicWare
- ▶ Pulse
- ▶ MDanywhere
- ▶ **Chartconnect**
- ▶ **Sage (Intergy)**

Bold = those EMRs that make eRx a higher priority



ePrescribing by the numbers...

17% MDs prescribing electronically
(Gorman Health Group, 2007)

85% Pharmacies enabled for ePrescribing
(SureScripts/Medavant, eRx Networks, RxHub)

25-30 million Prescriptions sent online to Pharmacies
(David Bernauer, CEO, Walgreens, 2007)

7.5% US hospitals using CPOE for Rx orders
(KLAS, 2006)

24% Outpatient EMR use
(National Center for Health Statistics, 2006)

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

\$29 billion Potential annual ePrescribing savings
(Center for Information Technology Leadership, 2004)

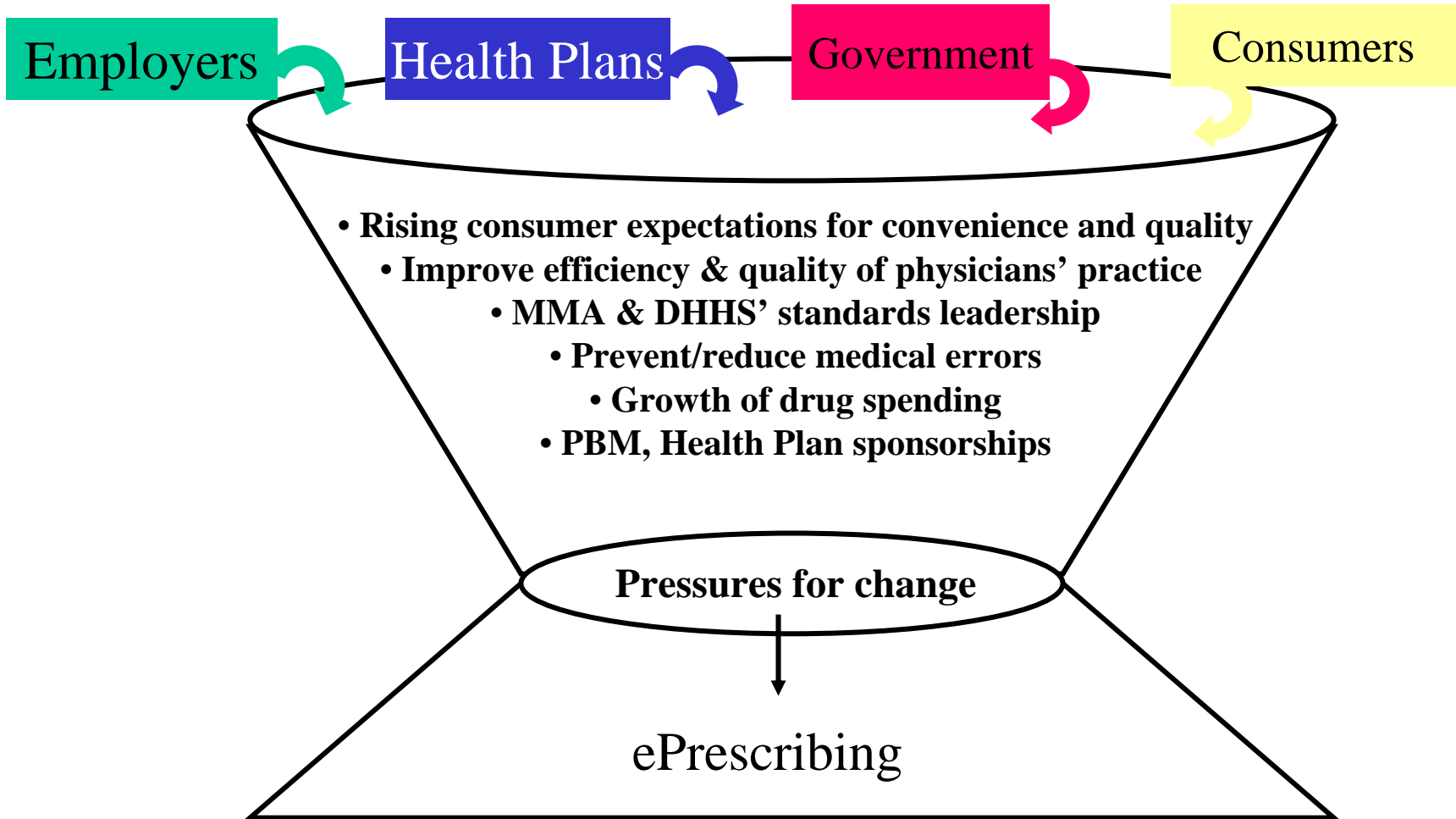


Drivers



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e-Prescribing Market Drivers



