Retail Pharmacy and the EMR

An Executive White Paper for Pharmacy CEOs

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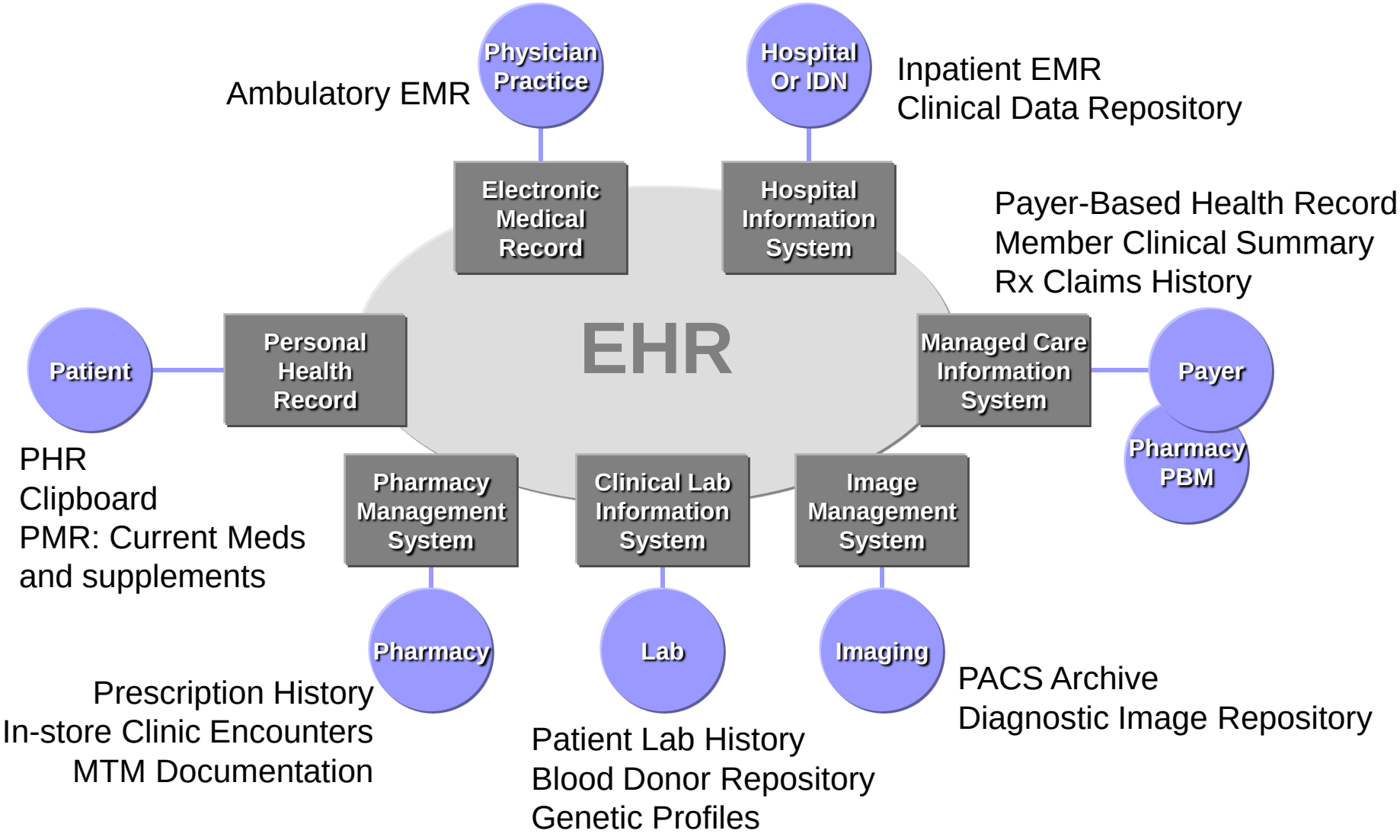
Introduction and objectives

- Electronic medical record (EMR) solutions are increasingly being adopted by mainstream larger physician practices and will likely find their way into smaller practices over time
- Such solutions have the promise of dramatically expanding use of electronic prescribing while also placing increasing demands for interoperability and collaboration with pharmacies
- As pharmacies expand healthcare services offerings to patients in the community, EMR solutions will play an increasing role in communications among physicians, pharmacists and patients
- It’s the purpose of this document to provide an overview of the EMR landscape, highlight key issues and suggest retail pharmacy actions for review

NACDS PIC Technology Committee

- This document is provided as an element of a NACDS PIC Technology Committee project, whose goals are to
  - Provide awareness to pharmacy industry executives about the emerging role of electronic medical records
  - Propose NACDS policy initiatives that allow pharmacy to capitalize on, and coordinate with the emerging EMR movement
  - Create a dialog between pharmacy and other healthcare stakeholders about the issues and impacts of electronic medical records
  - Propose industry programs that engage pharmacy with other healthcare stakeholders in a collaborative approach to electronic medical records
- The document has been reviewed and updated in June 2007

