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Health Record Banks: Sustainable Electronic Medical Records AND Privacy

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"The development of an information technology infrastructure has enormous potential to improve the safety, quality, and efficiency of health care in the United States"

- Institute of Medicine, *Crossing the Quality Chasm*, 2001

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Key Points

- Quality Healthcare Requires Complete Information
- Need Electronic Records AND Privacy
- Solution: Health Record Bank
  - Rationale
  - Functions
  - Business Model
- Next Steps
  - Community non-profits hire Health Record Bank providers

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I. Quality Healthcare Requires Complete Information

- Status Quo
  - Health information scattered
  - Complete information not available
  - No institution responsible
- Result
  - Quality is poor
  - Costs out of control
- More complete information --> better care
- Health IT can save 8% or more

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II. Need for Electronic Records

- Rapid access
- Combine multiple scattered records into complete “master” record
- Rapid review using different views
  - Graphs
  - Charts
  - Enhance relevant information
- Automated reminders to improve quality and reduce errors

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Benefits of electronic healthcare information

A. Improving Healthcare Delivery at Point of Care (Improving Quality)
   - Complete patient information
   - Decision support

B. Reducing Costs & Achieving Efficiencies
   - Eliminate duplicate tests & imaging
   - Eliminate duplicate communication channels (labs, x-rays, etc.)

C. Support Public Health Initiatives & Biosurveillance
   - Automated disease reporting
   - Automated syndrome reporting

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Dangers of Electronic Records

"Anything you do to make information more accessible for good, laudable purposes will simultaneously make it more accessible for evil, nefarious purposes"

- William A. Yasnoff, *New York Times*, 2/18/07 (p. 16)

Therefore, privacy is a much greater concern as more health records are electronic.

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Consumers and Health Privacy

- Surveys of "information hiding"
  - 2006: 13% of consumers
  - 2007: 17% of consumers
- Consumers already control information in their records
- Without control, too many will opt out OR politically force system shut down
- Choices are today's system or consumer control -- complete information without consent is not (and should not be) a viable option
- Patient control essential

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III. Solution: Health Record Bank (HRB)

- Secure community-based repository of complete health records
- Access to records completely controlled by patients (or designee)
- "Electronic safe deposit boxes"
- Information about care deposited once when created
  - Required by HIPAA
- Allows EHR incentives to physicians to make outpatient records electronic
- Operation simple and inexpensive

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Health Record Bank Operation

Clinician's Bank

Encounter Data sent to Health Record Bank

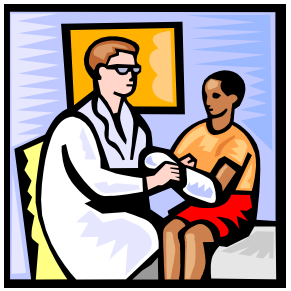
optional payment

Patient data delivered to Clinician

SECURE PATIENT HEALTH DATA FILES

Clinician EHR System

Encounter Data Entered in EHR



Clinical Encounter

YES

Patient Permission?

NO

DATA NOT SENT

Health Record Bank

Clinician Inquiry

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HRB Rationale

- Operationally simple (i.e., inexpensive)
  - Records immediately available
  - Deposit new records when created
  - Enables value-added services
  - Enables research queries
- Patient control -->
  - Trust & privacy
  - Stakeholder cooperation (HIPAA)
- Low cost facilitates business model
- Allows EHR incentive options
  - Pay for deposits
  - Provide Internet-accessible EHRs

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Central Repository

- Protects privacy (since data is known)
- Security controlled in one location
- Rapid response time
- Allows review of questionable deposits
- Allows searching for research
- Alternative “scattered” model not feasible
  - Slow
  - Requires all systems to be available for queries 24/7
  - Requires universal interoperability
  - Searching data not feasible
  - Requires staffing “network central”
  - Requires real-time assembly of disparate records (expensive and error prone)

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Examples of Community HII

Name	Data Storage
Spokane, WA	Central
South Bend, IN	Central
Indianapolis, IN	Central
Fishkill, NY	Central
Bellingham, WA	Central
Cincinnati, OH	Central