MMA (Medicare Part D) & ePrescribing

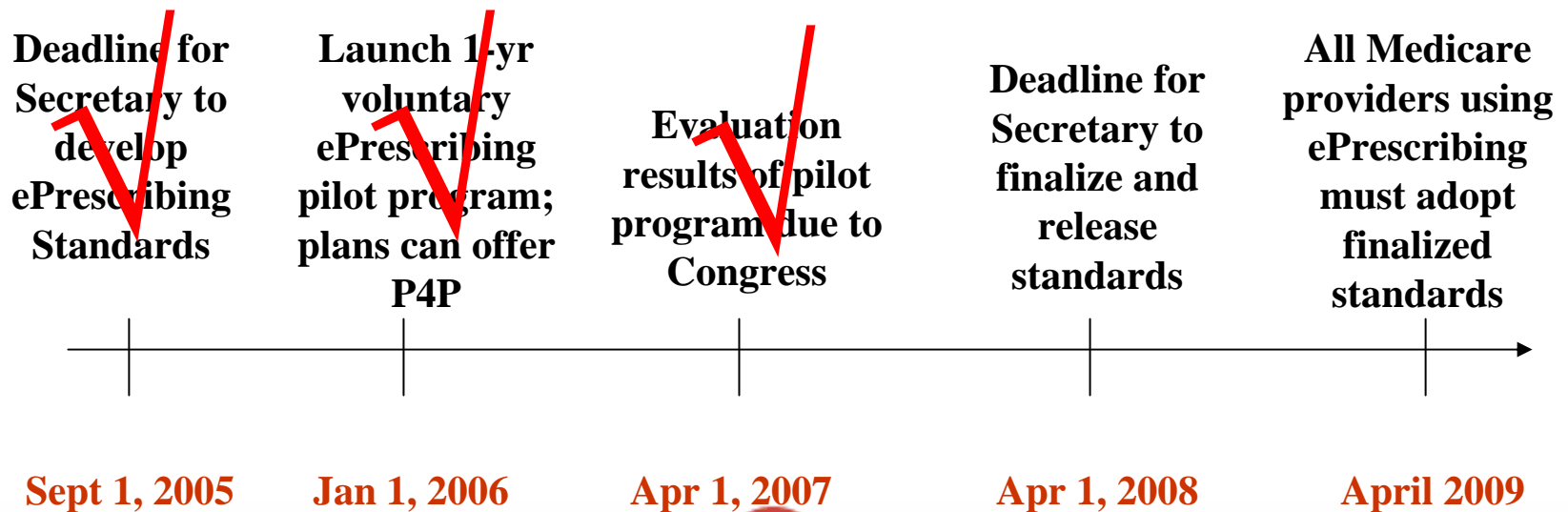
- ▶ MMA established a real-time ePrescribing program to be used by prescribers, plans, pharmacies and pharmacists who serve Medicare patients
 - ▶ No mandate, but if used, standards must be followed
- ▶ NCVHS tasked with identifying foundation standards required for January 2006 implementations.
- ▶ Directs HHS to conduct a voluntary eRx pilot project in 2006, for areas where industry experience is insufficient
- ▶ Other components:
 - ▶ Discretionary grants to be made available to prescribers
 - ▶ Plans, hospitals, groups may purchase hardware for MDs
 - ▶ Plans may pay additional fees for reduced medication errors, improved formulary compliance & fewer adverse drug events



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 excepting interoperable EHRs from safe harbor and Stark laws issued by HHS (08/06)
 - Clarification from IRS on not-for-profit entity subsidies expected soon (03/07)
- ➔ Published results from pilots (04/07)



Remaining MMA “To Dos”

