

NHIN, RHIOs, and North Carolina:

Herding Cats May be the Only Way to Bring NC's Healthcare Communities Online

**Session 3.04
March 7, 2005
Presented by:
Holt Anderson, NCHICA**

Presentation Outline

- NCHICA Background
- Restructuring the Healthcare Delivery System
 - The Strategic National Framework
 - National Health Information Network (NHIN)
 - Regional Health Information Organizations (RHIOs)
- Challenges Raised in North Carolina Projects:
 - Examples from Case Studies

NCHICA Background

- Established in 1994 by Executive Order of Governor
- 501(c)(3) nonprofit - research & education
- 250+ members including:
 - Providers
 - Health Plans
 - Clearinghouses
 - State & Federal Government Agencies
 - Professional Associations and Societies
 - Research Organizations
 - Vendors and Consultants
- Mission: *Improve healthcare in NC by accelerating the adoption of information technology*

Terms of Membership

A fundamental purpose of NCHICA is to:

– facilitate the development of a statewide
healthcare information network

incorporating

- open architecture
- interoperable systems, and
- reconfigured information systems.

Terms of Membership (cont.)

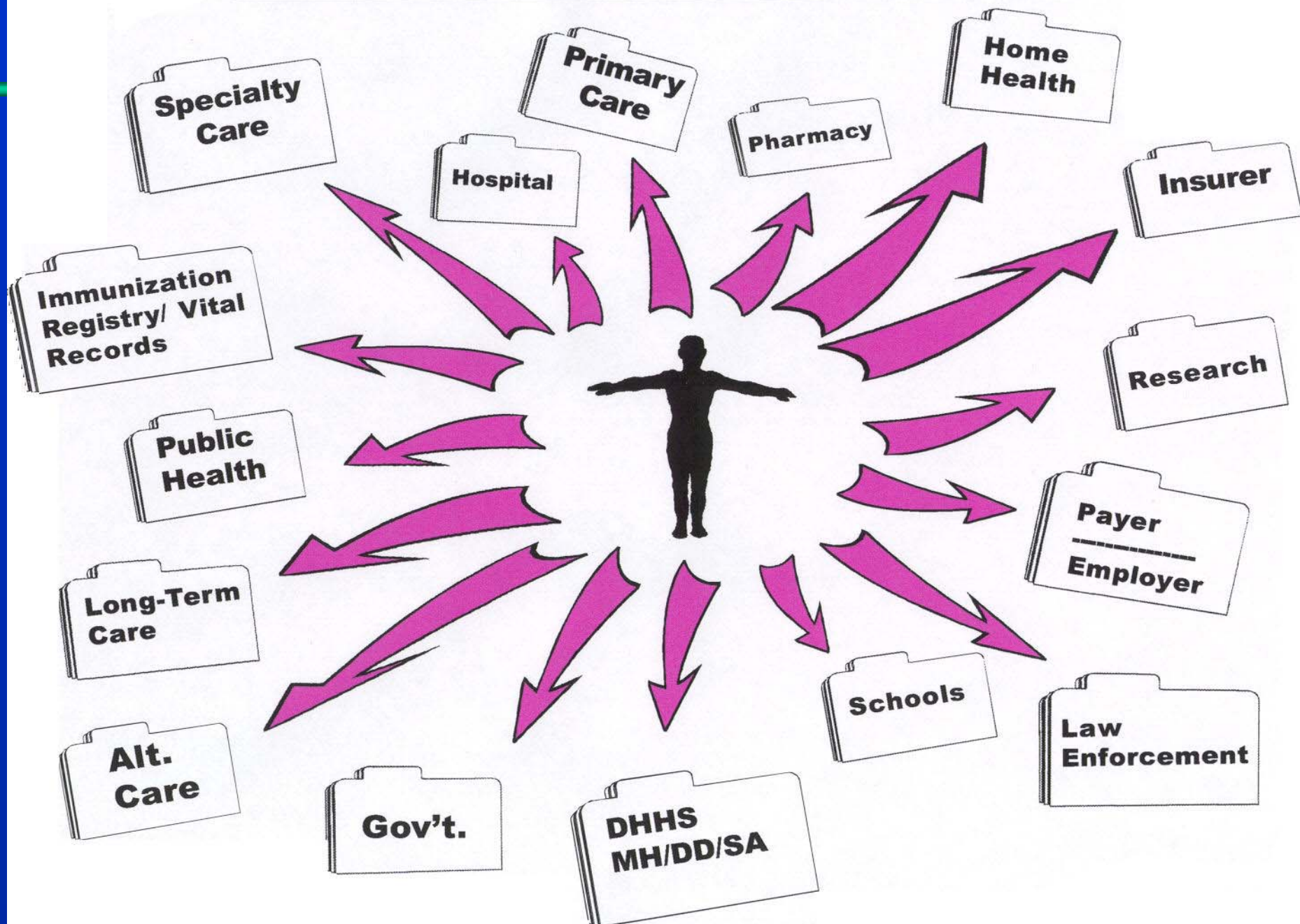
Applicant agrees to support the following principles:

