Implementation of Need to Know Policies Through Authorization Security Controls

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Presentation Outline

- Background on Cerner and MHIN
- Privacy and Security Complement
- Basic Elements of a Role Based Authorization Model
- Key Matters for Policy and Procedure Development
- MHIN’s Policy Objectives
- MHIN’s Implementation Experience
- MHIN’s Lessons Learned and Future Course

Cerner Corporation

- Founded in 1979
- Headquartered in Kansas City, MO
- Leading Provider of HCIS Across Continuum of Care
- More Than 1000 Provider Organizations Automated
- US and International Markets
- Seeking Common Denominator(s) for Privacy and Security Requirements (!)

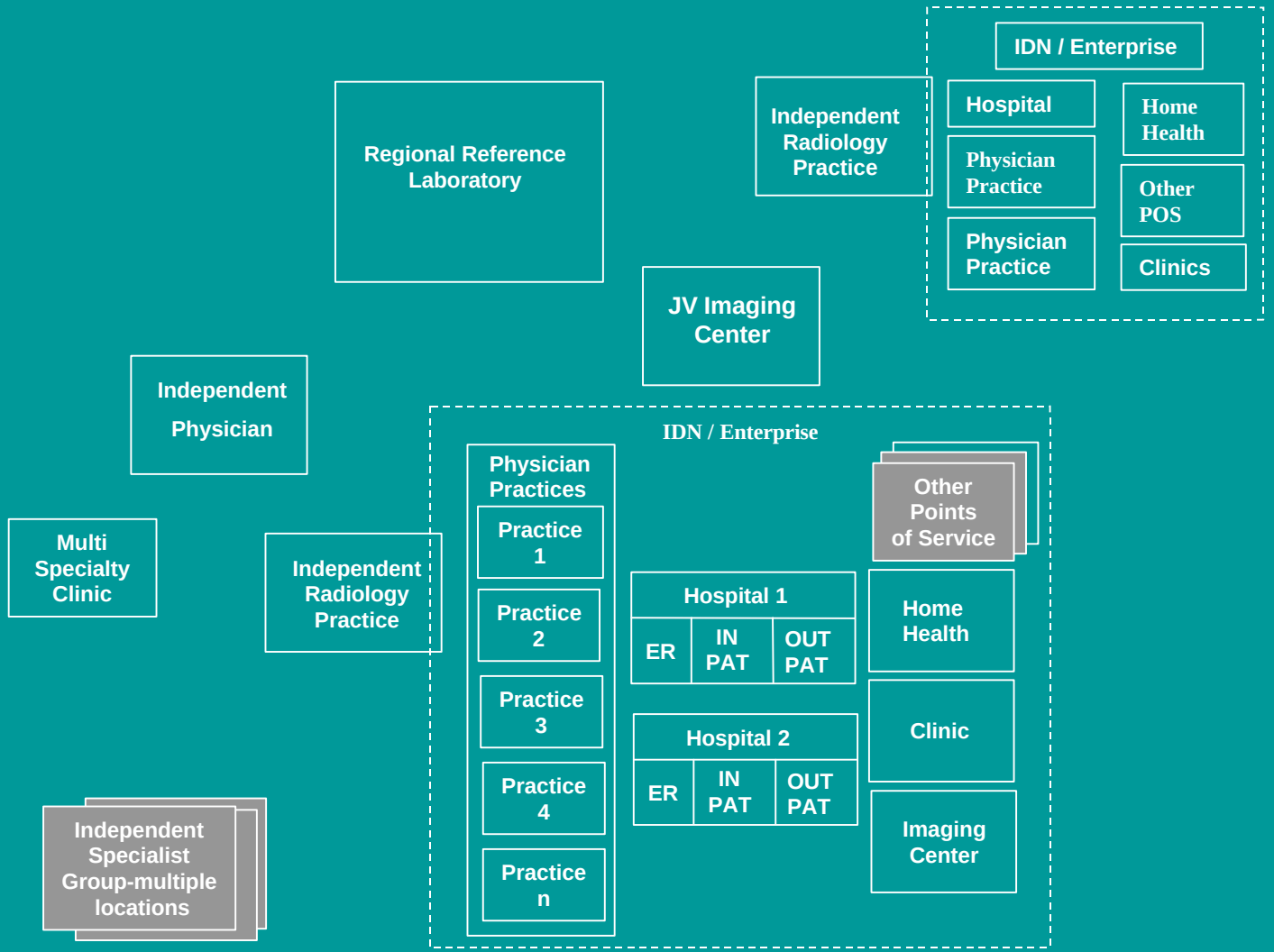
MHIN Organization Model and Operating Structure

