

Sharing Clinical Information: Within and Among Health Systems

SePHIMA

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Outline

- Healthcare Industry State
 - Key Challenges
- Technology Solutions
 - RHIOs
 - EMRs
- Federal Impetus
- State Happenings
- Questions



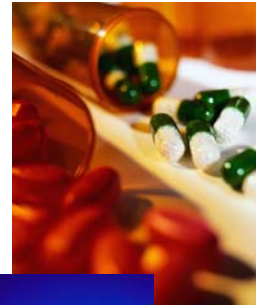
US Healthcare Industry 2006

- Increasing turmoil
- Continuing consolidation
- Increasing expenditure (faster than general rate of inflation)
- Continuing emphasis on quality, safety, expense control
- Continuing focus on shortage of professional staff, particularly RNs
- Alternative physician practice models
- Continuing capital constraints
- Emphasis on Return on Investment as part of purchasing decision



Key Challenges

- Preventable errors in hospitals kill 44,000-98,000 people annually (IOM)
 - Acceptance by physicians
 - Regardless of actual number, need to fix
- 57,000+ die needlessly because they do not receive medical care (NCQA)
- 1/3 of \$1.6 trillion spent on healthcare wasted due to duplicative or ineffective care (CECS at Dartmouth)
- Recognition that information technology will be critical
 - How to deploy?
 - Who will sponsor-federal, state, local?



Technology Solution #1: Electronic Medical Record

- Architecture includes:
 - Clinical data repository (CDR)
 - Realtime transaction processing database of clinical information
 - Controlled medical vocabulary (CMV)
 - Ensures that clinicians have accurate and consistent information
 - Applications
 - Clinical documentation
 - Pharmacy
 - Clinical decision support system (CDSS)

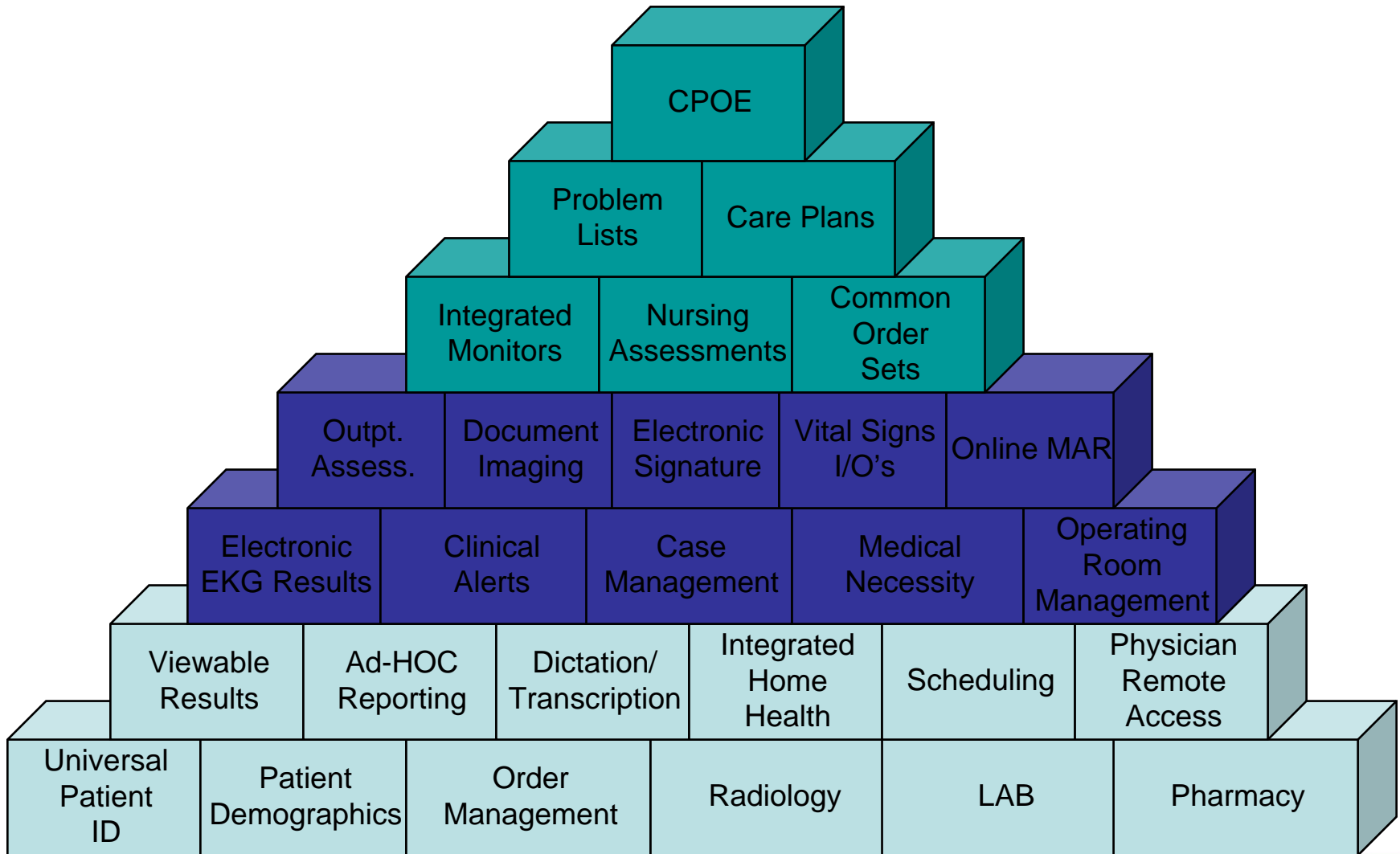


Why Needed?