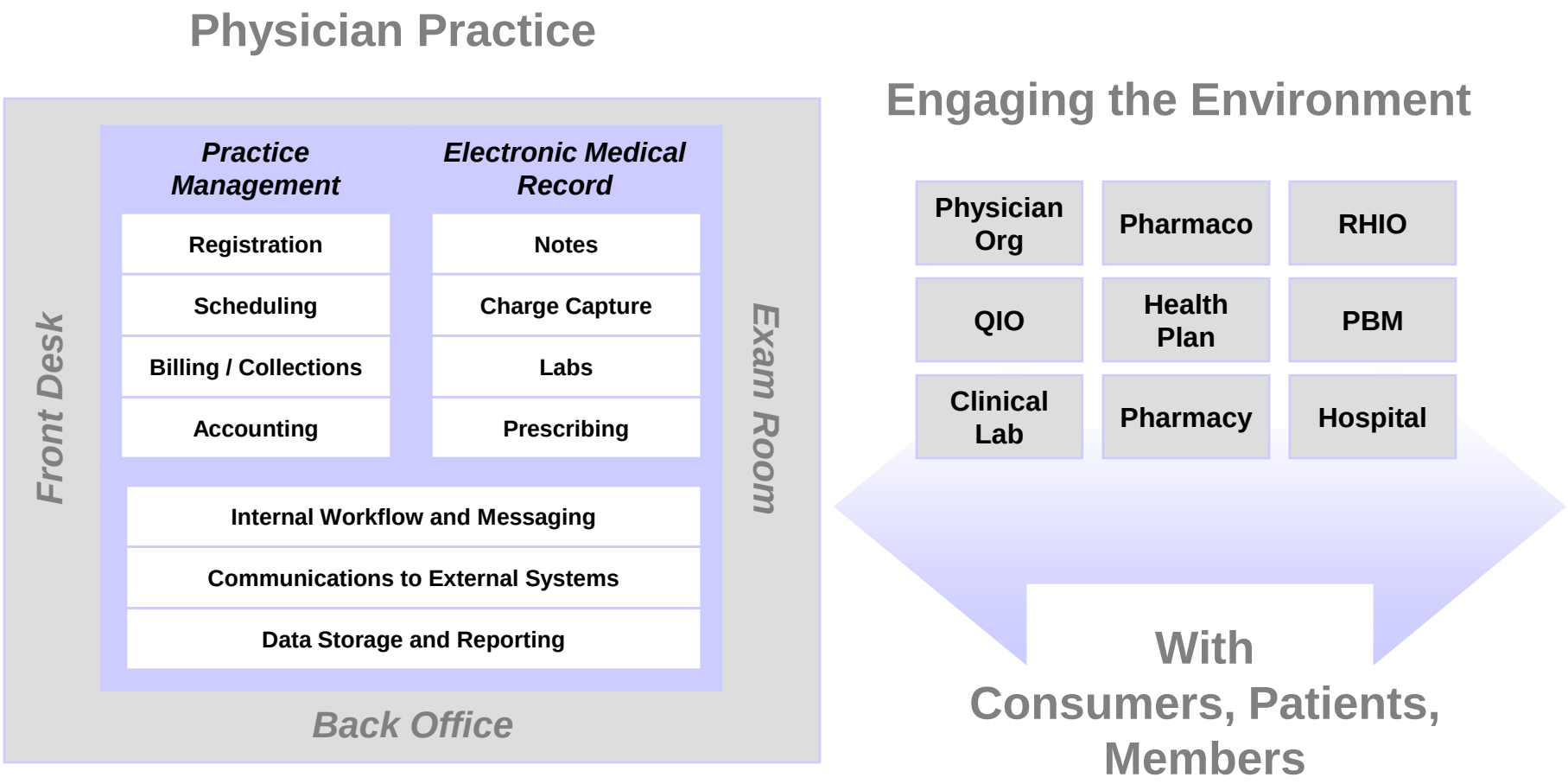
There is still confusion about the terms “Electronic Medical Record” and “Electronic Health Record”… They are often used interchangeably



The EHR generally refers to a conceptual and virtual repository; EMR refers more to physician practice records

- The EHR as a concept is discussed as an interoperable patient record that contains relevant information about a patient's care
- It is usually described as including summary information from different patient EMRs with pointers to the actual sources
- Current standards harmonization efforts, such as, Continuity of Care Document (CCD), are aimed at facilitating communication of these summaries
  - Note: Pharmacy has not been very involved in these standards efforts
- The EMR as used in physician practices, hospitals and other environments include a few important elements:
  - Repository of patient information viewable in clinically relevant ways
  - Workflow tool for patient care process inside an organization
  - Connectivity tool to exchange information outside the organization
  - Tool for clinical decision support and population management
  - Clinical front-end that is integrated with the core back-end billing processes

The EMR in a physician practice, at a high level, is a core operating system for the practice and a major connection to healthcare organizations and patients