- Information Utility / Application Service Provider
- Indiana Limited Liability Company
  - Owners
    - Physician Directed Regional Reference Laboratory
    - Regional Integrated Delivery System
  - Participants
    - Hospitals
    - Laboratories
    - Physician Practices
    - Radiology Groups, Imaging Centers
    - Clinics

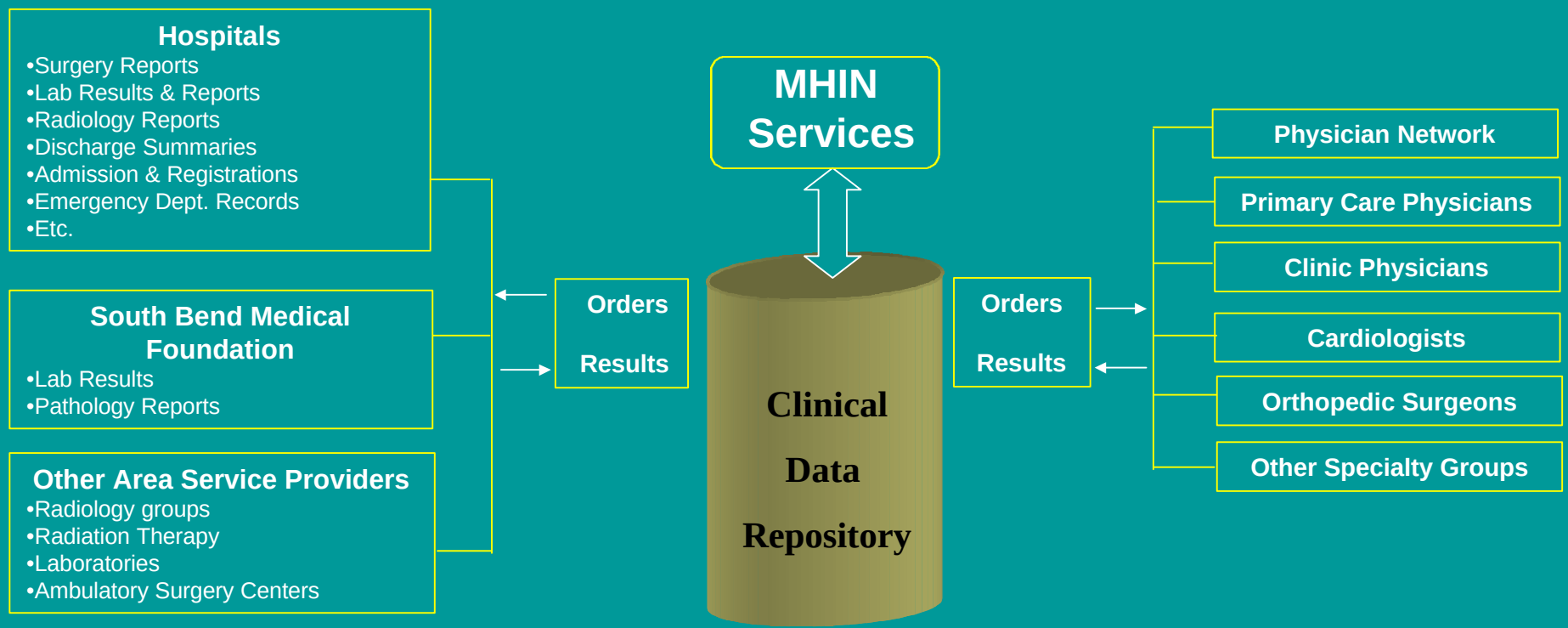
MHIN Organization Model and Operating Structure