Number of operational community HII systems using scattered model: NONE

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Trusted HRB Governance

- Community non-profit governs for-profit HRB
  - For-profit organization has inherent conflict between fiduciary duty to shareholders (requiring sale of information) and consumer desire to keep information private
  - Non-profit community governance eliminates this conflict
    - Primary duty to consumers specified in contract with for-profit
    - Requirements for privacy, security, and audit also specified
  - Promotes trust without government regulation

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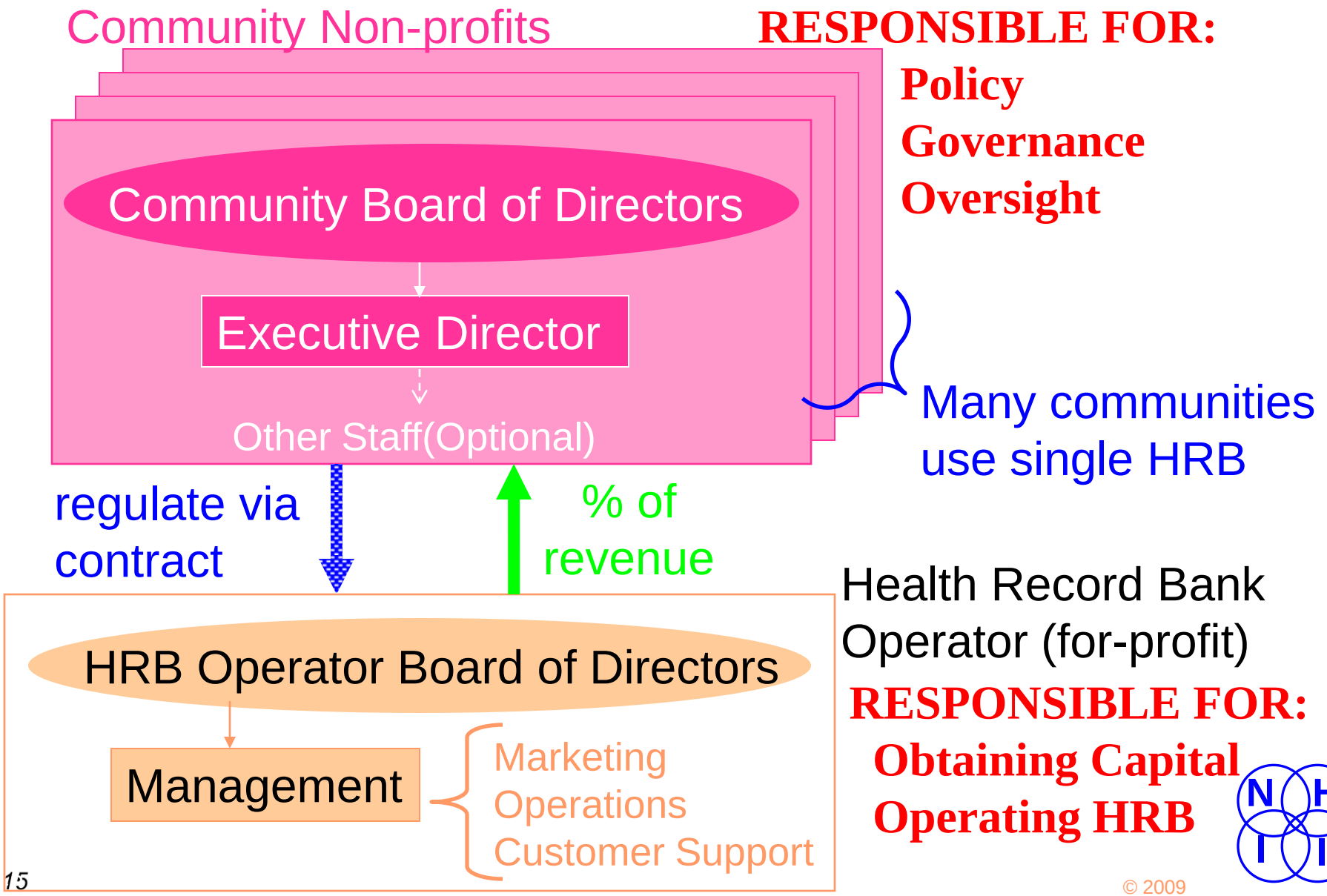
Health Record Bank Organization