- ➔ Discretionary grants to physicians
 - ➔ Several bills that have grants as part of the legislation
- ➔ Pay-for-performance for ePrescribing
 - ➔ CMS has a relationship with Bridges to Excellence
- ➔ Additional rules
 - ➔ New eRx rules will come out of the pilots
- ➔ Additional pilots?
 - ➔ Hinted at in Final Rule



eRx Pilot Profiles

Lead	Award	Software Vendors	Switche(s)	Pharmacies	Other Organizations
RAND Corporation	\$1.8M	Allscripts, iScribe	RxHub, SureScripts	Walgreens	Horizon, Caremark, UMDNJ, Point-of-Care Partners
Brigham & Women's	\$1.0M	B&W Hospital	RxHub, SureScripts	"Community of pharmacy chains"	CareGroup Health Sys (MA), MA-Share
Achieve	\$1.1M	Achieve Healthcare Information Technology	RxHub	Preferred Choice Pharmacy	Benedictine Health System, RNA Health, Prime Therapetuics, BCBSMN
Ohio KePro	\$896K	InstantDx, NDC Health	RxHub, SureScripts	CVS, Walgreens, Rite-Aid	NEO/Univeristy Hospitals System, Primary Care Physicians, Qual-choice, Aetna, Univ. of MN, MGMA
SureScripts	\$1.9M	Allscirpts, MedPlus/ Quest Diagnostics, DrFirst, GSM, Zix	SureScripts	Ahold, Brooks, Albertsons, CVS, Duane Reed, Rite Aid, Walgreens, Walmart, Kerr, Longs	Brown University, Midwestern University, Chain Pharmacy Advisory Council, Independent Pharmacy Advisory Counsel



eRx Pilot Objectives

1. Evaluate the readiness of foundation and initial **standards**, and their interoperability with each other (i.e. determine if standards should be mandated).
2. Evaluate other **outcomes** related to electronic prescribing, and their impact on key stakeholders (i.e. advance the body of knowledge on ePrescribing).



Foundation & Initial Standards

Foundation Standards

- ▶ SCRIPT (new Rx, renewal, change, cancel, admin functions)
- ▶ ASC X12N 270/271
- ▶ NCPDP Telecommunication

Initial Standards

- ▶ Medication History
- ▶ Formulary & Benefits
- ▶ Structured & Codified SIG
- ▶ Prior Authorization (X12N 278 and X12N 275 + HL7 PA Attachments)
- ▶ RxNorm (new Rx, renewal, cancel)
- ▶ SCRIPT (fill status)



Evaluation Methods – Outcomes & Impacts

- ▶ Pilot tests studied a wide variety of outcomes, including
 - ▶ Does the eRx increase the use of on-formulary medications and generics?
 - ▶ Does eRx improve the rate of potential inappropriate prescribing?
 - ▶ Does eRx change rate of hospital and ER use?
 - ▶ Does eRx affect the number of medication errors and ADEs? Does it reduce the rate of hospitalizations and ER department visits associated with ADEs?
 - ▶ Does eRx improve workflow in prescriber offices (fewer interactions with pharmacies, freeing up support staff time for other functions, more time available for patient interactions?)
 - ▶ What are the uptake and dropout rates among prescribers?



Standards Recommendations

Standards	Description	Pilot Recommendation
Medication History (NCPDP SCRIPT)	Dispensed/Claims Hx <i>fx</i> 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



Outcomes: Big Takeaways

- ▶ Generally consistent w/historical ePrescribing studies
- ▶ Role of non-physicians underappreciated
- ▶ eRx did not replace the need for paper
 - ▶ Inability to submit Schedule II Controlled Substances
 - ▶ Inability to manage future orders
- ▶ Prescribing that automatically allows for generic substitution may increase the rate of generic prescribing
- ▶ Physician, patient satisfaction high (SureScripts)
- ▶ Improved office efficiency ie reduced callbacks (SS, RAND)
- ▶ Impact on Patient Safety:
 - ▶ Dispensing errors less for ePrescribing clinics (Brigham & Women's)
 - ▶ Greater number of ADEs in control group (OhioKePro)
 - ▶ Relatively low % of patients that were id'd as receiving potentially inappropriate medication (SureScripts)



The “Watershed Event”

- ➔ More is coming ...
 - ➔ NPRM
 - ➔ Peer Reviewed Journal Articles, Papers
 - ➔ Stakeholder published internal pieces
 - ➔ NCVHS, Other Hearings
 - ➔ Conference presentations
- ➔ Has already lead to additional studies
 - ➔ E.g. RxHub focus groups on MedHx