- 30% of the time, physicians could not find information previously recorded in a paper chart.
- Up to 20% of test and exams are ordered due to retrieval barriers.
- \$12 - \$28 of the office visit charges cover tracking down and obtaining information. The typical physician receives test results from 5 or more locations

EMR: Future Vision



HIMSS 2006 Leadership Survey

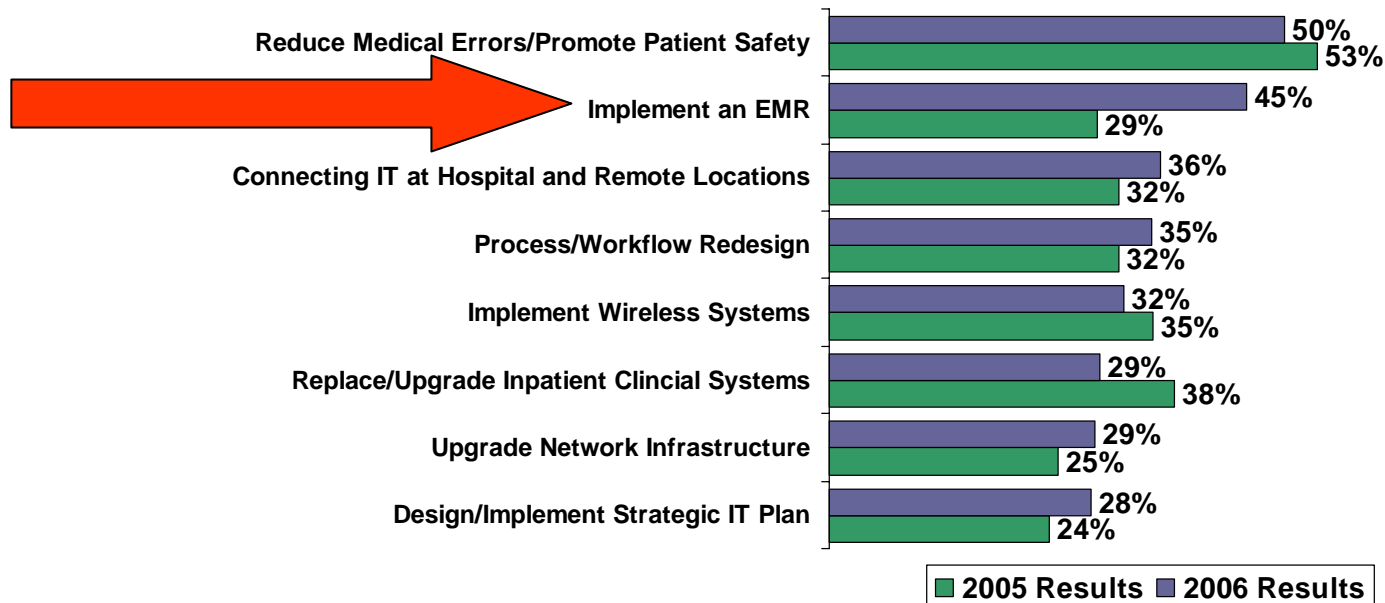
17th Annual **HIMSS** Leadership Survey

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Current IT Priorities (Within Next 12 Months)

(2006 vs. 2005 Results)

Figure 8



HIMSS 2006 Leadership Survey

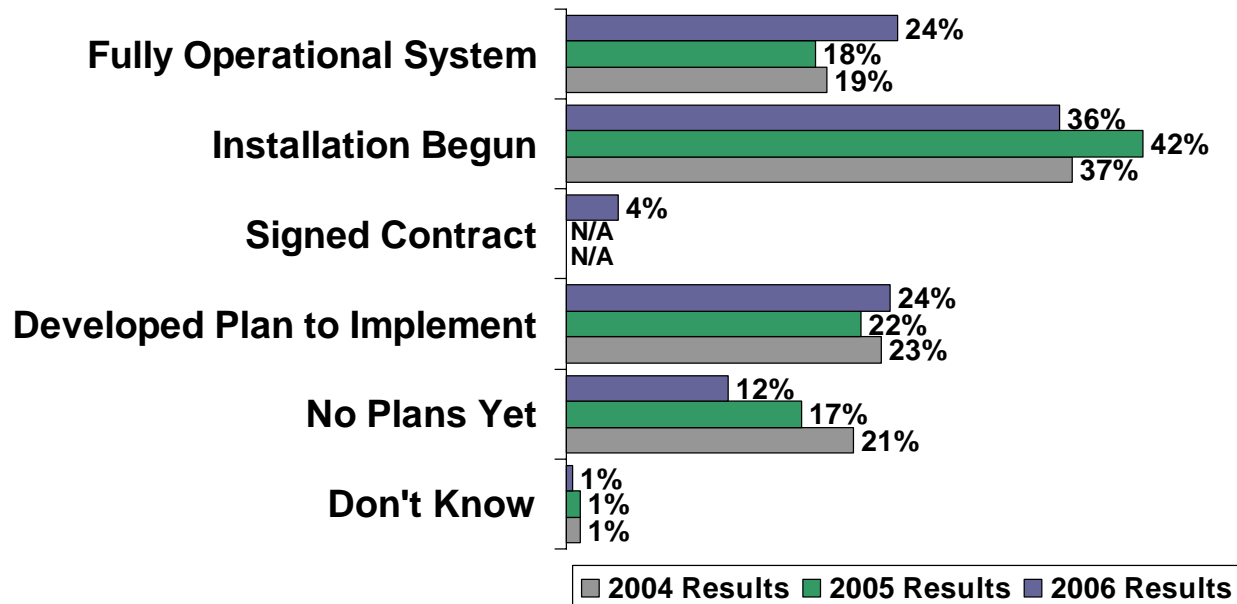
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Status of Electronic Medical Record Implementation