EMR functions in two major areas: chart functions and practice workflow

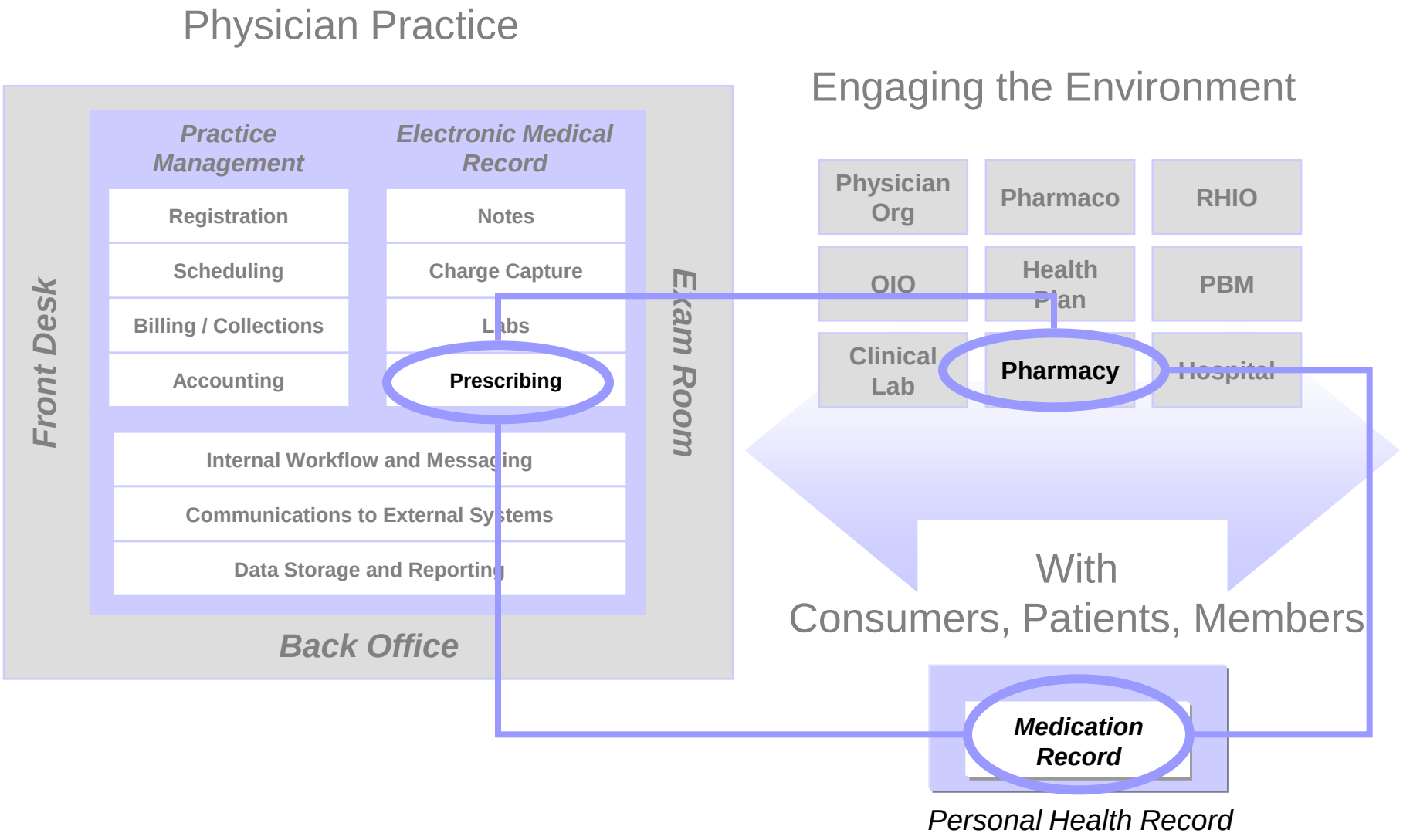
Chart Functions

- Health summary
  - Problems, medications, allergies
  - Encounters, recent results, procedures
  - Documents, immunizations
  - Links among chart elements
- Flexible data collection
  - Forms, templates, scanning
  - Speech to text, pick lists, drawings
  - Intuitive interaction model
- Results display
  - Flow sheets, trend plots
- Health maintenance & decision support
  - Clinical alerts and care reminders
  - Disease registry, best practices
- Standards-based encoding

Practice Workflow

- Patient scheduling and check-in
- Intra-office messaging and to-do lists
  - New lab results, refills, patient phone calls, document signatures
- Electronic prescribing
  - New scripts and refills
  - Formulary, Rx history
- Lab orders and results
  - Commercial and hospital labs
- Charge capture and E&M coding
  - Integration with patient billing
- Care coordination
  - Vital signs, clipboard, remote
- Referral management and CCD
- Patient communications
  - Personal Health Record, E-visits

The EMR usually includes an electronic prescribing component or an interface to one



The EMR, working collaboratively with E-prescribing, offers many benefits to improve the electronic prescribing process

How EMR Benefits the Electronic Prescribing Process

1. EMRs are utilized more consistently than stand-alone ERx solutions
2. Clinical summaries provided by an EMR can inform the pharmacist
3. EMRs eliminate chart pulls to make refill authorizations faster
4. EMRs with ERx automatically document medications in the chart
5. EMR flow charts combine medications with laboratory results or other tests
6. EMR office messaging facilitates approval of renewal authorizations

How E-prescribing Benefits the Adoption and Use of EMR

1. Use of an ERx creates an appetite for implementing EMR
2. In EMR implementations, early ERx benefits increase probability of success
   - Automating refills is an early win because of staff efficiency benefits (e.g., manual labor costs of $50,000 can be reduced)
   - Formulary, eligibility and medication history information is available at the point of care
3. ERx can help build a patient medication database to critical mass
4. Continuity of Care Document is fed by prescribing applications

Some physicians prefer to start with ERx, and some prefer to do the whole EMR at one time

Incremental Approach

- The ERx is offered as a stand-alone module in an integrated EMR
- Increasingly, the ERx is being embedded in an EMR (can be implemented first or early)
- The ERx supplier commits to integration with an EMR of choice in the future

Big Bang

- There are benefits to large practices going with a big bang approach (reducing chart pulls and transcription costs)
- Mid-sized and large practices can add care extenders more easily with EMR automated workflow
- EMRs allow the right level of coding for reimbursement and increase revenues
- Practices are putting the infrastructure in place for pay-for-performance incentives

Other Issues

- Health plans want to deliver guidelines and alerts to EMRs
- Patients report favoring physician practices with EMRs
- Physician trade associations support EMRs as a supporting “medical home” initiatives