- a. to foster interoperability and open-systems architecture**
- b. to work in good faith to integrate existing healthcare information systems**
- c. to provide expert personnel to support the activities of NCHICA in the spirit of collaboration**
- d. to support policies adopted by NCHICA to protect intellectual property**
- e. to encourage a competitive environment for the development of the information, telecommunications, and telemedicine industries in North Carolina consistent with NCHICA's purposes.**

Background for Change: The Health Care Challenges

- Greater awareness of medical errors
- Frequent inability to provide complete information where and when it is needed
- Cost of healthcare
 - New procedures and drugs
 - Defensive nature of practice of medicine = increasing tests
- Lack of consensus around Standards
- Paper-based and inefficient

Medical Record Paper Locations Include:



Managing Healthcare Today

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Quality is a Key to Better Healthcare

- Reduce medical and medication mishaps
 - Learn from our mistakes – improve processes
- Increase patient adherence
 - Follow-up on prescribed medications
- Practice preventive medicine
 - Annual Physicals
 - Public Health Surveillance
- Continue Research
- New and Improved Medicines and Procedures
- Automate information processing!

Priority Items

- Improve care
 - Reduction in medical errors
 - Intelligent use of technology as tool for clinicians
- Increase use of electronic health records
 - 5% - 7% Primary Care
 - 10% - 20% Hospitals
- Develop low-cost solutions
 - Internet-based
 - Interoperable and secure
- Encourage Consumer responsibility for their own health records (Personal Health Records – PHRs)
 - Secure Web Portals, Smart Cards, etc.

**The Decade of Health Information Technology:
Delivering Consumer-centric
and Information-rich Health Care**

Framework for Strategic Action

July 21, 2004

**Tommy G. Thompson
Secretary of Health and Human Services**

**David J. Brailer, MD, PhD
National Coordinator for Health Information Technology**

Framework for Strategic Action

- 1. Inform clinical practice with use of EHRs**
- 2. Interconnect clinicians**
- 3. Personalize care with consumer-based health records and better information for consumers**
- 4. Improve public health through advanced biosurveillance methods and streamlined collection of data for quality measurement and research**

Disclaimer

- The **NHIN** and **RHIOs** are a new but important concepts
- Definitions are not firm at this time
- Public input is being sought by the Office of the National Coordinator for Health Information Technology (**ONCHIT**)
- This presentation is designed to present ideas for discussion and reflection

NHIN

- **National Health Information Network (NHIN)**
 - **A supportive nation-wide, interoperable system with the capacity to exchange conveniently and securely healthcare information culminating in the improvement of consumer health and the reduction in healthcare costs.**

RHIO

- **Regional Healthcare Information Organizations (RHIO)**
 - A collaborative, consumer-centric organization focused on facilitating the coordination of existing and proposed e-health initiatives within a region, state, or other designated local area.

Key Allies for a RHIO Include:

- Medical Society
- Hospital Association
- Nurses Association
- Health Information Management Assn.
- Medical Group Managers Association
- Healthcare Financial Management Association
- Association of Local Health Directors
- Association of Pharmacists
- Long-term Care Association
- Association of Health Plans
- QIOs
- Vendors
- Etc., Etc.