(Comparison of 2006, 2005, and 2004 Results)

Figure 13



EMR Adoption Model

		% of U.S. Hospitals
Stage 7	Medical record fully electronic, CDO able to contribute to EHR as byproduct of EMR	0.0%
Stage 6	Physician documentation (structured templates), full CDDS (variance and compliance), full PACS	0.1%
Stage 5	Closed loop medication administration	0.5%
Stage 4	CPOE, CDSS (clinical protocols)	2.7%
Stage 3	Clinical documentation, CDSS (error checking), PACS available outside radiology	14.2%
Stage 2	CDR, CMV and CDSS inference engine, may have document imaging	42.9%
Stage 1	Pharmacy, laboratory and radiology installed	21.8%
Stage 0	Pharmacy, laboratory and radiology <i>not</i> installed	17.9%

Reality

Data from 2005/2006 HIMSS Analytics™ Database

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Technology Solution #2: Regional Health Information Network

- Securely exchange patient data beyond traditional organizational boundaries to reduce costs, improve patient care and increase clinical efficiencies



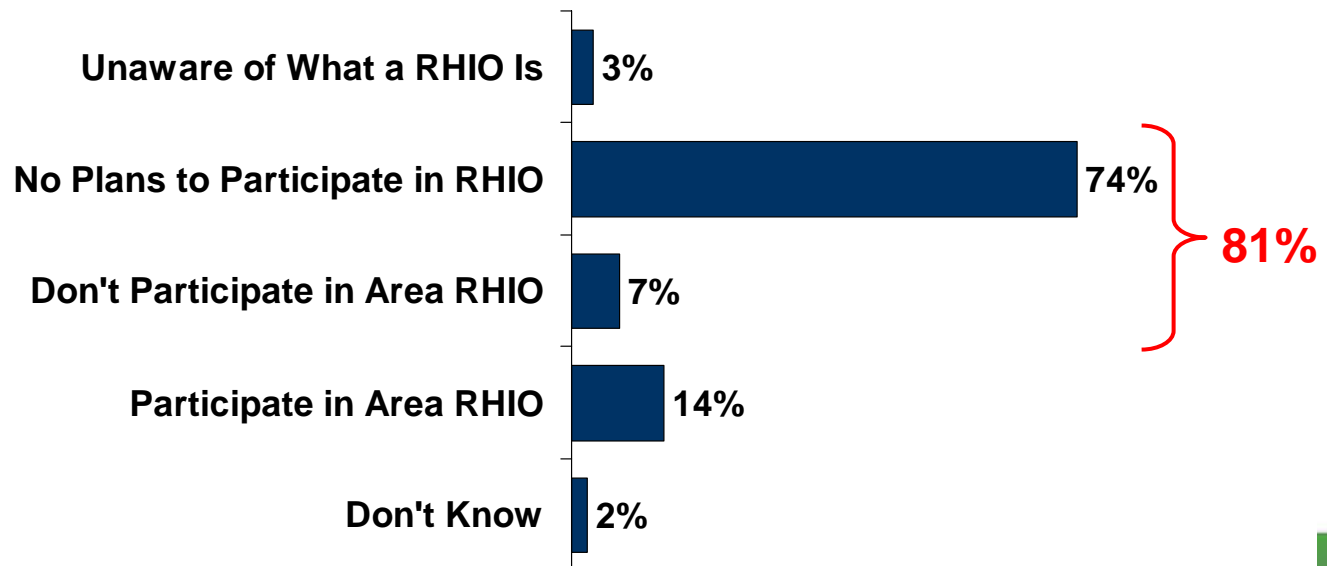
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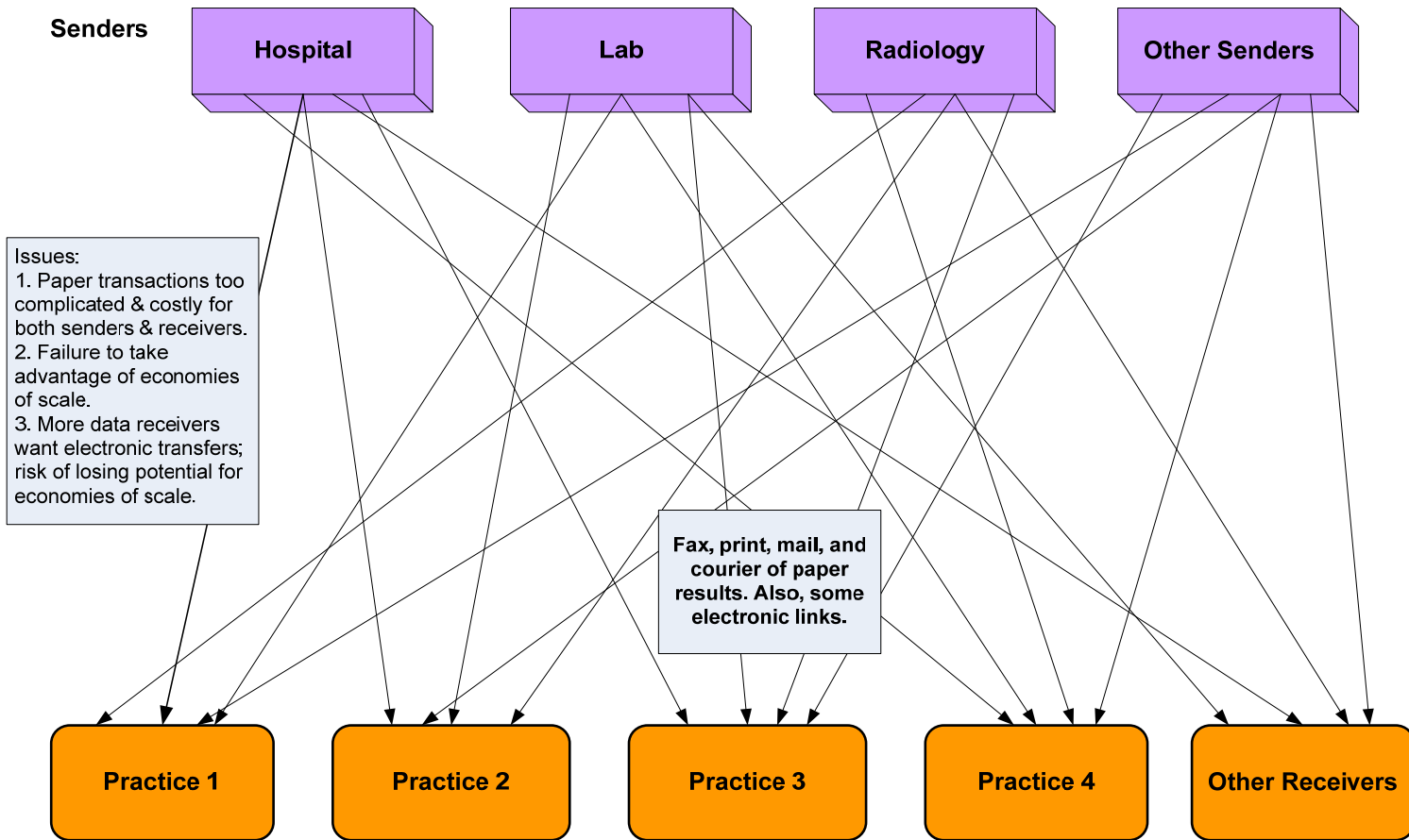
Status of Regional Health Information Organization (RHIO)