Case study of ROI in large physician practices

- Central Utah Clinic: 59 multi-specialty physicians in 9 locations
- EMR supplier: Allscripts
- $952,000 in total benefits realized in 1st year
- Savings projected at $8.2 million over 5 years
- Benefit categories included:
  - Reduced transcription
  - Reductions in staff required for pulling, filing and maintaining charts
  - Elimination of the cost of building charts for new patients
  - Decreased physical space requirements due to a paperless record
  - Increased revenue due to improved documentation and more appropriate reimbursement coding levels

Source: Journal of Healthcare Information Management, Winter 2004

**Note:* Additional benefits could be added through connecting to pharmacies

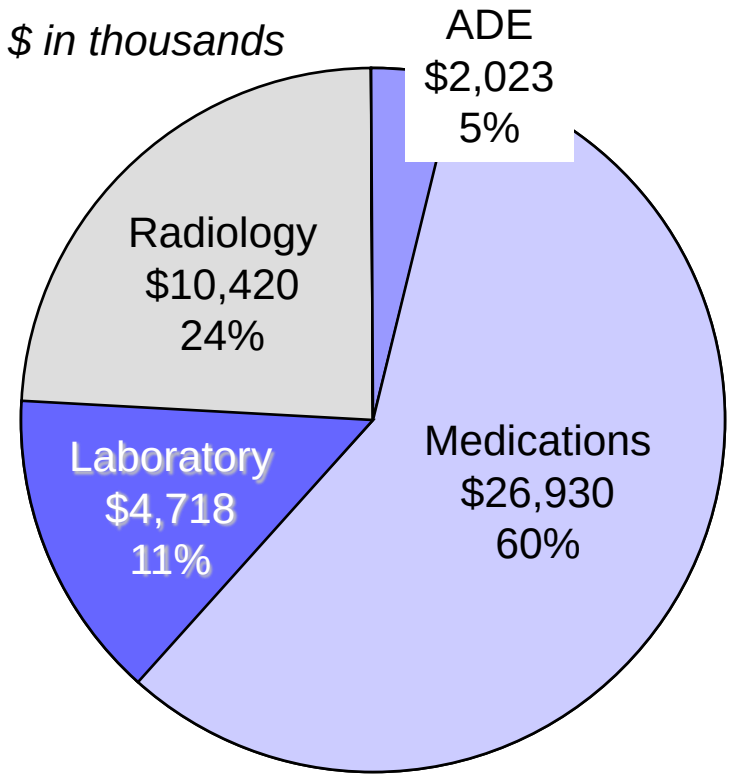
Case study of ROI in small physician practices

- 14 solo and small group practices
- EMR supplier: Practice Partner and A4 (now Allscripts)
- Average per FTE provider costs: $44,000 plus $8,500 per year
- Returns averaged $33,000 per year per FTE provider
- Break even averaged 2.5 years with handsome profits after that
- Benefit categories included:
  - Personnel savings
  - Transcription cost savings
  - Paper supplies savings
  - Increased revenues from increased visits and more accurate coding

Source: (Miller, Health Affairs, Sep/Oct 2005)

**Note:* Additional benefits could be added through connecting to pharmacies

Looking at potential savings to the healthcare industry as a whole, CITL estimates an annual national cost savings from EMR at $55 billion, with 89% accruing to payers



Source: Center for Information Leadership, *The Value of Computerized Provider Order Entry in Ambulatory Settings*, 2003

- ADEs: Adverse drug events can be reduced with an average cost of $10,000 for an ADE-related hospitalization
- Medications:
  - Some of the cost savings are in brand to generic switching or more cost effective therapeutic alternatives
  - Most in elimination of overuse, e.g., antibiotics
- Laboratory and radiology: Cost reductions by elimination of unnecessary testing
- Most of the national savings accrue to payers

EMR adoption is estimated at 24% for all practices with larger sized practices adopting more quickly (*MGMA, 2005*)

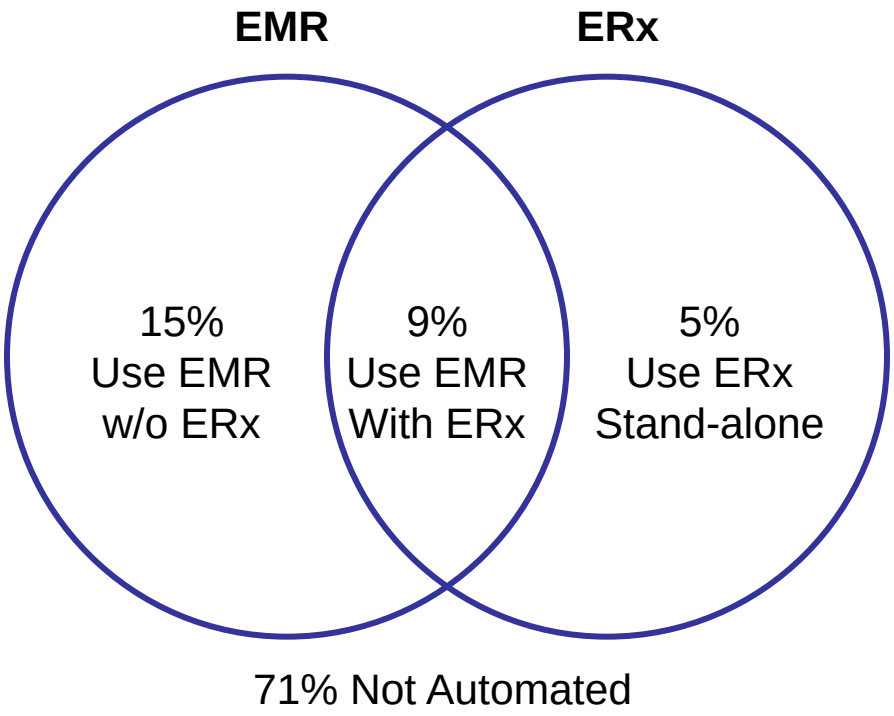
Degree of EHR implementation by practice size (percentages within size of practice)

