

e-Health

The Cure?

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Agenda

- Diagnosis
- Remedies
 - Analysis of Health IT
 - Analysis of EHRs
 - Analysis of PHRs
 - Continuity of Care
- Interoperability and Architecture Considerations
- What You Can Do

The Pain

Providers Practice Medicine As An Art

- Insufficient Cost Guidance And Control
- Administrative Waste
- Inadequate Billing System (Upcoding, Evidence Of Care, Etc.)
- Outdated Systems
- No Continuity Of Care

The Concept of Electronic Health Records

The Vision As of 40 Years Ago

1. A Complete Patient Record that Includes Information from All Providers
2. With a Standard Structure
3. Providing Guidance to the Practitioner
4. Providing References
5. Higher Efficiency
6. Providing ROI
7. Saving Money

Today's Goals

- ◆ Reduce or Contain Healthcare Costs
 - Reduce Administrative Cost
 - Establish Cost Control Measures
- ◆ Improve Quality of Care
 - Through Continuity of Care
 - Reduce Medical Errors
- ◆ Bring Financial Systems into the 21st Century



We Will Only Achieve Our Goals If We Include all Stakeholders

- ◆ Provider Communities

- ◆ Payers

- ◆ Public Health

- Research

- Public Health Policies

- Catastrophic Event Responses



Health IT Product Categories

- Financial Solutions \$ 800 million
- Administrative Solutions \$ 200 million
- Imaging Solutions \$7,000 million
- Clinical Solutions \$26,000 million
- Other Non-Provider Solutions
 - Public Health ?
 - Bio-terrorism, etc. ?
- NHIN ?

Key Issues in Health Informatics

1. Practitioners Can No Longer Rely on Memory Alone
 - Provide Access to Knowledge Bases
2. Health Information Is To Be Shared Among Authorized Persons
3. Continuity of Care
 - Patient Information Should be Available to Any Authorized Healthcare Professional
4. Patient Safety
5. Leveraged Skill and Knowledge
6. Changing Provider/Patient Relationship
7. Financial Administration Is Hopelessly Outdated and Wasteful

What Has Been Achieved?

1. EHR Systems
2. PHR Systems
3. Financial Systems
4. Continuity of Care

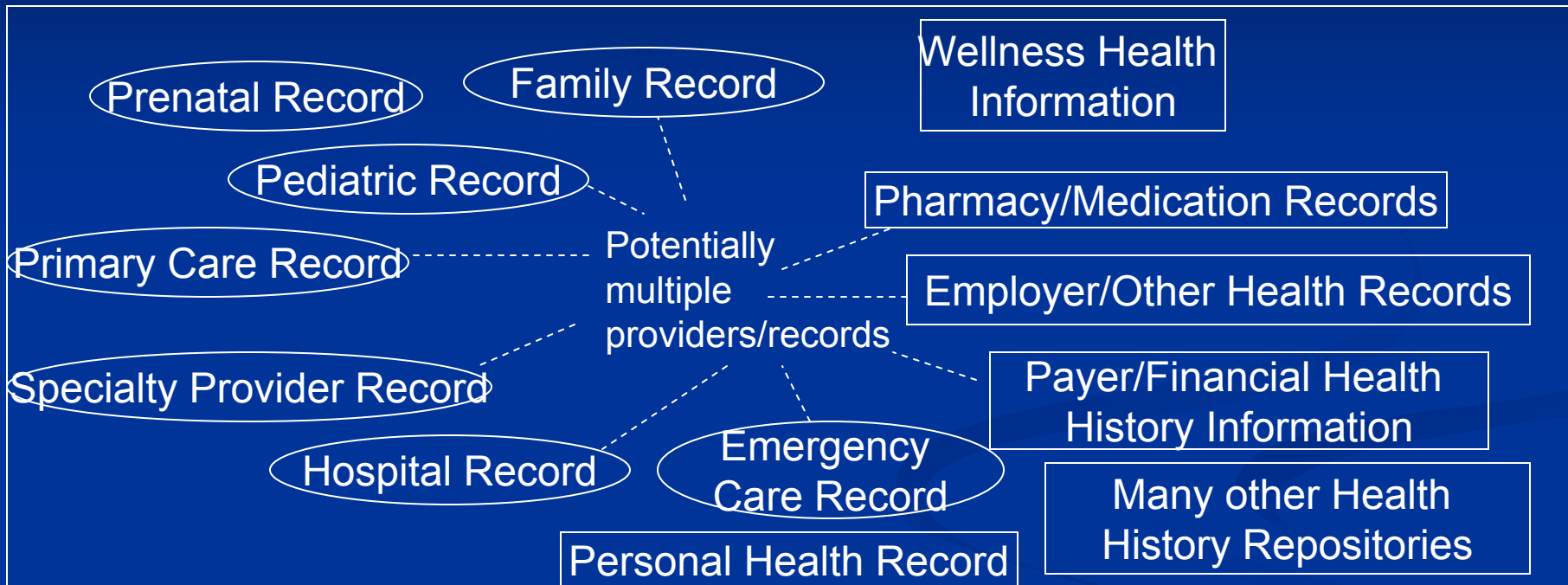
1. Electronic Health Records

- Hope
 - Reducing Costs
 - Improve Quality of Care
 - Continuity of Care
 - Reduce Medical Errors
 - Tool for New Scientific Healthcare