Figure 18



Why Needed? Current State

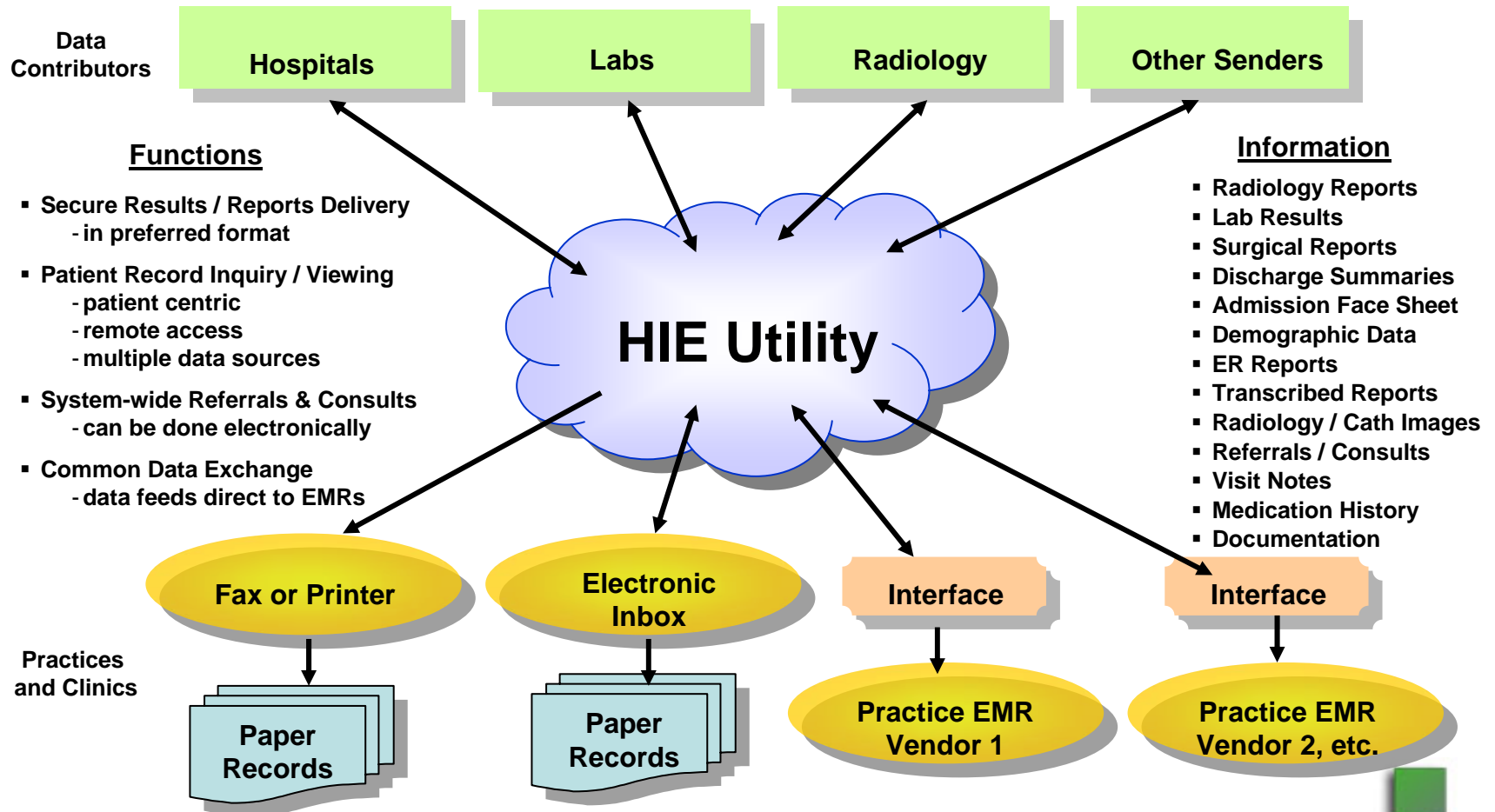
Current State Delivery of Results/Reports