- Community Model
  - Independent of Specific Entities
  - Complete Patient Record
  - Suppliers of Data - Hospitals, Laboratories, Ancillary Service Providers, Clinics / Physician Practices
  - Users of Data - Physicians, nurses, etc.
- Subscription Based Pricing
  - Data Suppliers (hospitals, labs) Provide Results to Data Users (physicians, practices)
  - Minimal upfront capital

Community / Medical Trading Area Model



MHIN Data and Services Model



Privacy And Security – "Hand In Glove…..Sort Of"

- Originally Intended To Be Implemented Together
  - Can One Have Privacy Without Security?
  - Does Privacy Implementation Become Procedural and Security Implementation Technical?
  - Can Minimum Necessary Be Supported Absent Need To Know Policy
- One Take Away
  - Retain The Spirit of Security To Implement The Letter of Privacy

Security As Complement to Privacy

- Privacy (The Right)
  - Right of the individual to have anonymity
    - Confidence they will not be subjected to unwarranted intrusion
- Confidentiality (The Expectation)
  - Obligation of the custodian or user of an individual's information to respect and uphold an individual's privacy
- Security (The Mechanism)
  - Policies, procedures, mechanisms, tools, technologies and accountability methods to support Privacy

Minimum Necessary

- Procedural Definition
  - Using The Right Amount For The Purpose At Hand
  - Policy and Procedurally Based
  - Consider How To Justify Use of What Is Appropriate
  - Common Sense Dictate Of Care Provider Discretion
  - Feeds Into Need To Know Under Security Rule

Minimum Necessary

- Interesting Exception
  - Not Applicable To Disclosures Made for A Treatment Purpose
    - I Am Not Sure Why That Is In There BUT
      - Suggests Greater Care Taken For How Information Is Used Within The Entity
      - Less Control Over What Happens To Information Disclosed By An Entity
      - Highlights Importance Of Good Security Controls (more later)

Key Matters of Procedural Development

- Minimum Necessary Policies
  - Privacy Practices
    - Leads to Notice of Privacy
  - Drives Need to Know Definition
    - For Whatever Security Mechanisms You Develop, This Is A Must
- Need To Know Policies
  - Justify Based On Role and Responsibility
  - System of Record AND Information Access Rights

Planning Considerations

- For Implementation Planning
  - Define Common Sense Approaches That Balance Policy and Technology Roles In Support of Operations
    - Find The Common Denominator For Implementing Policy In Systems
      - Example
        - » Role Based Need to Know vs User Based Need to Know
        - » Does The Application Support Your Need To Know Policy As It Is? Are There Controls Absent?
        - » Are There Things Policy Alone Should Solve?
    - Balance Availability Needs With Privacy Needs
      - You Need The Information To Provide Care But
        - » Patient Has A Right To Understand How You Use and Disclose It
        - » What If They Object – What Is Your Response? Procedural? To Control Access? To Audit?

Security Components

- Authentication
  - You are who you say you are
- Authorization
  - You can see and do what you are permitted by policy to see and do
- Accountability
  - You are held responsible for what you do with what you see and for what you do

Authorization Models

- Role Based
  - Your Work Responsibility Defines Your Authorization Right
- User Based
  - Your Identify as An Individual Defines Your Authorization Right
- Context Based
  - A Combination of Who You Are, Where You Are, What You Are and When You Are What You Are Defines Your Authorization Right

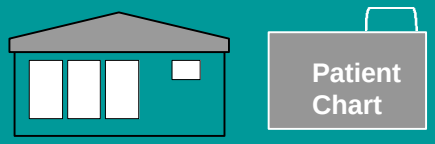
Examples of Authorization Security Elements

Mechanism	Purpose	Role	Context	User
Application Group	Access to applications	x		
Relationship	Access to Patient	x		x
Organization	Access to Patients at a Facility			x
Location	Access to a Place of Service	x	x	x
Schedule	Present or Absent		x	
Privilege	Rights to Perform Operations on Patient Data	x	x	x
Confidentiality Status	Rights to Access Sensitive Info	x		x