History of Computer-based Patient Record Systems

1960s	First Attempts
1970s and 80s	Progress slowed
1991	IOM Study
1995-98	Failures and Decline of Interest
1999	Focus on Personal Web-based Records
Since 2002	Back to the Top of the List
2006	Moving Ahead

EHR Structure



Questions:

- Should there be one database
- If a network is created, which information is to be exchanged?

Legend

○ EMRS

How many EMRs are in an EHR?

Current Implementation of EMR Systems

- Ambulatory Providers
 - 15-20% of Providers Have an EMR
 - Problem of ROI
 - Uncertainty in the Market Place
- All Hospitals Have Some Computerization
 - IT Driven by Competitiveness
 - Industry
- LTC Is Far Behind

For Further Details, Check Medical Records Institute's
Survey:

www.medrecinst.com

But There is More...

- Incentives for Electronic Systems
- Pay for Performance
- E-Prescribing Legislation
- Free VA Software
- National Architecture Project

Economic Impact...

High documentation costs increase healthcare costs

	billion
■ Estimated \$20 billion on health IT	\$20
■ Est. \$25 billion for transcription	\$25
■ Estimated \$50 billion annually on medical records and processes related to them	\$50
■ And what does the current paper-based claim processing cost (incl. related Charges)	\$?? \$?

Rethinking Data Flow in an EHR

■ In a traditional-record EHR

- Encounter begins with data collection
- Produces an assessment
- Ends with a plan
- Results in the creation of a bill (based on coding)

■ In a data-based EHR

- Encounter begins with a review of the patient summary
- Continues with updates to the data base, such as today's vital signs
- Moves to data details of HPI, ROS, and PE
- Ends with orders such as e-prescribing that eventually become part of the CCR
- Data points reflect true documentation of services provided and provide the basis for claims and further electronic clarification

Future Patient Record

- Based On A Secure And Safe Website
- Information Posted And Accessed Rather Than Sent Or Exchanged
- Populated By Data Not Documents
- Authorized Healthcare Professionals Notified That They Can Access Information
- Huge Volume Of Data Is Not Shared In Its Entirety
- Is Structured And Has Data Integrity For Care Documentation That Can Be Used For Reimbursement

Future EHR Architecture

Patient Health Status

All Relevant Health Data (*such as National Standard of Continuity of Care Record - CCR*)

May In Some Cases Be Used For Claim And Billing Purposes

Automated Process

Patient Care Documentation

A Digital And Newly Structured Version Of The Medical Record

Includes All Management Information Regarding An Encounter/Episode

Automated Process

Extracted Documentation for Reimbursement Purposes

EHR Successes

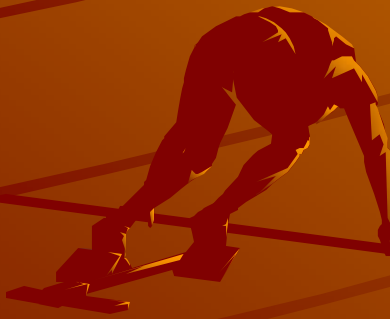
- US: 10 Years
- International
- Outlook