Challenges Raised in Community Projects Underway or Planned in NC

Characteristics of Projects

- All have evolved from earlier efforts
- All are statewide efforts
- All involve public and private sector
- All build toward a North Carolina “Local Health Information Infrastructure” and are positioned to connect into national PHIN and NHIN efforts
- Expectation is for continued evolution and refinement

Statewide Master Person Index

- 1994 Goal:
 - Develop Voluntary Patient Information Locator (VPIL) so that records could be accessed for care
- Business / Policy:
 - Shared “customer lists”
- Legal:
 - Privacy & Liability
 - No State or Federal Laws covering electronic health info
- Consumer:
 - Privacy
- Technical:
 - Availability of standardized MPIs from all providers and sectors
 - Synchronizing databases
 - Standards for data

Statewide Master Person Index

- Lessons Learned:
 - Technology is the easy part
 - Business and Policy Considerations are much harder and “Show Stoppers”
 - Develop clinical leadership for project with technologists in support role

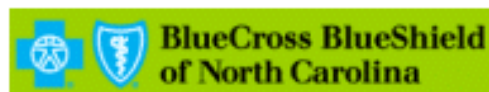
Statewide Immunization Registry

- 1998 Goal:
 - Combined registry of public and private children's immunization records from multiple sources available via secure Internet
- Business / Policy:
 - Internet access to public health database
- Legal:
 - Privacy and Security
 - Non-stigmatizing data
- Consumer:
 - Well understood need
- Technical:
 - Data quality and matching entries from different sources
 - Move from mainframe to server with SSL Web technology and authentication

NCHICA PAIRS PROJECT

PROVIDER ACCESS TO IMMUNIZATION REGISTRY SECURELY

Welcome!



IMPORTANT: You may use this system only according to the **PAIRS PROJECT** [policy guidelines](#).

I Agree. Please continue...

PAiRS Status

- Combined Database
 - Public Health
 - BCBSNC
 - Kaiser Permanente (historical)
- ~ 2M Children
- ~ 20M doses
- 425 sites; 2250 authenticated users
 - 90 Local Public Health Departments
 - 335 Private Providers, Schools, State of TN


New Statewide Registry

North Carolina Immunization Registry .. [View Client Schedule] - M

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print

Address <https://207.192.49.171/uat-ir/viewClientSchedule.do?pClientId=4155946&pEditMode=1> Go Links



UAT Region 5.1.0

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System Monitoring

- manage exceptions
- check report status
- show users

Organizations

- manage roles
- switch organizations
- manage organizations

Data Exchange

- exchange data
- check status
- manage data exchange
- vital data exchange
- job monitor
- view tdglite log
- view tdg log
- submit hmo data
- submit hmo query
- copy exchange data
- copy hmo data
- copy vital data

Maintenance

- manage users

Client Information

Client Name (First - MI - Last)	DOB	Gender	Mother's Maiden	Tracking Schedule	Chart #
THOMAS COLDWELL	12/23/2003	U		ACIP	

Address

Comments

History Add Immunization Edit Client Reports Print Print Confidential

Vaccine Group	Date Administered	Series	Trade Name	Dose	Owned?	Reaction	Hist?	Edit
This client has no immunizations associated with it.								

Current Age: 1 year, 1 month, 11 days

Vaccines Recommended by Selected Tracking Schedule Add Selected

Select	Vaccine Group	Earliest Date	Recommended Date	Overdue Date	Latest Date
<input checked="" type="checkbox"/>	DTP/aP	02/03/2004	02/23/2004	03/23/2004	12/22/2010
<input checked="" type="checkbox"/>	HepB	12/23/2003	12/23/2003	03/23/2004	
<input checked="" type="checkbox"/>	Hib	02/03/2004	02/23/2004	03/23/2004	12/22/2008
<input checked="" type="checkbox"/>	MMR	12/23/2004	12/23/2004	04/23/2005	
<input checked="" type="checkbox"/>	Pneumococcal	02/03/2004	02/23/2004	03/23/2004	12/22/2008
<input checked="" type="checkbox"/>	Polio	02/03/2004	02/23/2004	03/23/2004	