Receivers

HIE Future State

HIE Utility Functions & Information



Issues

- Business Model
- Organization and governance issues
- Capital availability and a sustainable business model
- Technical issues related to linking systems, data, applications and security
- Legal issues, fraud & abuse, anti-trust and HIPAA
- Technology adoption by physician, clinicians and other stakeholders
- Assuring patient privacy



Business Model

- Speed to market
- Scope of service to clients (and their customers)
- Pace of adoption by customers/users
- Proportion of physician market adoption desired as prerequisite
- Revenue potential – driven by unit price x adoption volumes
- Sources of operating funds
 - Basic financing through grants; grants generally held to be insufficient, must be sustainable from a business perspective
 - Business model:
 - Subscription model
 - Network connections
- Stages of implementation desired (something is better than nothing)
- Security/Privacy issues

Governance

- Leadership and shared vision cannot be underestimated
- Interdisciplinary and inclusive
- Begin with a business plan – define role and identify financing right up front
- Create a structure to minimize complexity
- State privacy laws may be more complex than HIPAA



Technical Considerations

- Technology assumptions/implications
 - Technology decisions should follow business decisions
 - Consider existing technology environment
- Linking data – accurate patient identification
 - Aggregating one patient's data from disparate sources
- Provider identification
 - Unique individuals vs. organizations
 - Certification and qualifications
- Technical model
 - Central vs. distributed/federated model
- Standards development
- Secure connectivity
 - Encryption, authentication, integrity, non repudiation
- Core technologies
 - Data integration – connectivity, messaging, single sign-on
 - Electronic Master Patient Index
 - Electronic Health Record



Federal Impetus

- Executive Order (2004)
 - Established position of National Health Information Coordinator (ONC)
 - Work consistent with developing vision for National Health Infrastructure that will:
 - Provide appropriate information to guide medical decisions, available at time and place of care
 - Improve health care quality
 - Reduce health care costs
 - Promote a more effective marketplace
 - Improve the coordination of care
 - Ensure patients' privacy and confidentiality
- ONC Mission
 - Provide leadership for the development and nation-wide implementation of a interoperable health information technology infrastructure

Federal Impetus

- Resulting Strategic Framework
 - Goals
 - Inform clinical practice
 - Interconnect physicians
 - Personalize care
 - Improve population health
 - Associated Strategies
 - Incentivize EHR adoption
 - Foster regional collaborations
 - Develop national health information network
 - Encourage use of Personal Health Records (PHRs)
 - Unify public health surveillance architectures

National Health Information Network

- Build a technology-enabled health information infrastructure to include electronic health records and link them nationally
- Four demo sites resulting from “Prototype RFP”; have connectivity across the nation; sites interoperable
- Architectural principles
 - Connectivity prime prerequisite
 - Technologies today allow us to build and demonstrate
 - Standards also important prerequisite
 - Standards will evolve and be dynamic
 - Leverage existing systems
 - Data remains in existing systems – no need for central repository



National Policies

2006

- August 2006 Executive Order applicable to federal government health programs such as Medicare and the Federal Employees Health Benefits Program
- Introduction of 11 bills related to HIT and HIE and the passage of legislation at the intersection of HIT and quality in the U.S. House of Representatives and the U.S. Senate,
 - HR 4157, Health Information Technology Promotion Act
 - S 1418, Wired for Health Care Quality Act
- Issuance of the final safe harbor rules to facilitate electronic prescribing and electronic health records
- DHHS contracts through the ONC and the Agency for Healthcare Research and Quality (AHRQ)
- CMS (CMS) initiatives and demonstration projects focused on testing new payment models
- Continuing operation and expansion of the Agency for Healthcare Research and Quality's Health Information Technology planning and implementation grant program.