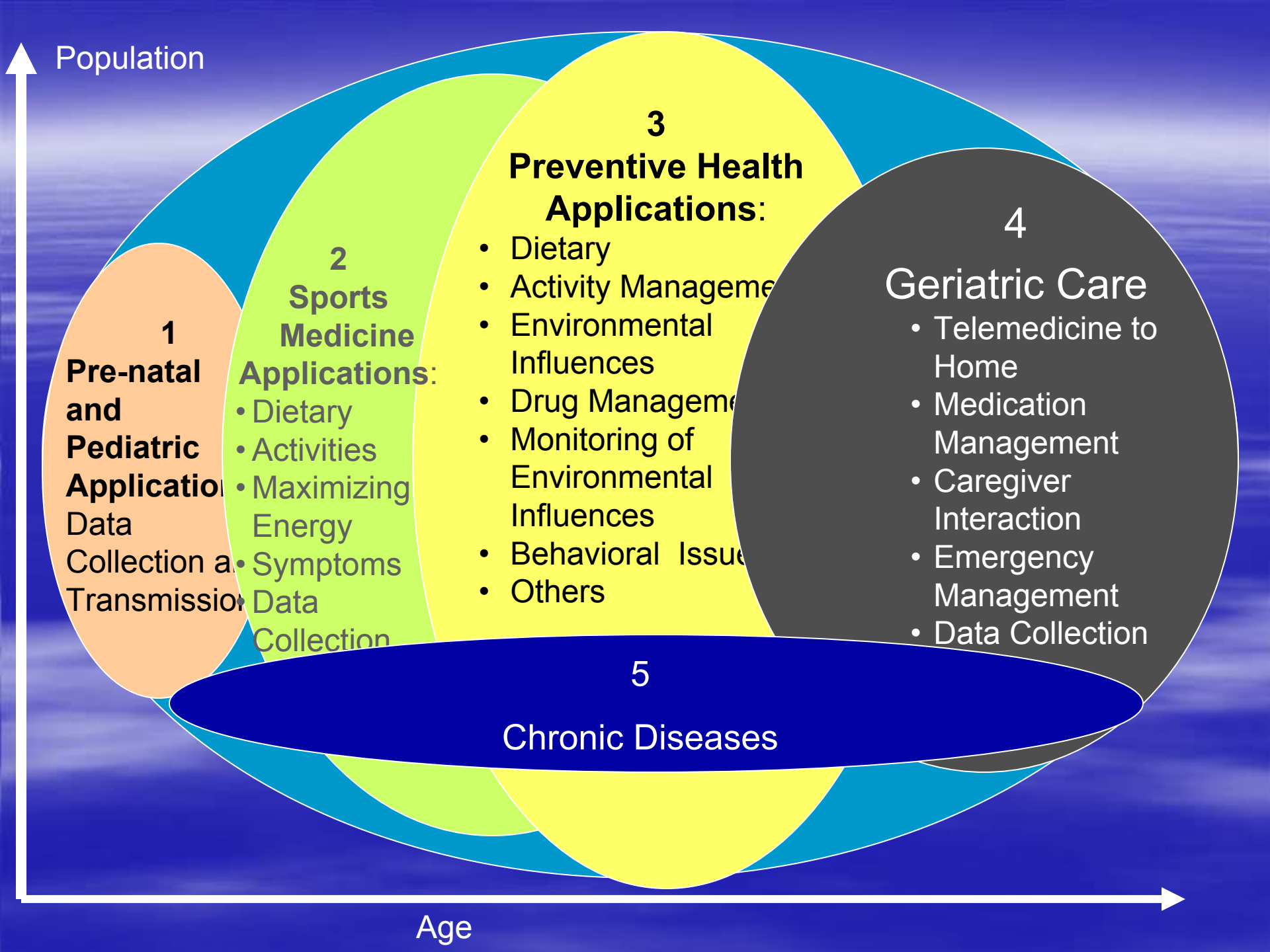
2. Personal Health Systems

- Hope
 - Overcoming Data Silos
 - Continuity of Care
 - Consumer Taking Responsibility for Care
 - Consumer Taking Responsibility for Cost
 - Reduction in Cost

2. PHR Analysis: Goal

- ◆ Patients To Understand Their Health Status
- ◆ Patients to Understand Their Illness Symptoms
- ◆ Patients to Know and Monitor Their Preventive Status
- ◆ Patients and Practitioners to be Partners
- ◆ Patients to Manage a Personal Health Record





Consumer Health Manager

Functions

- Core Data Set Management
 - Medical and Financial
 - Authenticated and Sealed
- Personal Health Information
 - To be Recorded by Consumer
 - Private/Personal Data
 - Integrating Alternative Care and Others
- Connectivity
- Basis for Consumer Software
- Reference Systems

2. Analysis of PHRs

Why is the Movement Towards Patient Empowerment Growing so Slowly?

1. Lack of Understanding Among Consumers
2. Current Business Models of PHR Vendors
3. Immature Field
4. Information Capture

2. Analysis of PHRs

Estimated PHRs in USA

2000	104 PHR Providers	13 Million PHRs
2006	Approx. 16 Commercial Approx. 20 Care Prov.	Approx. 1 Million