Number of FTE Physicians in the Practice	Fully Implemented for All Physicians in All Locations	Implementation in Process	Implementation Planned in Next 12 Months	Implementation Planned in Next 13 to 24 Months	Not Implemented and No Plans to Implement in Next 24 Months
5 or fewer FTE	10.4%	10.3%	12.6%	18.9%	47.8%
6 to 10 FTE	13.6%	11.8%	15.9%	21.4%	37.3%
11 to 20 FTE	13.9%	20.7%	20.0%	18.4%	27.0%
21 or more FTE	11.0%	28.5%	15.7%	24.2%	20.2%
All practices*	11.5%	12.7%	14.2%	19.8%	41.8%

* weighted to reflect the response by group size

Source: Medical Group Management Association (MGMA) Center for Research, University of Minnesota School of Public Health, *Assessing Adoption of Health Information Technology*, funded by the Agency for Healthcare Research and Quality (AHRQ)

An analysis of multiple studies shows E-prescribing is under-utilized particularly in smaller practices

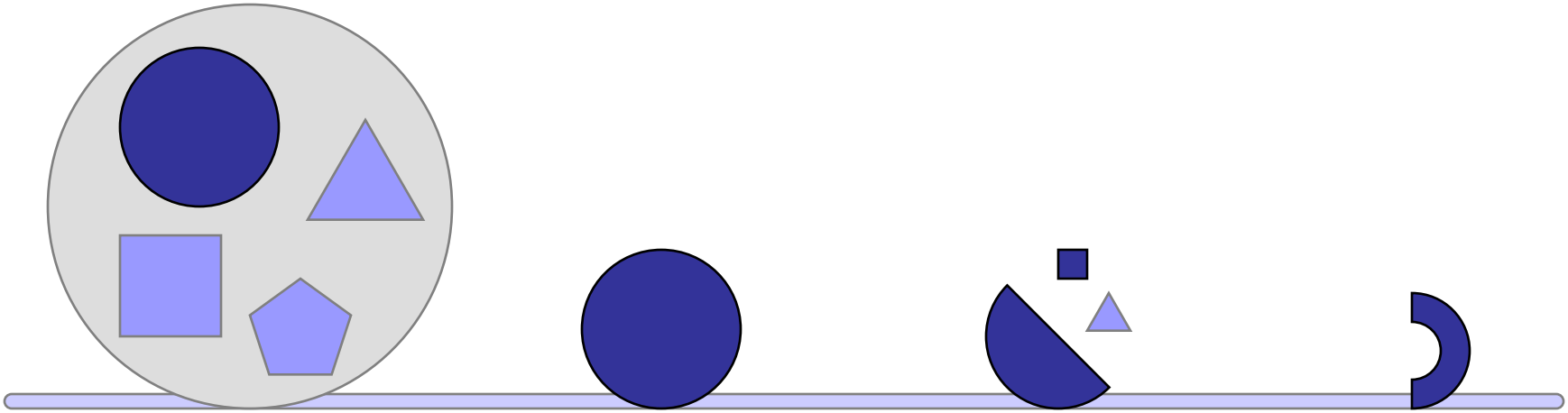


Practice Size	*Best estimates for EMR adoption based on high quality surveys (%)*
All	24
Solo	16
Large*	39

*"Large" is defined as > 20 physician FTEs in one study with 39% adoption and >50 in two another studies with 47% and 57% adoption respectively.

Sources: Jha et al, Health Affairs, 10/11/06; MGMA, 2005; CDC/NCHS Nat'l Ambulatory Medical Care Survey, 2005; HSC Community Tracking Study, 2006; Forrester, 2003; SureScripts estimates, 2006

Companies providing solutions to physician practices can be segmented by their business strategies



Multi-market	*Focused*	*Niche*	*Complement*
Diverse product set for providers, payers, and others	Focused product set for the total physician practice	Narrow product set for pieces of the whole, e.g., ERx or e-lab	Products that extend or under-pin, e.g., PHRs or Hubs
Examples Cerner McKesson Epic	*Examples* NextGen Allscripts eClinicalWorks	*Examples* DrFirst Zix MedPlus	*Examples* CapMed RxHub SureScripts

Certification Commission for Healthcare Information Technology (CCHIT)

- Created to pursue private sector certification of health information technology products
  - Encouraged by HHS, ONCHIT (Office of Nat'l Coordinator) and AHIC (Am. Healthcare Info. Community)
  - Formed July 2004 by industry trade associations: AHIMA, HIMSS, Alliance
  - Awarded three year HHS contract in September 2005
  - Additional funding is provided by physician associations, healthcare organizations and foundations
  - Operated as a private LLC
- 55 EMR vendor solutions have been certified to-date for ambulatory EMR
  - Estimated by CCHIT to be 25% of the vendors in the market
- CCHIT has begun the work of certifying vendor solutions in the hospital-based EMR area
- Generally praised by participating vendor organizations; some have voiced objections to the certification fees charged ($28,000 first year)

**Note:* SureScripts and RxHub also provide EMR supplier certifications for a similar number of vendor solutions. However, physician customers are under-connected to pharmacy services.