Statewide Immunization Registry

- Lessons Learned:
 - Choose project with clear benefits
 - Find clinical champions
 - Enlist CEO-level champions
 - Share the load
 - Celebrate success
 - PKI is not like falling off a log
 - Proof is in the utility of the project and user demand for sustaining it past pilot stage

Statewide Emergency Dept. Data

- 1999 Goal:
 - Standardize and electronically collect clinical data from emergency departments for:
 - Best Practice Development
 - Community Assessments
 - Public Health Surveillance (2001)
- Business / Policy:
 - Participation Agreement covering access and use of data
- Legal:
 - Privacy and Security
 - No state mandate for collection of certain data elements with identifiers (Limited Data Set and Data Use Agreement)
- Consumer:
 - Collected and transmitted to aggregation point as deidentified data
- Technical
 - Standards for data elements (CDC's DEEDS Standard)
 - Mapping of systems so extracts could be transformed into DEEDS
 - No standards for coding of Chief Complaint and First Report of Injury





Status as of 1-31-2005

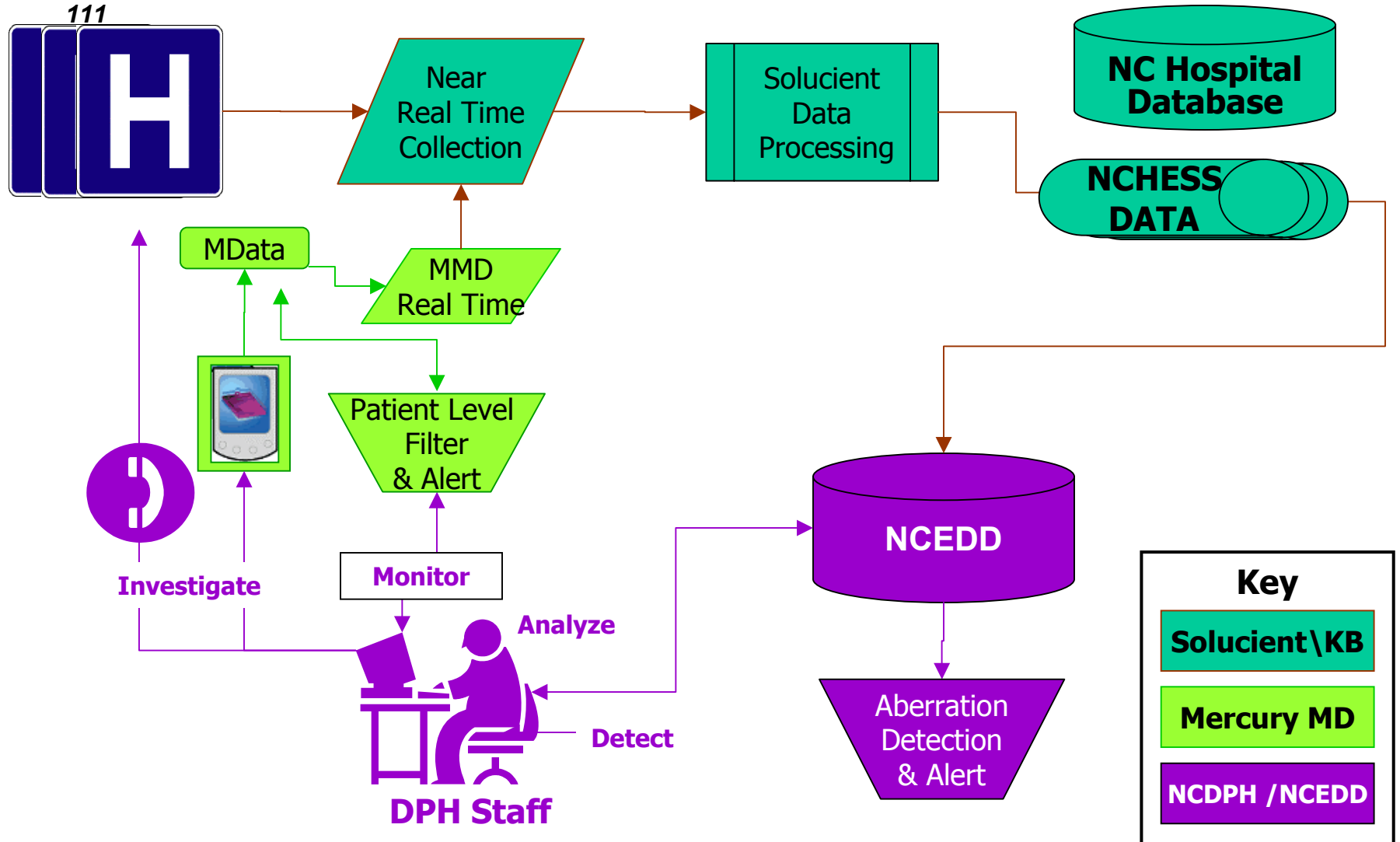
- Data from 24+ hospitals
 - 4000+ visit records per day on average
 - Total Number of Visits: 1.6M +
 - Total Number of Patients: 875K +
 - Total Number of Final Diagnosis Codes: 4.2M +
 - Total Number of Cause of Injury Codes: 478K +