Growing Very Slowly

Federal Budget for Secure Personal Health Records \$168 million

2. Analysis of PHRs

Financial Hope

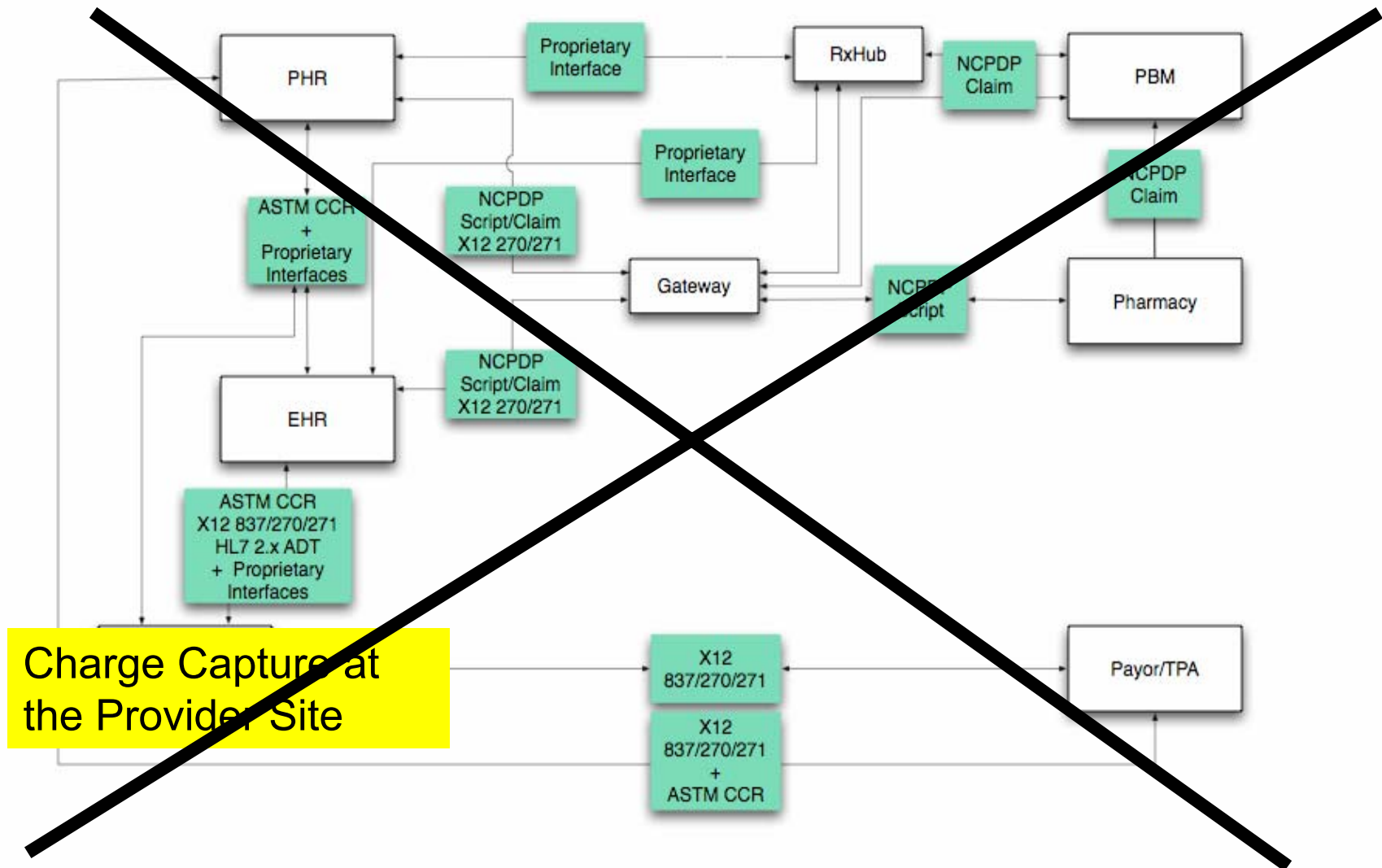
How Realistic?

Example: Physician Community

3. Financial IT Solutions

- History
- Not Priority
- Technology is Ready for Real-Time Financial Transactions