Future directions of the EMR

1. More complete and mature electronic prescribing offerings in EMRs
   - New scripts, refills, Rx history from pharmacies and payers, formulary and eligibility
   - Many suppliers embedding niche ERx products instead of in-house development
2. Connecting physician practices and patients: PHR, E-visits, Rx history, health risk assessments
3. Population-based patient outcomes reporting utilizing registries for CMS, health plan and employer physician incentive programs
4. New software-as-service architectures supported by new business models
   - Low cost subscription to the practice or free (ad supported)
   - Revenue from payers for formulary and payer clinical data transfer
5. Support for the Medical Home concept including medication adherence and care management programs
   - Registries, decision support, group visits, patient outreach (PHR and IVR)
6. Medication reconciliation with hospitals, IDNs and RHIOs
7. Aggregated patient-centric data products and clinical trial support
8. Open Source movement leveraging the work of VistA, the EMR at the Veteran Affairs

Implications for pharmacy

Increased data sharing and revenue opportunities

1. EMRs facilitate the adoption and utilization of electronic prescribing
   - 150,000 prescribers will implement ERx thru currently installed products over time as part of the 25% of the 600,000 office-based physicians using an EMR
   - If current trends continue it is likely that EMRs will be the vehicle for ERx adoption
   - Maturing EMR functionality delivered in more cost effective ways will be broadly appealing to smaller and smaller practices
2. Patient safety benefits of ERx and EMR collaboration
   - More complete records; diagnosis available for pharmacist to see
3. EMRs enrich connectivity between physicians and pharmacists
   - EMR suppliers want retail pharmacy medication history to amplify physician benefits
   - EMR suppliers want data on patient visits to in-store clinics and pharmacist services
   - Additional clinical data may be exchanged: e.g., diagnoses, allergies, lab results, vital signs
4. EMRs support increased pharmacy revenues from patient adherence programs
   - Manufacturers and payers are looking to EMR technology at the point of care to engage physicians and patients in a collaboration for medication adherence
   - Pharmacy can join this effort with data exchange and professional services that will be reimbursed by program sponsors

Implications for pharmacy (continued)

Increased data sharing and revenue opportunities

5. EMRs support medication therapy management services
   - Payers want physicians to prescribe generic and preferred drugs and to help patients comply with medication therapy
   - Payers are providing incentives to physicians to use EMRs as part of payer-sponsored programs
   - As physicians become accountable for patient adherence, a collaborative approach between pharmacy and EMR technology can support pharmacy MTM services
6. EMRs are a key source for personal health records for patients
   - Pharmacy can provide the medication record as a component of a PHR
   - EMRs can feed the PHR with other elements such as lab results and other medical history
   - Collaborating with EMRs promotes pharmacy as a key member of the care team
7. EMRs can support medication reconciliation in hospitals/long term care facilities
   - Rx history delivered thru some EMRs can ease the transitions to and from acute care
   - Pharmacies may be able to wrap MTMS around such transitions

Obstacles

- Currently installed EMRs have very low pharmacy connectivity which presents a major obstacle to achieving pharmacy benefits
  - EMR suppliers incur costs for software modification, site by site upgrade services, additional testing, additional user training, and increased support
  - EMR suppliers are not currently reimbursed for these costs
  - EMR suppliers don't promote the benefits to current users of pharmacy connectivity so most are generally unaware of the advantages of renewals, medication history and other features to their practices
  - ***Pharmacies need to make physicians aware of the benefits!***
- Smaller practices are lagging in adoption of EMRs
  - Reducing transcription and chart pulls is not as compelling as in larger practices
  - The large practice market is so vibrant that even vendors with solutions that have appeal to smaller practices are focused on larger deals
  - ***Pharmacies need to make smaller practices aware of solutions they can embrace, starting with stand-alone ERx adoption!***

Risks

- Risks of communicating prescription history between pharmacies and physician EMRs
  - Some physicians perceive an increased liability in having access to prescription history for other providers, although most are focused on the benefits
  - Physicians and patients must understand that any history they receive from pharmacies may not be the complete history for a patient
  - Ensure that all HIPAA guidelines are met
- Risks of not collaborating with EMRs
  - EMR suppliers may create relationships with manufacturers and payers that ignore pharmacy
  - Patients may look only to the physician technology suppliers for personal health records
  - EMR suppliers may align more closely with PBMs that have historically been providing incentives
- Risks of more rapid EMR adoption than forecast
  - Pharmacies may not be ready for increasing demands while still working on smoothing the electronic prescribing workflows

Summary

1. EMRs are more than just a database of patient information, they become the core operating system of a physician practice and manage much of its workflow internally and externally
2. Physician practice EMRs are now mainstream solutions for larger practices and increasingly appealing to smaller ones as well
3. Electronic prescribing is maturing as part of EMR functionality as are the support services required for consistent utilization
4. Pharmacies can benefit from EMR capabilities
   - Increase adoption and utilization of electronic prescribing
   - Enrich the communications between pharmacists and physicians
   - Enhance medication therapy management services and compliance/persistence programs
   - Complete the personal health record for pharmacy customers

Summary

5. Pharmacies must collaborate with EMR suppliers to achieve these benefits
   - Get connectivity to currently installed EMR practices (150,000)
   - Help find solutions for smaller practices
   - Engage in collaborative data sharing and industry relationships
6. EMRs are a key connection point for emerging regional and national networks
7. EMR suppliers are creating relationships with payers, pharmaceutical manufacturers, and patients to provide additional services