Trends



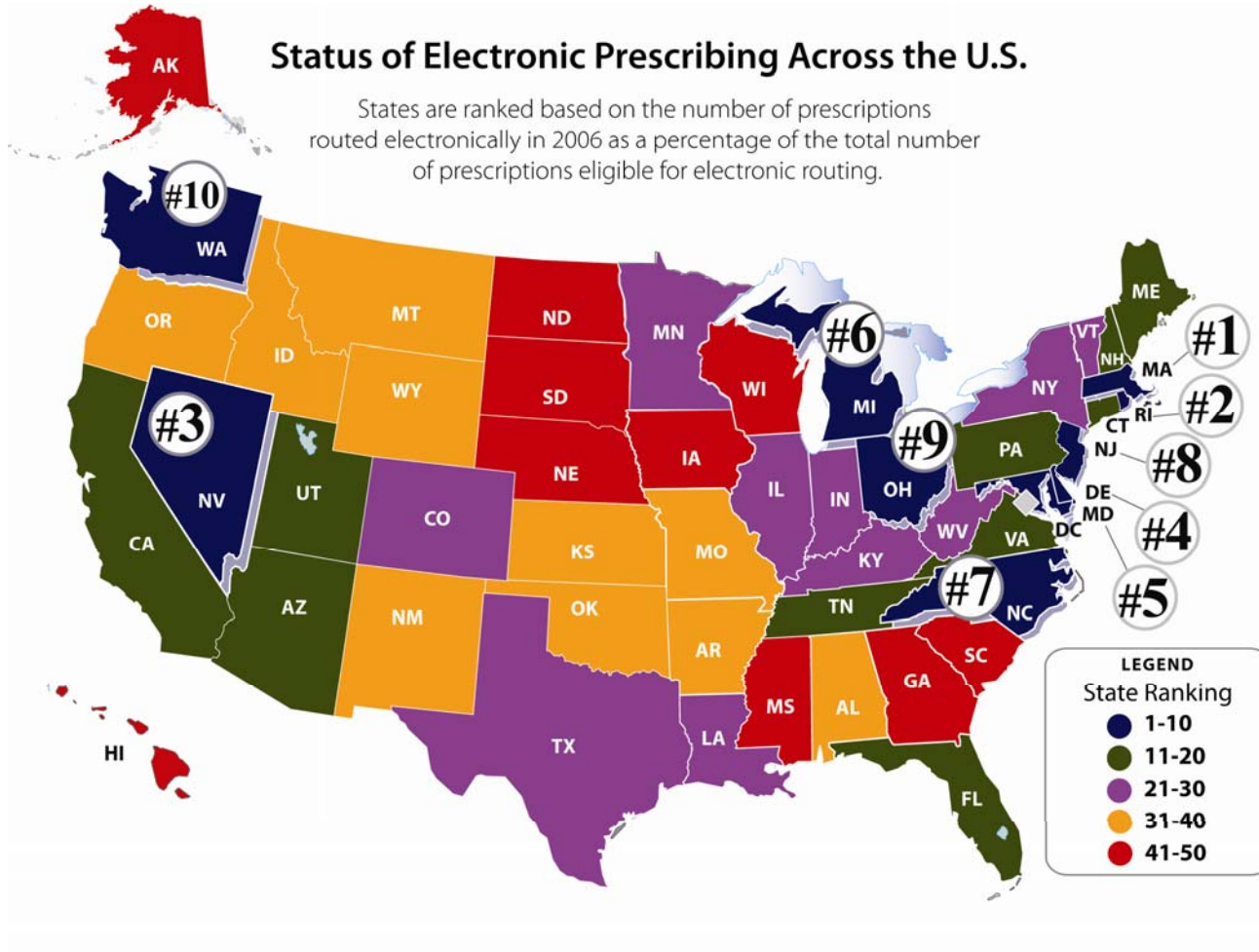
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High-Level Trends

- ➔ 10% to 15% increase in adoption 2006 to 2007
- ➔ Increasing interest among EMRs to develop (or acquire) more advanced eRx functionality
 - ➔ But EMR development cycles are still longer & EMRs are not innovators of eRx functionality
- ➔ Growth of coalitions choosing to promote eRx
- ➔ Beginning to see results that support the eRx value proposition
 - ➔ MMA Pilots
 - ➔ Initiatives such as SE Michigan (SEMI)