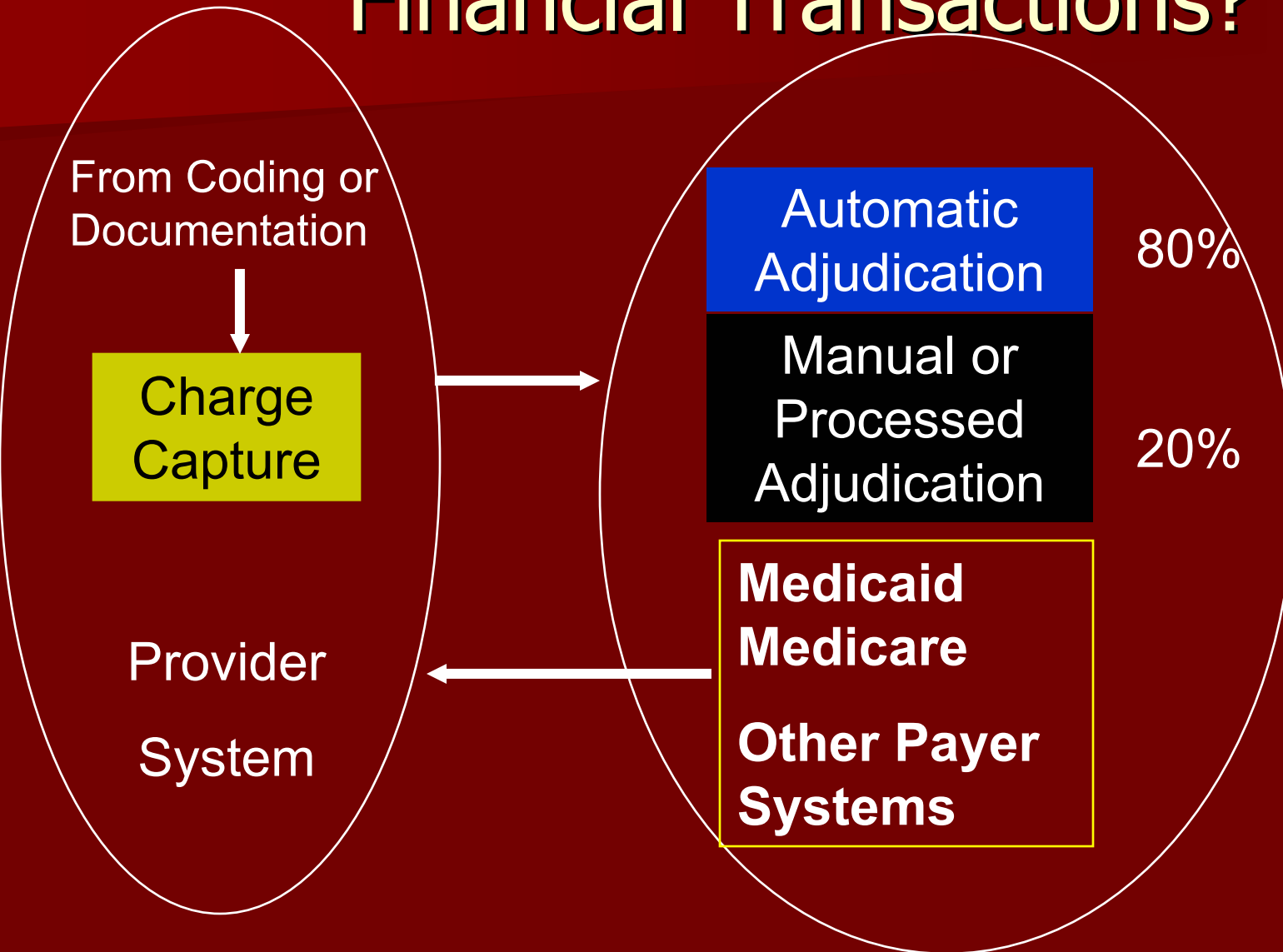
Information Flow



**Let's Focus on the The
Technology of the Future**

**Build Web-based
Approaches**

What is Needed For Real-time Financial Transactions?



4.

**Continuity of Care Will
Save Money**

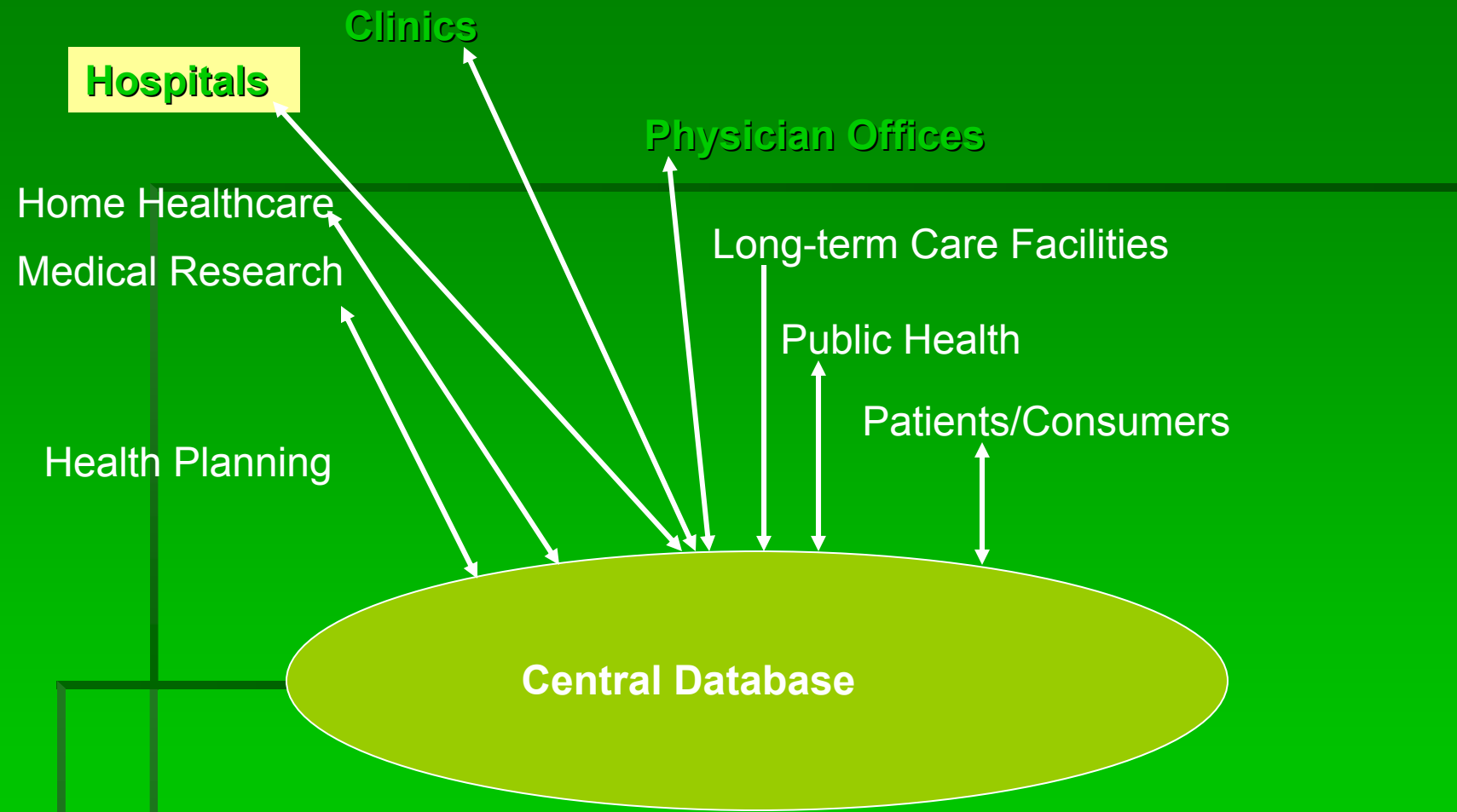
And enable practitioners to provide
better care