MHIN'S Objectives

- Build the Community Based Complete Patient Record
  - Improve Patient Care
  - Improve Physicians' Access to Information About Their Patients
  - Reduce / Eliminate Duplicate Tests and Costs
- Share Expensive Resources Among Providers Throughout the Community
  - Technology
  - People
  - Knowledge
- Reflect Community Standards
  - "Small Town" Environment
  - Cooperative Spirit
  - Concern for Invasions of Privacy

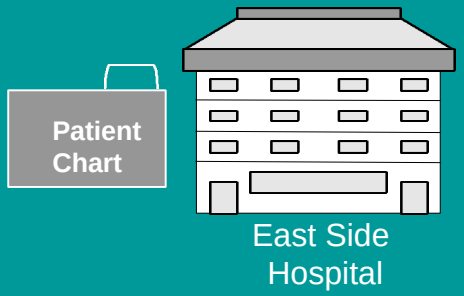
Toward The Complete Patient Record - Entity Focused Patient Charts



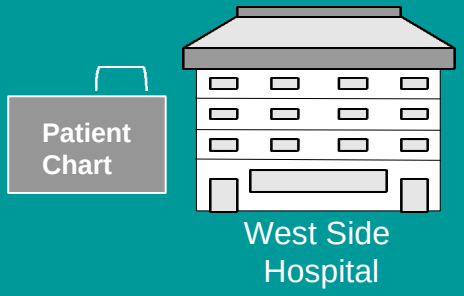
Physician's Practice

- Located Throughout the Community
- Contain Internal Information Only
- No Complete View of Patient's Clinical Information
- Duplication / Missing Information Inevitable

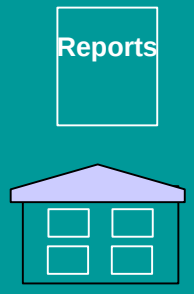
Minimal Support for Physician and Patient