SureScripts “eRx Volume”



eRx Eligibility and Med History Adoption

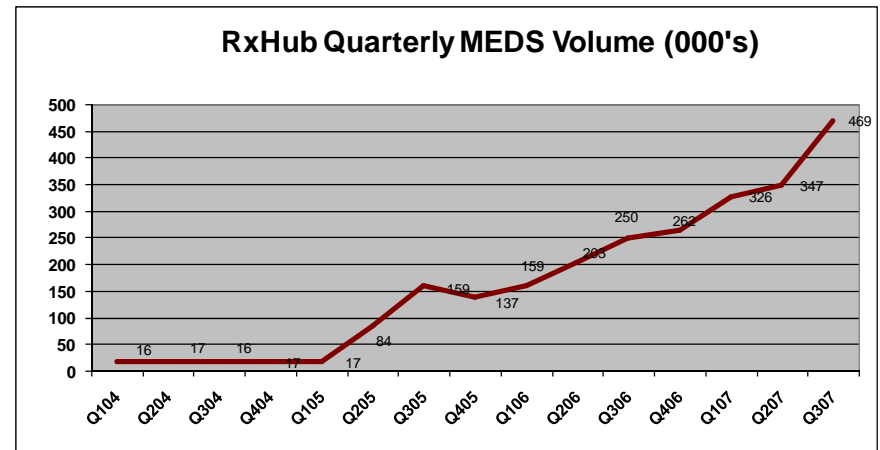
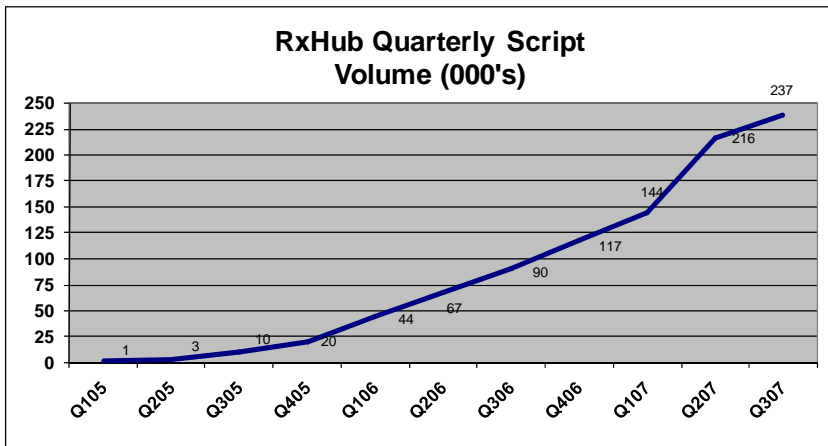
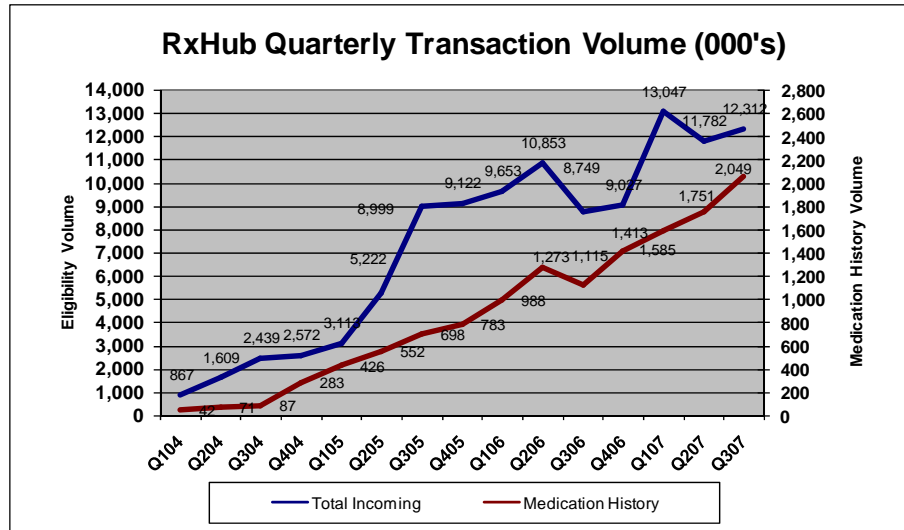
RxHub Transaction Statistics

	2002	2003	2004	2005	2006	2007(P)
Eligibility	1,696,381	3,993,101	7,491,437	26,000,000	43,000,000	75,000,000
Med Hx (eRx)	146	100,552	416,304	2,500,000		