Why Continuity of Care?

Physicians and other clinicians often provide patient care without knowing what has been done previously and by whom, resulting both in wasteful duplication and in clinical decisions that do not take into account critical data related to patient health.

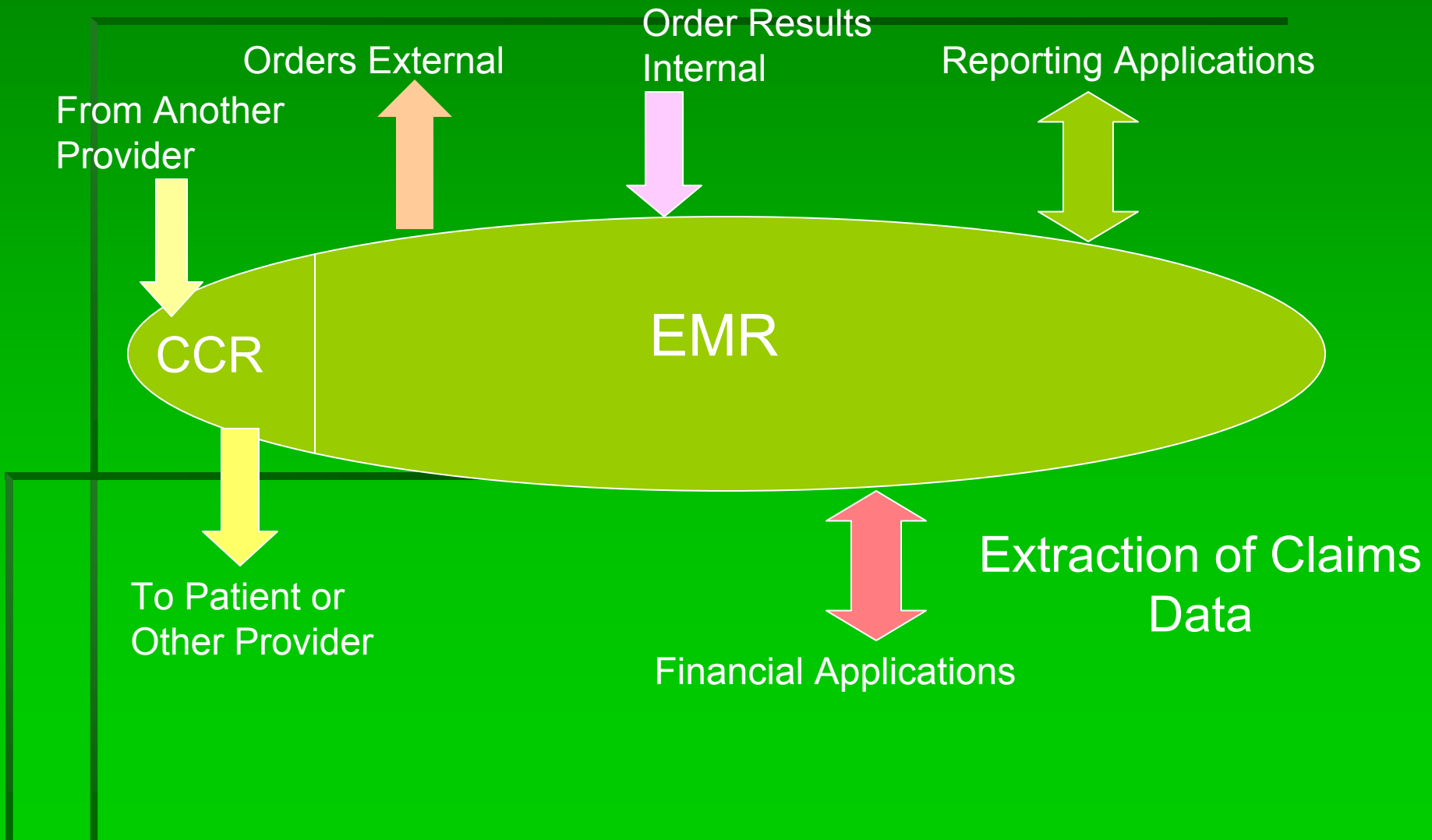
How Can It Be Best Achieved?