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Trustworthy HRB Architecture

- Establish secure facility (as used for “classified” data)
- No phone/network connections to searchable database (server #1)
- Special “cubbyhole” server (#2) for individual records with no search/aggregation capabilities
  - Worst case release: 1 record
- Continuity of Operation
  - Backup facilities
  - Geographically separated

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HRB Business Model

- Costs (with 1,000,000 subscribers)
  - Operations: $6/person/year
  - EMR incentives: $10/person/year
- Revenue
  - Advertising: $6/person/year
  - Queries: ?
  - Reminders & Alerts: >= $12/person/year
    - "Peace of mind" alerts
    - Preventive care reminders
    - Medication reminders
- No need to assume/capture any health care savings (!!)

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IV. Next Steps

- For-profit HRB startups
- For-profit HRB establishes community non-profit for governance
  - Consumers
  - Physicians
- For-profit operates HRB under contract from community non-profit
  - Pays fee to non-profit for governance
  - Provides EMRs or EMR incentives to physicians

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Key Points - Review

- Quality Healthcare Requires Complete Information
- Need Electronic Records AND Privacy
- Solution: Health Record Bank
  - Rationale
  - Functions
  - Business Model
- Next Steps
  - For-profit HRBs establish & partner with non-profit governance organizations in communities

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Questions?

For more information:

www.ehealthtrust.com

www.healthbanking.org

www.yasnoff.com

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HRB Functions

- Enrollment
  - Initial collection of information
- Care Episode
  - New information deposited
- Query
  - Count & demographics of matches returned
- Value-added Services
  - Patient reminders
  - Process improvements

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Health Record Bank Operations

Patient requests for information

PBM

Meds

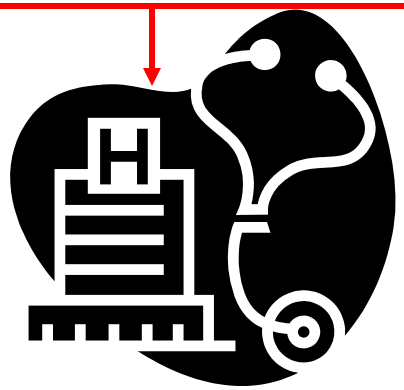
Imaging

X-Ray

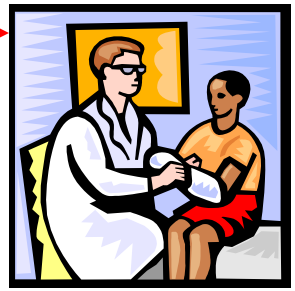
Image Pointers & Reports

Lab

Labs



Discharge Summaries



Clinician

Problem list, Allergies, Last History/Physical, Last Encounter

Patient Input

INPUT

SECURE PATIENT HEALTH DATA FILES

Consumer/Patient

Account Request & Permissions

1) Initial Enrollment and Data Collection

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Health Record Bank Operations

PBM

Imaging Center

Lab

Meds

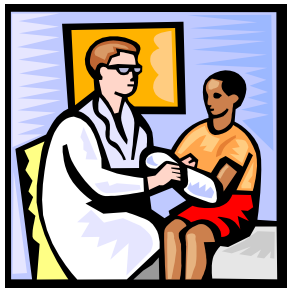
Image Pointers

Labs

Discharge Summaries

SECURE PATIENT HEALTH DATA FILES

Patient Input



Clinician Encounter

Encounter report

INPUT

Yes

Patient Permission?

Clinician request

OUTPUT

Permissions

Patient request

Consumer/Patient

2) Clinical Data Flow

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Health Record Bank Operations

3) Research Data Flow

Medical Researcher/ Public Health

RESULT

Query

QUERY

Summary Table Only

Patient Permission?

Yes

Permissions

Consumer/Patient

Research Database

Daily physical copy

Air gap

SECURE PATIENT HEALTH DATA FILES

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