Roadmap for pharmacy in EMR development

1. Encourage physician practices with EMRs to get connected to community pharmacies via electronic prescribing
2. Encourage physician users who are connected to use ERx consistently
3. Support EMR suppliers that want to help smaller physician practices automate
4. Develop cooperative data sharing programs with EMR suppliers and their physician practice clients
   - Send pharmacy prescription history information to inform EMRs
   - Send appropriate pharmacy MTM and clinic visit results to EMRs
   - Receive additional clinical information such as lab results and diagnoses
5. Work collaboratively with EMR, ERx, PHR and patient self-care technology suppliers in pharmacy-driven patient medication adherence programs
6. Encourage EMR suppliers to incorporate ERx capability in their software
7. Educate NACDS members on benefits of EMR and their connection to ERx

Final Thoughts

Benefits Of EMR To Chain Community Pharmacy

- EMRs with electronic prescribing functionality will help community pharmacy expand its role in managing prescriptions for patients
- EMRs in physician practices will enhance communications among pharmacists, physicians and patients
- EMRs will lead to better, more coordinated care
- EMRs will increase patient safety
- EMRs support patients' desire for greater control and management of their own health
- EMRs will create revenue opportunities for pharmacies to leverage MTM and other patient services in health plan and manufacturer sponsored patient adherence and pay-for-performance programs

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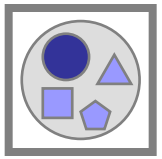
Note: An executive summary is available as a complement to this presentation.

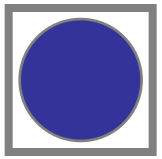
Appendix

Vendor segmentation and market dynamics for physician practice HIT



Multi-market

- Largest companies with the best reach fast-following into EMR and ERx
- Hospital technologies, acquired practice management, and selected others
- Cerner, McKesson, Siemens, Misys, GE Health, Epic

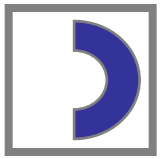


Focused

- Large practice mainstream market: Allscripts, NextGen, Sage, eClinicalWorks
- Smaller practices in early adopter mode at the tipping point: DOCS, eMDs
- High quality, web-based, ASP solutions lack distribution: PracticeFusion, SynaMed

Niche

- ERx companies with complex business models and limited reach: DrFirst, Zix
- Bundles are aiming at an EMR-lite: MedPlus, Axolotl, athenahealth
- Other niche: Web-based billing, lab orders/results, charge capture, transcription