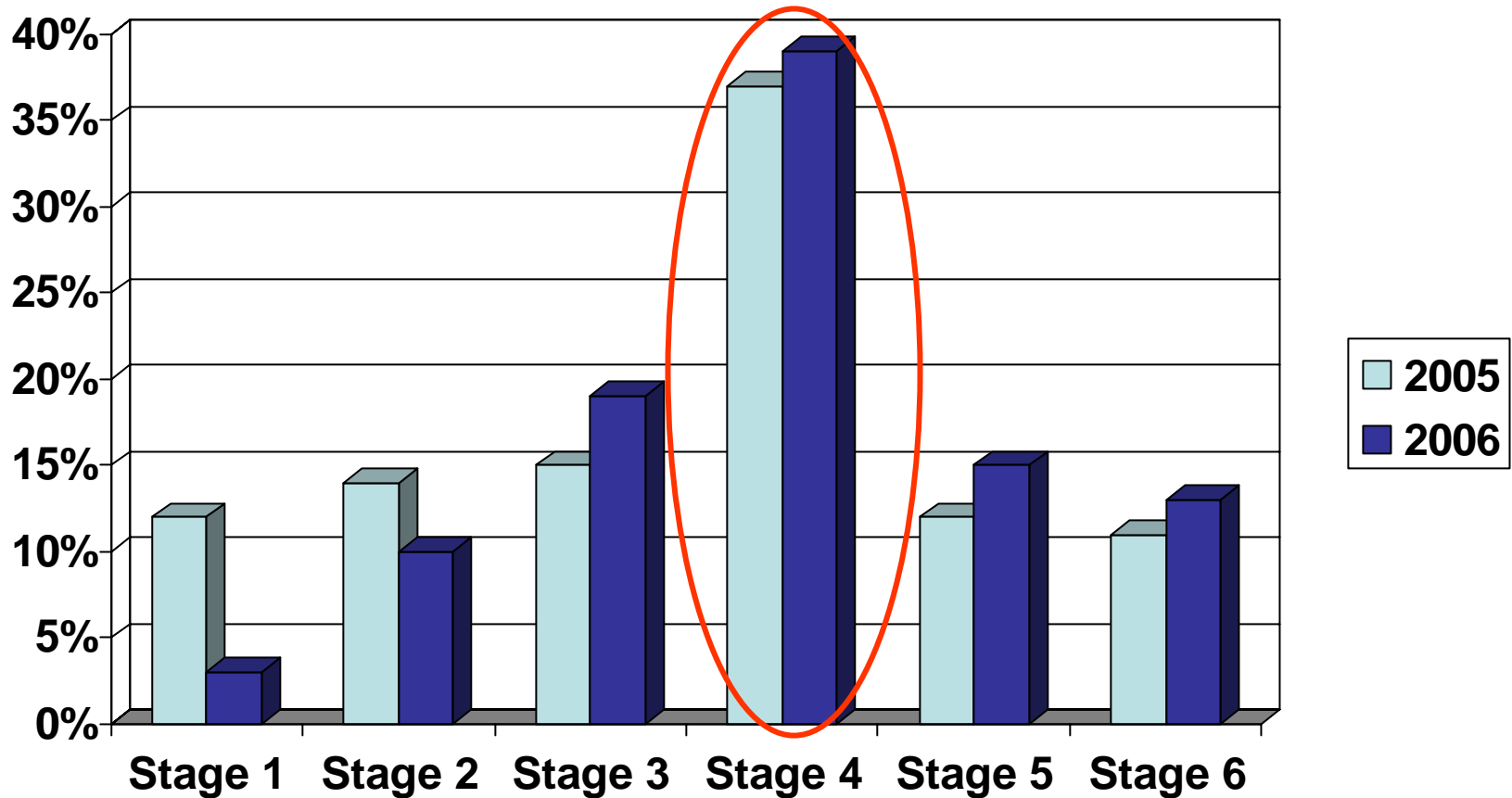
What is Happening at State Level?

- Policy activity and leadership has increased
 - 36 bills passed in 24 states
 - 10 Governors have passed Executive Orders
- Various levels of activities among communities (39%), regions (12%) and the states (34%)
- Primary HIE drivers:
 - Improving quality (92%)
 - Improving patient safety (82%)
 - Inefficiencies (70%)
 - Rising costs (56%)

Source: e-Health Initiative
“Improving the Quality of Healthcare Through
Health Information Exchange”
September 25, 2006