- ▶ 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
- ▶ Relay Health (McKesson) and SureScripts joining marketplace
 - ▶ Regulations and standards have put Relay Health (McKesson) & SureScripts into marketplace
 - ▶ Still working on getting their offerings deployed in marketplace
- ▶ Off-line and loosely integrated formulary (MediMedia) use at risk
 - ▶ Within 2-3 years all eRx transactions could use tightly integrated service



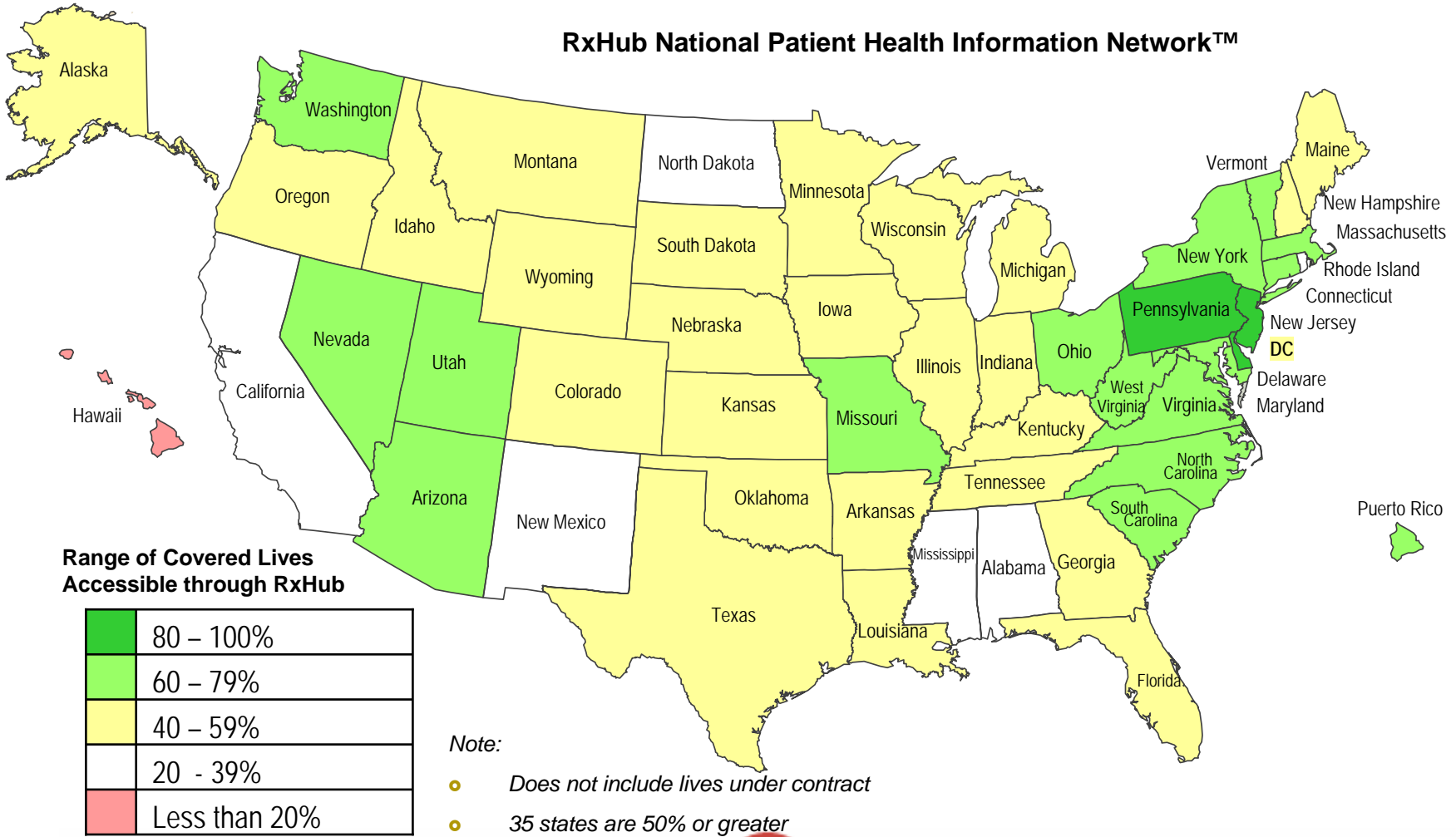
RxHub Transaction Activity



RxHub Master Person Index Coverage -

October 2007

RxHub National Patient Health Information Network™



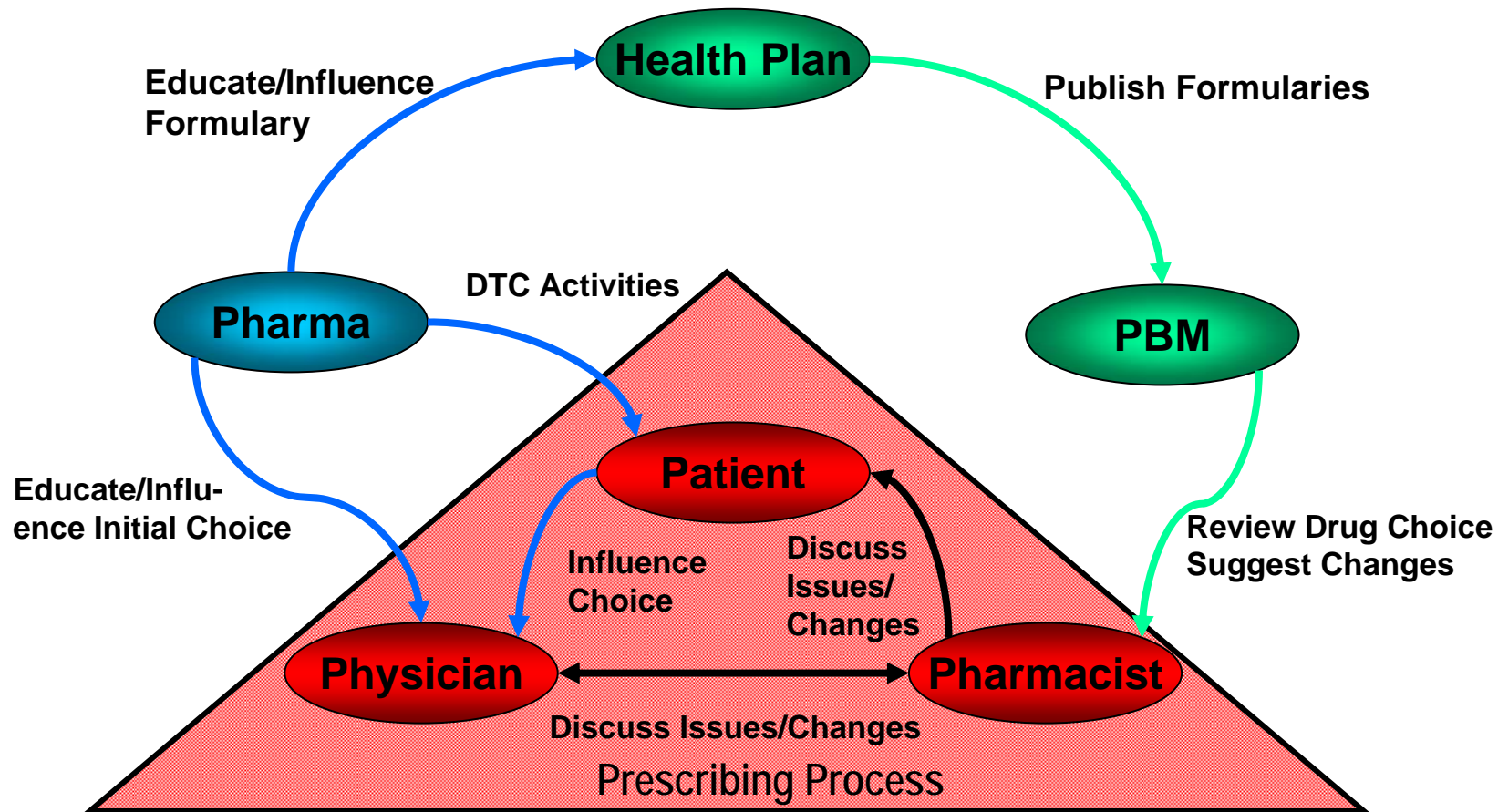
Impact on Pharma