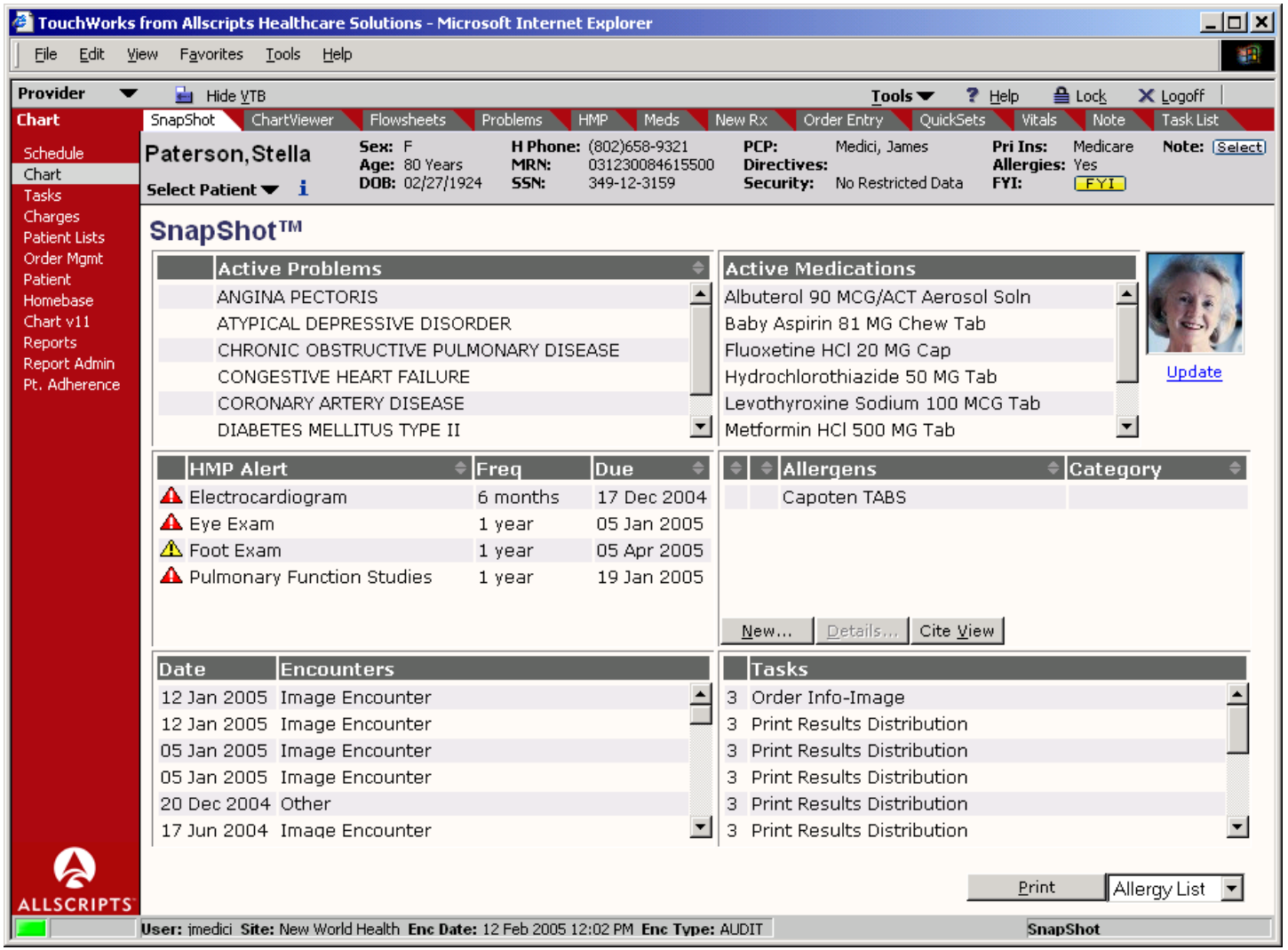
Add-on

- Personal health record (PHR) via USB keys and web sites: Medem, CapMed
- Registries to support population health and outcomes: DocSite

Under-pin

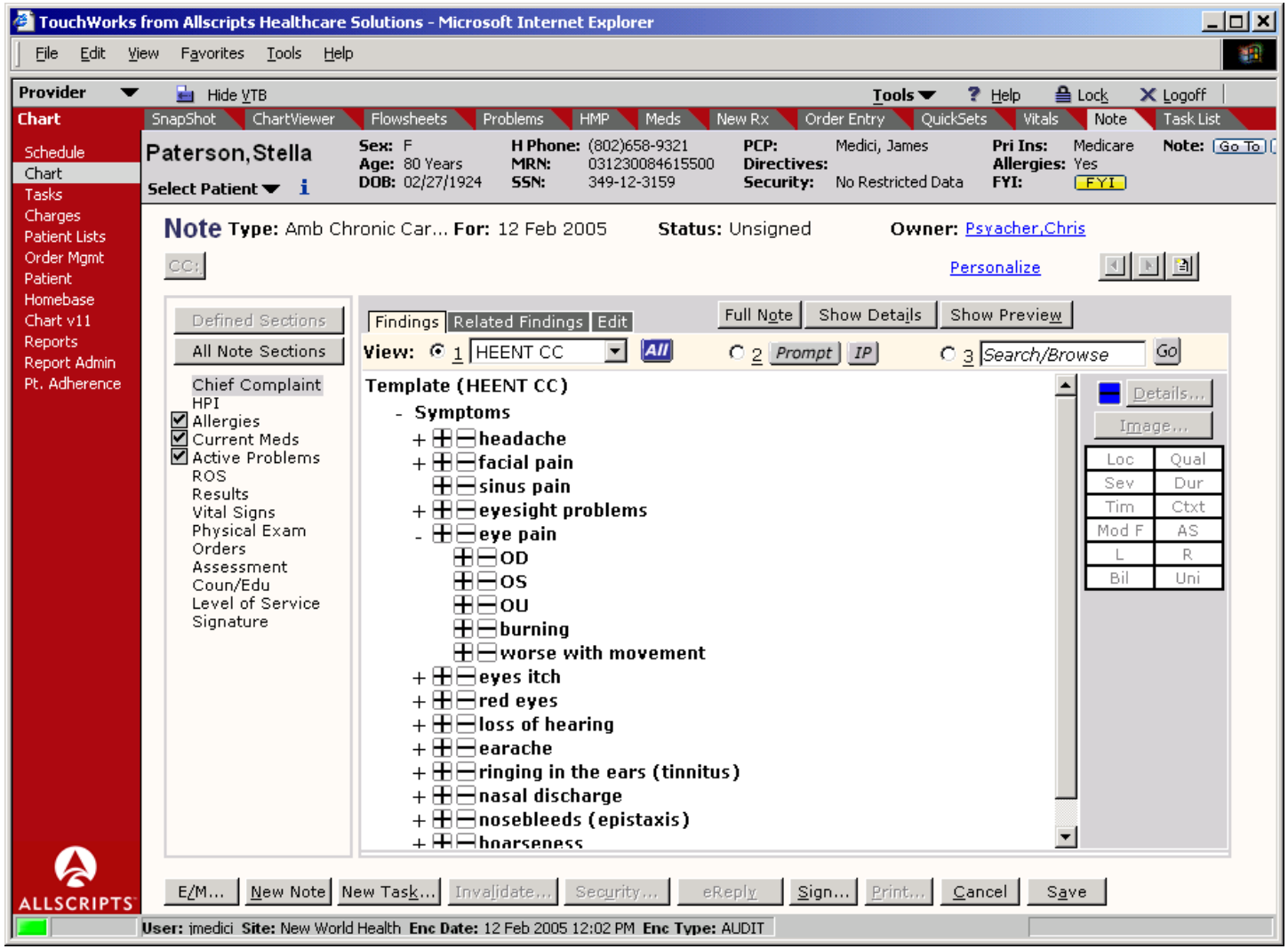
- ERx hubs: SureScripts and RxHub
- New clinical transactions: CCD and NCPDP Rx History
- RHIO-centered: HealthVISION, Wellogic, Axolotl, Quovadx, Initiate, MEDecision
- Big Tech is engaging: IBM, HP, Cisco, Kodak, CSC, EDS, Accenture, Verizon

Example EMR display (Patient summary screen)



Patient Summary Screen – Snapshot, courtesy of Allscripts

Example EMR display (Clinical template screen)



Clinical Template Screen – Note Template, courtesy of Allscripts