East Side Hospital

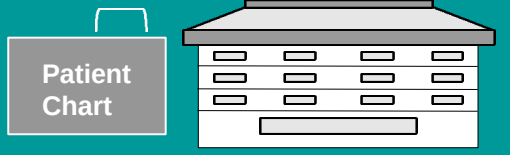


West Side Hospital



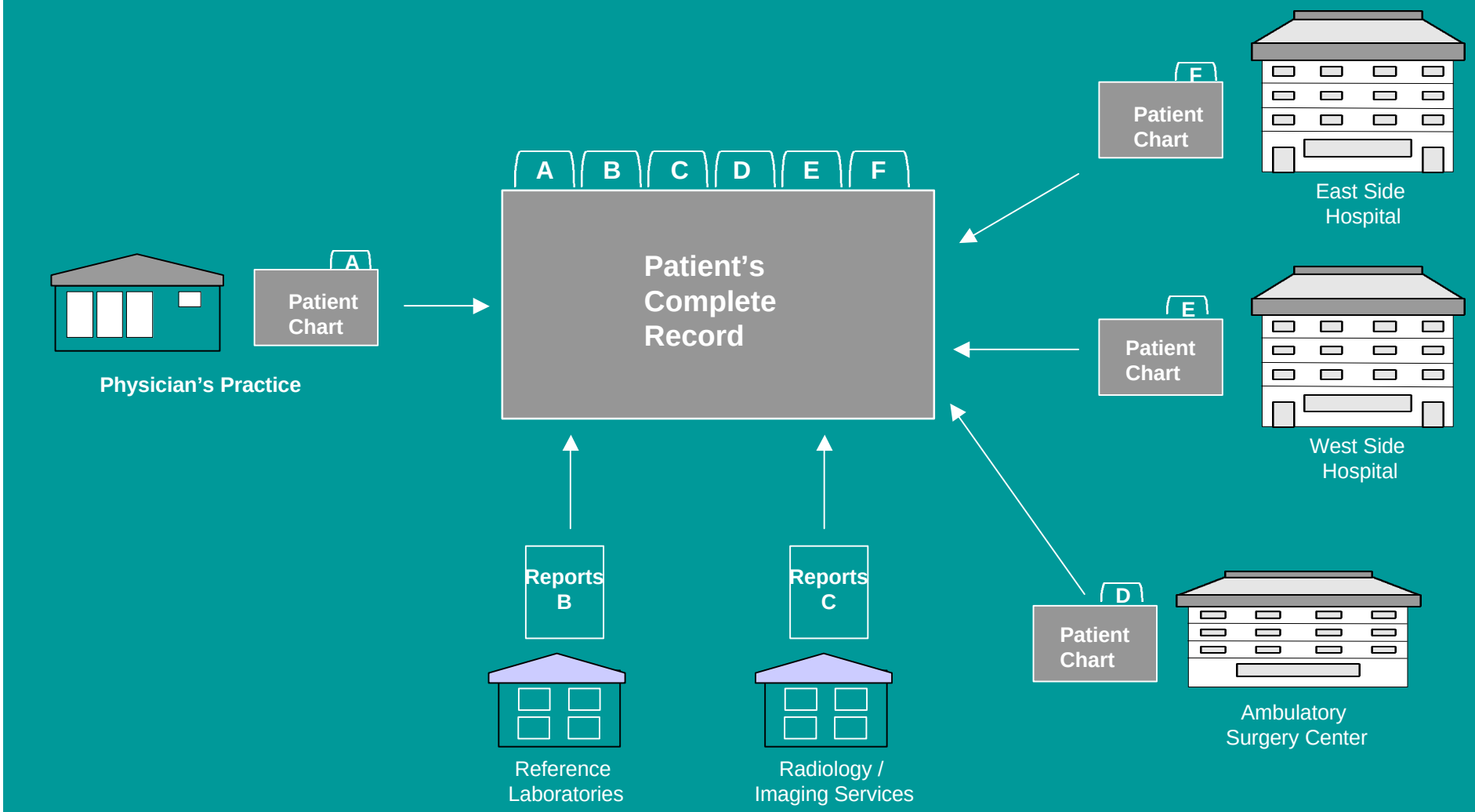
Reference Laboratories

Radiology / Imaging Services



Ambulatory Surgery Center

Building the Complete Patient Record



MHIN'S Objectives and Information Sharing Implications

- **Community Based Complete Patient Record - Multi-Entity CDR**
  - **Independently Owned and Managed Entities**
  - **Competitors**
- **Share Expensive Resources Among Providers**
  - **Sophisticated Technology Set-Up**
  - **Employees Playing Multiple Roles; Clearly Delineated Responsibilities Needed**
- **Reflect Community Standards - Small Town Environment**
  - **Negative Impact of Unauthorized Disclosure - One Mistake Can Sink the Ship**
  - **Understand and Incorporate Multiple Overlapping Relationships**
    - **Physicians, especially specialists, practice at multiple hospitals**
    - **Primary care dominated by IDN employed physician networks, though perceived by community as independent practices**
    - **Employees work in multiple locations and sometimes multiple positions**

Information Sharing / Need to Know and MHIN's Security Principles

- **Community Standards Developed Beginning in 1995**
- **"Lock Down, then Open Up Depending on Specific Need" -- Not the Other Way Around!**
- **Security Principles (Examples):**
  - Physicians and care givers provide care as members of organizations; they become system users by virtue of this same association with specific organization(s), e.g., hospital medical staff, nurse or physician in a specific medical practice.
  - Patients receive care through a relationship with a system user who is associated with a specific organization; access to a patient's EMR is granted only when the user has a relationship with the organization where the encounter occurs and with the specific patient.
  - The information generated during an encounter at a specific organization belongs to that organization.
  - The policies of the organization determine the kind of access an employee or physician can have to the patient's EMR.