Data Users

- Public Health Epidemiologists (PHEs)
 - In-hospital liaison to LHDs in NC's 12 largest hospitals
 - Perform in-hospital surveillance for community-acquired infections and for defined syndromes which may be indicative of a terrorist attack
- NC Division of Public Health Epidemiologists
 - Injury, Occupational Health, Cardiovascular Epidemiology, among others...
- Local Health Directors
- Authorized users at participating hospitals

NCHES Architecture



Statewide Emergency Dept. Data

- Lessons Learned:
 - Provide neutral table for collaboration
 - Make it easy for IT Departments to provide data
 - Keep it simple and cheap
 - Expect new opportunities for data use
 - Professional associations are better at policy issues than technology implementation
 - While HIPAA is permissive, providing information voluntarily (e.g. without safe harbor) makes legal counsel very uncomfortable



NC Public Health Initiatives

- **NC-PHIN**
 - North Carolina Public Health Information Network
- **NC-HAN**
 - North Carolina Health Alert Network



NC-PHIN

Vision: Framework for the Future

- Automated electronic reporting of data
- Secure Internet pipeline for reporting information
- Consistent user interfaces
- Common data definitions
- Reusable software components
- Shared analysis and dissemination methods, e.g., outbreak detection algorithms
- Secure, HIPAA-compliant data warehouse
- Established set of technical standards acceptable and adopted by preparedness partners



NC-PHIN *Components*

- ◆ **Health Alert Network** NC-HAN
- ◆ **Epi-X** (secure interactive communications with CDC and other states)
- ◆ **Enhanced Public Health Surveillance**
 - Electronic Disease Reporting
 - Hospital Data (ICD-9, UB92 Admin. Data)
 - Syndromic Surveillance
 - Hospital Clinical Data
 - Poison Control Center
 - PreMIS
 - Aberrancy Detection
 - Medical Examiner Data
- ◆ **Program Area Modules**
 - TB
 - Hepatitis
 - Meningitis
 - HIV/STD
 - Vaccine Preventable Diseases
- ◆ **Immunization Registry**
- ◆ **Multi-Hazard Threat Database**
 - GIS
- ◆ **Electronic Laboratory Results (LRN)**
- ◆ **Vital Records Automation**