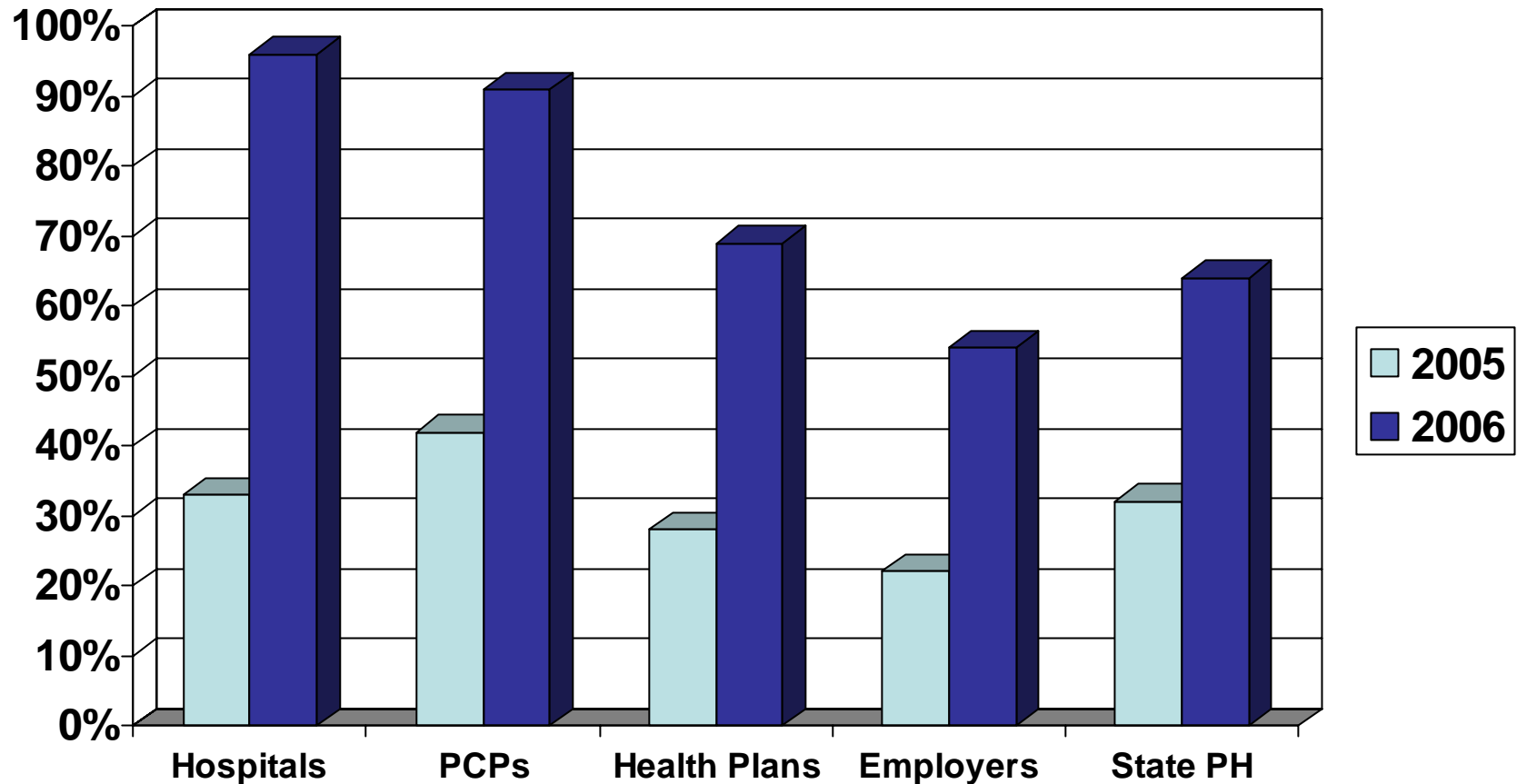


State HIE Development (Continuing to Mature)



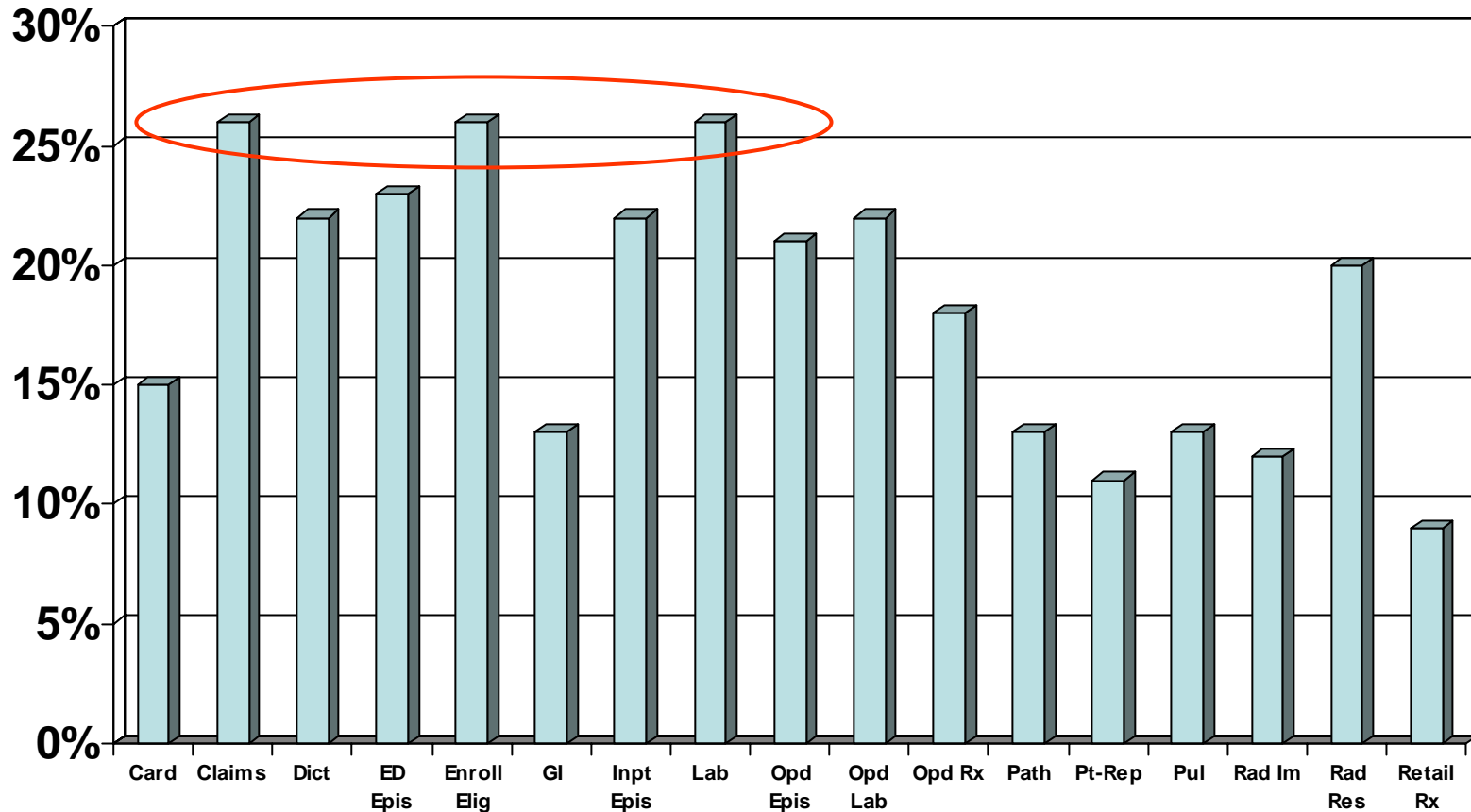
Source: e-Health Initiative
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Stakeholders (Largest % Increase)