Security Controls for Authorization

- Role Based Access Governed by Legitimate Relationship with the Patient
  - Automatic via Interfaces - Priority When Possible
  - Manual, if needed, for physicians only
- Physician Roles
  - Automatic: Admitting, Attending, Ordering, etc.
  - Manual: Anesthesiologist, Radiologist, etc.
- Employee Roles
  - Hospital Staff: Medical Service & Patient's Location
  - Physician Practice Staff: Via a Specific Relationship Between the Staff Member and a Physician

Developing Access Guidelines and Security Controls

- Policy Objectives, Underlying Principles, and System Implications Relatively Clear

- Critical Issues Included
  - Whether a Role Will Typically be Established Automatically Via Interface or Not
  - Access for
    - Physicians
    - Hospital / Institutional Provider Staff
    - Physician Practice Staff
  - Access Among Entities of An Owned / Managed IDN

“Early Adopter” IDN - Prototype for Access Guidelines and Security Controls

- Many Similarities Between IDN and Community Model
  - “Owned and Managed” Doesn’t Mean Universal Access
  - Physician Networks - Objectives, Perceptions Among Physicians, Administrators, and Community may differ
- Scenarios and System Flows Developed
  - Specific Examples Requiring Access Guidelines, e.g.,
    - PCP Employed by IDN vs Independent PCP
    - Labs Drawn in Hospital vs Physician Office
    - Physician Practice Staff Access to Practice Data vs Hospital Data
  - Scenarios Included Detailed Process Map,e.g.,:
    - Encounter Process, Charting, Systems Flow
    - Physicians Who Are Part of the Encounter
    - Paper & Electronic Record “Owners & Keepers”
    - CDR Access - Location, Users, Types of Data
- Requirements Derived from Scenarios & Systems Flows

“Early Adopter” IDN - Prototype for Access Guidelines and Security Controls

- Dialogue with Physicians - Balance “Need to Know” with Physician Perspective
  - What the Physician Thinks S/He Should Be Able to See
  - What the Physician Wants Another Physician to See
- Access Guidelines - Physician Steering Committee
  - Topics
    - Appropriate Roles, e.g., Admitting, Research
    - Need to Know - Physicians, Administrators, and Hospital Staff
    - Length of Time for Access, Re-Establishing Access
    - Access for Hospital Staff
  - Process
    - Subcommittee met for approximately 6 weeks;
    - Recommendations to Physician Steering Committee
    - Incorporated in MHIN Policies and Procedures
  - Monitoring and Remediation - Physician Input

Collaboration with Cerner

- Early Recognition of Need for Additional Functionality
  - IDN Model
  - Community Model
- Collaboration on Requirements For A Community Model
  - Task of Managing Access Not Just Within But Across Organizations
- Ongoing Work with Cerner Security Team
  - Scenarios
  - Requirements Definition
  - Alpha Site
  - Testing - New Functionality and Performance

Current Initiatives

- Functionality
  - Entity Based Security
    - A cornerstone of MHIN's Security and Access
    - Relationship based override provided by Cerner
      - Importance of Managing Access Across Organizations In Context of Need to Know
  - Differentiating Longitudinal Access From Open Access
    - Longitudinal – Persistent Right For Long Term Access
    - Open – "Break the Glass" for Emergency Situations
    - Manage Both By Position
  - Goal: A Person's Control of His / Her Record

Needs To Also Be Addressed

- Considering Access Needs In Community Beyond Clinicians
  - Non-Clinician Access Such As For Billers
    - Drive Based On Relationship to the Clinician
    - Managed Access Across Organizations
    - Access Right Conveyed To The User – Not Self Determined
- Managing Occasional or Unpredictable Access Needs
  - Third Party or Internal Auditors
  - Peer Reviewers
  - Quality Assurance
  - Consulting Clinicians

Current Initiatives - HIPAA

- Reviewing, Revising and Implementing Policy
- Monitoring Privacy Rule
  - Authorization Controls
  - Consent Issues
  - Audit Requirements
- Compliance Committees
  - MHIN Affiliates - hospitals, labs, etc.
  - MHIN Compliance
- Community HIPAA Task Force on Electronic Transfer of Information
- Ongoing Community Dialogue

Questions Anyone?