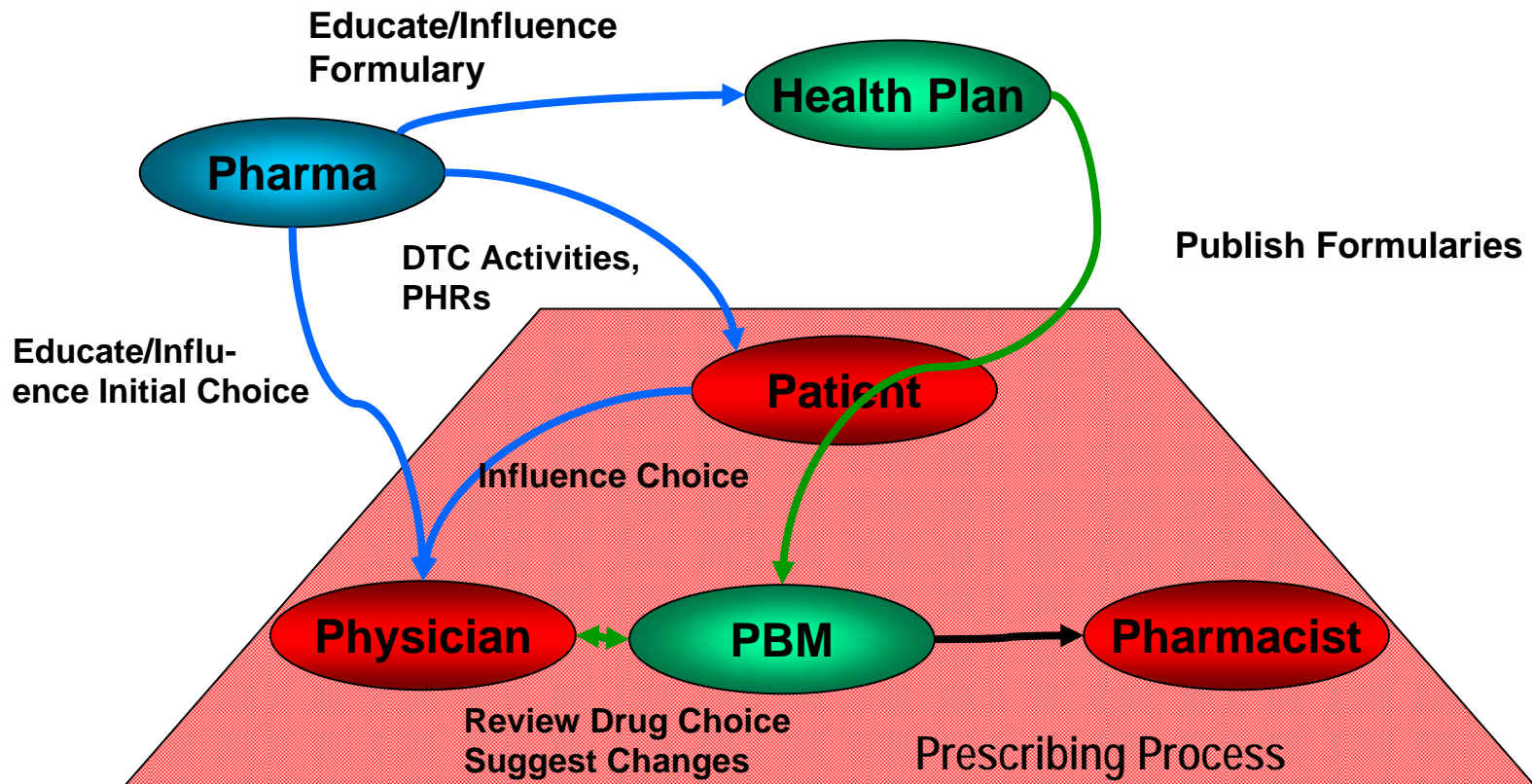
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Legislative Impact: Pre-MMA Influences



Legislative Impact: Post-MMA Influences



Implications to Pharma

- ePrescribing will generally increase use of generic medications
- Opportunity to enhance adherence and persistency
- Key frame/objectives of managed care contracts may shift due to Formulary & Benefit standard
- Earlier detection of post-market safety and compliance issues
- Using ePrescribing to manage specialty medication therapy through embedded protocols, formulary compliance and ePA may lead to improved outcomes in terms of both quality and cost
- ePA may reduce barriers to branded medications
- RxNorm may enhance the quality of aggregated prescription data in support of evidence based analysis and clinical decision support



MedHx Impact on Pharma

➔ Opportunity

- ➔ Ability to improve outcomes through improvement in adherence & compliance
 - Enables EHR 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

➔ Opportunity

- ➔ No perceived opportunities

➔ 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

➔ 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

➔ 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

➔ 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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