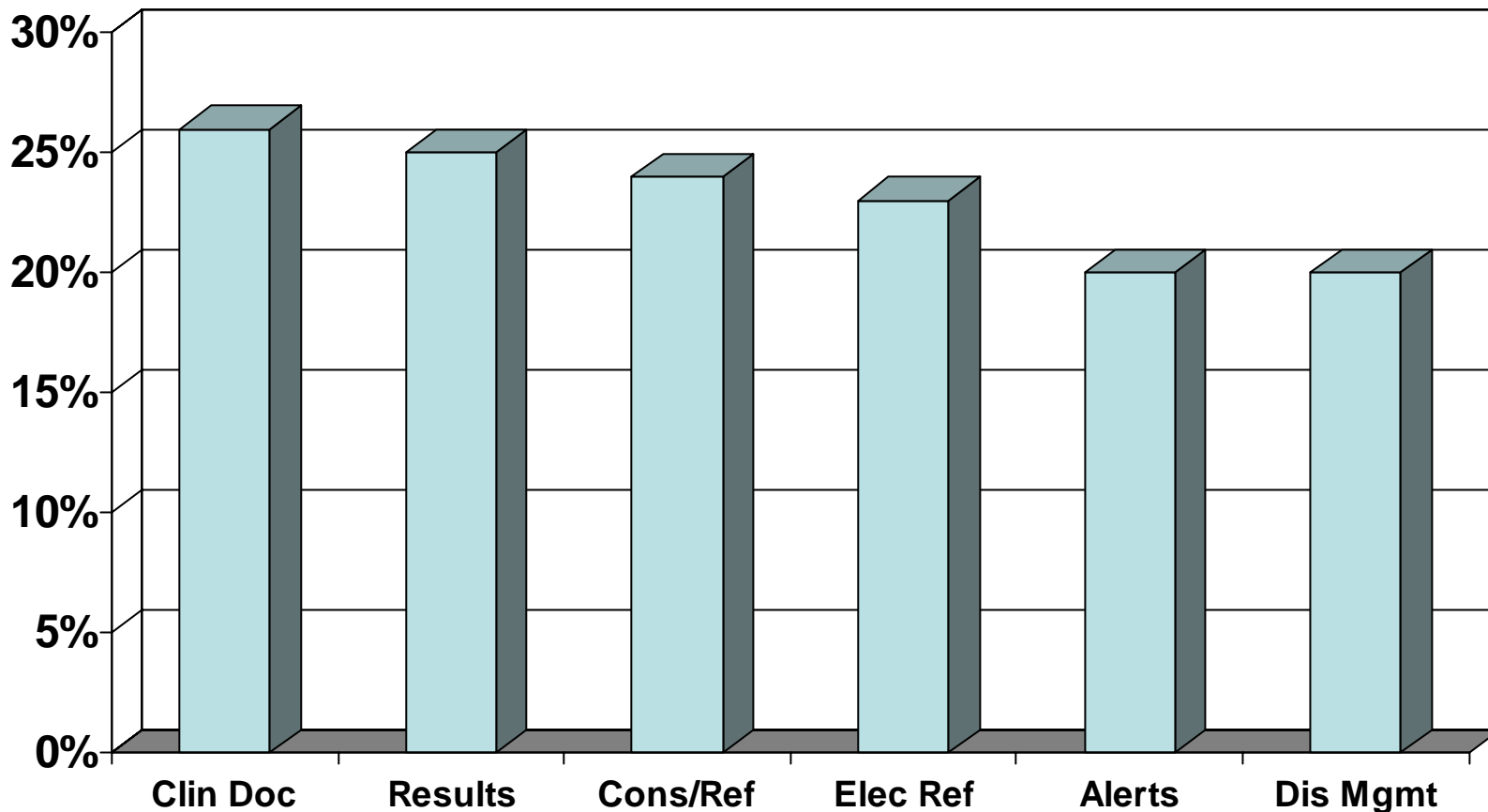
Source: e-Health Initiative
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Types of Data Sharing



Source: e-Health Initiative
"Improving the Quality of Healthcare Through Health Information Exchange"
September 25, 2006

Data Exchange Functionalities (Support Care Delivery Process)

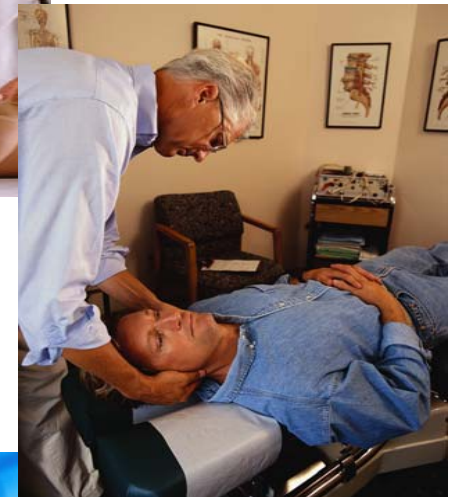
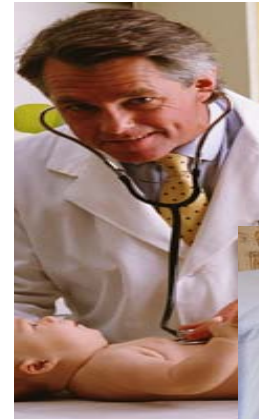


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Benefactors

- Clinicians
 - More timely and accurate information about patients' health status, health history, and “best treatment” information.
- Patients
 - Improved access to timely and accurate clinical information and health benefit claims
- Public and private payers
 - Faster and easier access to information on treatment trends and patients' outcomes



Questions?



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