- Traditional EHR
- Patients (With Personal Health Records)
- Registries
- Network
- Composite Dataset of Patients



Centralized System (CPR Model) – Depending on a

- National Patient Identifier
- Central Infrastructure that Allows Integration (Terminology, Architecture, Technical/Systems Interoperability)



What Is the CCR?

- *A core data set of the most relevant current and past facts about a patient's health status and healthcare treatment*
- *Organized and transportable*
- *Prepared by a practitioner at the conclusion of a healthcare encounter*
- *Enables the next practitioner to readily access such information*
- *A snapshot in time*

CCR

SPONSORS/PARTICIPANTS

- ASTM International E31 Health Informatics Committee
- Massachusetts Medical Society
- HIMSS
- American Academy of Family Physicians
- American Academy of Pediatrics
- American Medical Association
- Patient Safety Institute
- American Health Care Association
- National Association for the Support of LTC
- Mobile Healthcare Alliance (MoHCA)
- Medical Group Management Association
- American Academy of Osteopathic Family Physicians

Sponsors represent...

- **ANSI-recognized standards development organization**
- **Over 400,000 practitioners**
- **Over 13,000 IT professionals**
- **Over 12,000 institutions in the long-term care community providing care to over 1.5 million elderly and disabled**
- **Major stakeholders in m-Health**
- **Patients, patient advocates, data sources, corporations, provider institutions....**

Main Content of CCR

- Insurance Data
- Advance Directives
- Support
- Functional Status
- Problems
- Family History
- Social History
- Alerts
- Medications
- Medical Equipment
- Immunizations
- Vital Signs
- Results
- Procedures
- Encounters
- Plan of Care
- Healthcare Providers

USES OF THE CCR

- For reimbursement (not always)
- For referrals, inpatient or outpatient
- For transfers between institutions, e.g. from LTC setting to acute care
- For discharges without a referral or transfers
- For personal health records
- For other uses, including
 - └ Moving to a new community
 - └ Disease management
 - └ Home health monitoring
 - └ Public health reporting
 - └ Access while traveling
 - └ Disasters

Impact of CCR on Medicaid

- To Be Used for Reimbursement
- Saving Money
 - Fewer ED Visits
 - Fewer Duplicate Tests
 - Less Costly Medical Errors
- Better Quality of Care

For more information on CCR: Attend “EHR & Exchange Standards” session today, 2:00 – 3:15, Room 552 A-B

The Future



- **Approximately 80% of Claims Processing Will Be Automatic**
- **Upcoding Will Be Controlled**
- **Documentation Will Be Tailored for Extraction of Relevant Data**
- **Cost Considerations Will Be Integrated into the Decision Making Process of Practitioners**

What Needs to be Done?

- Participation of Medicaid Professionals in Standards And Restructuring
 - New Communication and Functionality
- Integrating EHR Developments with Financial Developments
- Coordination of RHIOs, QIOs, Others
- Patient Empowerment
- Understanding the Benefits of EHRs for Providers
- A National Project On ‘Computer-guided Medicine’ Involving Medical Schools, Government, Research Organizations

Interoperability

- Enables the Payer to automatically extract relevant care documentation from the EMR that documents services provided and does not allow manipulation.
- Provides methods of applying cost considerations into the provider's decision making process
- Allows authorized practitioners to capture, share, and report healthcare information from **any system**
- Captures information in ways that can be correctly read, integrated, and supplemented in **any system**
- Supports authorized data searches, indexing, and mining in **any system**