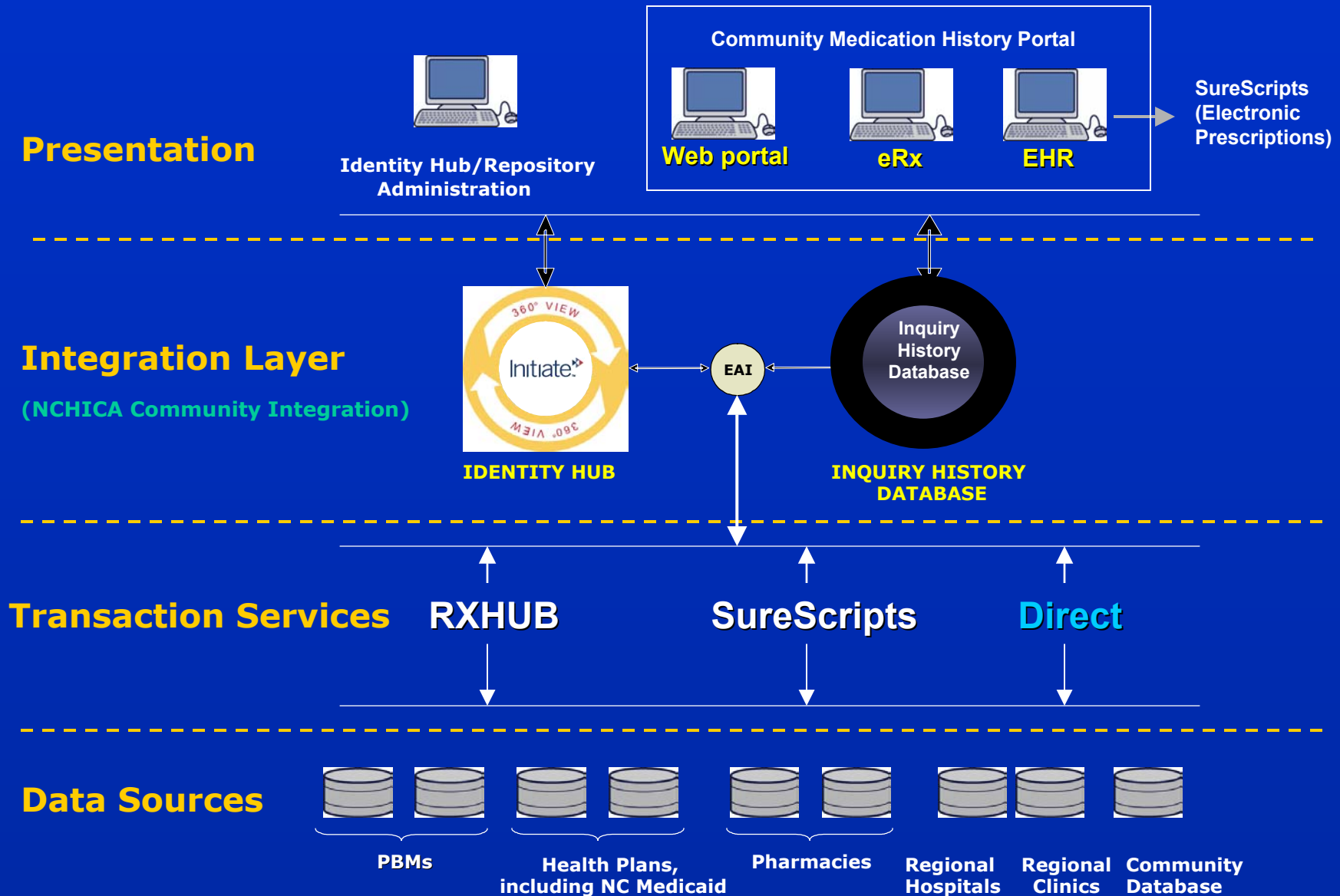
Public Health Initiatives

- Lessons Learned:
 - HAN provides connectivity
 - Connectivity drives additional opportunities
 - EHRs have potential of improving surveillance capabilities and improving population and public health

Community Medication Management

- Goal:
 - Provide list of medications at point of encounter to save time, improve accuracy of treatment and avoid medication errors
- Business / Policy:
 - Access to data from health plans, PBMs, pharmacies and other providers
 - Cost of operation; Sustainability
- Legal:
 - Privacy and Security (limit use to Treatment)
 - Rights to data
- Consumer:
 - Who has been looking for and at my information?
 - Drugs for behavioral health, communicable diseases, etc.
- Technical
 - Accessing records from multiple sources and linking same patient data

NCHICA Community Medications Management Project



Community Medication Management

- Lessons Learned:
 - Medication safety is clear imperative
 - Saving clinician time is big incentive for adoption
 - Privacy and consumer concerns must be addressed
 - Accessing multiple sources of information is technology and policy challenge
 - Data quality and clear identification of individuals is crucial considering no unique patient ID but can be done with existing technology to high degree of confidence

Getting Started

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Values for the Transition

- Keep the health and safety of the individual as the core objective.
- Objective of improving of healthcare through information technology and secure communications.
- Use RHIOs as an vehicle to re-engineer healthcare to make it more responsive and efficient.

Thank You

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