Document Approach

- Traditional paper record: Create documents and derive data from them
 - Collection of pieces of paper called documents
 - Each document focuses on a single task such as a visit note, prescription, laboratory report, or a letter
 - Going “paperless” by scanning all the “documents” is a goal of limited vision
- Thinking of information capture in an EHR as creating documents
 - Limits the way we think about clinical documentation
 - Results in lots of flowery free-text – stories
 - Diminishes the potential value of EMRs: telling stories – free, narrative text - is not the goal

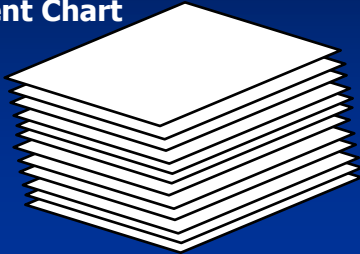
Data Approach

- Record data in order to improve
 - Workflow efficiency
 - Continuity of care
 - Decision support
 - Disease management
 - Patient safety
 - Quality of patient care
 - Public health analysis and reporting
 - Research
 - Cost control
 - Reimbursement
- Then create necessary documents from recorded data

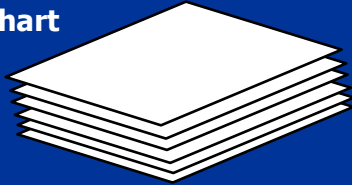
TRADITIONAL APPROACH

Documents to Data

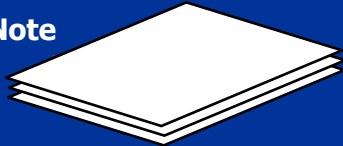
Inpatient Chart



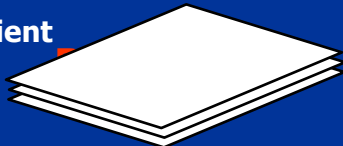
Clinic Chart



Consult Note



PHR/Patient



DATA

PROBLEMS

3/11/04 Myocardial Infarction – Anterior Septal
9/18/92 CVA – Right Middle Cerebral Artery Infarct

MEDICATIONS

Atenolol 25mg po bid (3/12/04) Last Fill 3/1/05
Coumadin 5mg qd M/W/F (3/1/05) Last Fill 3/1/05
Coumadin 7.5mg T/Th/Sat/Sun (3/1/05) Last Fill 3/1/05

LABORATORY OR OTHER RESULTS

ENCOUNTER DOCUMENTATION

ETC.

NEW VISION

Data to Documents

DATA

PROBLEMS

3/11/04 Myocardial Infarction –
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LABORATION RESULTS

HOSPITALIZATIONS

ETC.

Patient Summary

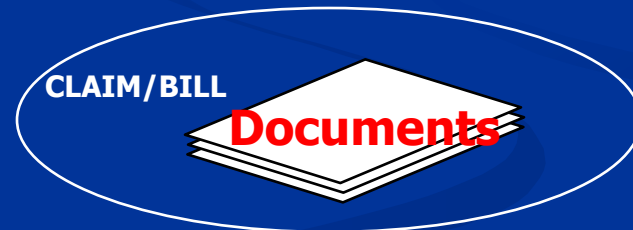


Clinic Visit



Legal
Documents

CLAIM/BILL



What Works And What Doesn't?

- Influencing Providers
 - Financial Support (Wellpoint, BC/BS)
 - Electronic Submissions
- Populating Provider Records With Claims Data

Can We Look To International Early Adopters For Best Practices?

- Cost Problems are Global
- Different Health Care Systems Responses
 - United Kingdom
 - Scandinavian Countries
 - Germany
 - Others

How Do We Evaluate EHR Vendors' Products?

- Domains
 - Ambulatory Care
 - Hospitals and IDNs
 - LTC and Home Health
- CCHIT
- AHIC

Payer Interests Are Insufficiently Represented

What Incentives Are There For States To Incorporate EHRs into Their MMIS Planning And Procurement?

- CMS Support
- Political Advantages
- Addressing Inefficiencies
- Motivation

What Is Involved For State Medicaid Programs As They Move Towards An EHR?

- Not to Support EHR Developments from the Side but Focus on Payer Needs
- What Can be Done Today?
 - Pilot Projects
 - Work Groups
 - New Standards Developments

Taking EHRs and HIT Seriously

- NIH – \$28.4 Billion
- CMS - \$338 Billion (445 Billion in 2010)
- Medicaid - \$192 Billion

What Can You Do Now?

- **Continuity of Care Record**
 - **Demonstration Project in Your Area**
- **MMIS to Invite Other Stakeholders for Discussions**
- **Be the Front-seat Driver for New Standards**
- **Participate in Your Local RHIO**
- **Create New Standards Project at ASTM**



Consider Attending... TEPR Conference

May 19-23, 2007

Dallas, TX

More at www.medrecinst.com

*Wishing You a Successful and Peaceful
Journey into the New Era of Healthcare*

Thank You

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