



CORHIO

Colorado Regional
Health Information
Organization

A Presentation of the
Colorado Health Institute
1576 Sherman Street,
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and the **Colorado
Health Information
Exchange**, an
AHRQ-funded State
and Regional
Demonstration
Project

Evaluating HIT – Evaluation designs from the Colorado AHRQ State and Regional Demonstration Project

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Denver Public Health, Denver Health

Objective

- To describe Colorado's evaluation design

Missing Information in Urgent/Chronic Care

- **AHIC Priority Area:** Quality Monitoring
- **Audience:** practitioners, payers
- **Funding:** AHRQ, General Internal Medicine small grant
- **Purpose:**
 - To document the frequency and type of unavailable clinical information ('missing information') at pediatric emergency, urgent care and continuity clinic visits.
 - To determine whether missing information is associated with increased length of time in the ED and increased resource utilization. To determine differences in perception of missing data between each of the clinic environments.
- **Principal investigator:** Lisa Schilling, MD
- **Population:** Convenient sample
 - The Children's Hospital clinic system
 - Denver Health (pediatric and adult) urgent care clinics
- **Study design:** cross-sectional study
- **Main outcome:** number of missing information events and perceived cost(s) associated with that absence
- **Sample size:** 500 visits per site
- **Data source(s):** interview with physicians, chart review
- **Relative costs:** Medium, requires chart review
- **Time frame:** 1/1/06 – 12/31/06

Claims submission and sustainability

- **AHIC Priority Area:** ---
- **Audience:** Colorado practitioners, providers and payers
- **Funding:** AHRQ, HealthOne Alliance Foundation
- **Purpose:**
 - To document attitudes, feasibility and timelines for implementation of a claims submission system among various stakeholders.
 - To understand the proposed economically sustainable model. Assess the implications of this model for practices/ sectors/ organizations. Understand how this model provides value to CORHIO development and sustainability. Solicit input and any impressions of its value for stakeholder practices/organizations
- **Principal investigator:** Lynn Dierker RN, Arthur Davidson, MD
- **Population:** Convenient sample from provider, hospital, payer (and potentially networks) affiliated with the CORHIO initiative
- **Study design:** focus groups
- **Main outcome:** attitudes and beliefs about claims submission system value
- **Sample size:** 3-6 groups of 6-10 key informants
- **Data source(s):** focus group sessions: providers, payers and hospitals
- **Relative costs:** Medium, requires interviews
- **Time frame:** 12/1/05 – 5/31/06

InformationLinks: Business Process Analysis

- **AHIC Priority Area:** **Biosurveillance, Quality Monitoring**
- **Audience:** Public health practitioners, payers, researchers
- **Funding:** AHRQ, Robert Wood Johnson Foundation
- **Purpose:**
 - To document business processes, contextual diagrams, and task flows to help design tools that will allow the projected audience to build valued population-based analyses tools.
- **Principal investigator:** Arthur Davidson, MD
- **Population:** Convenient sample from public health, providers, payers and researchers
- **Study design:** focus groups
- **Main outcome:** visual diagrams, analysis and a road-map for decentralized data systems to contribute to population-based analyses
- **Sample size:** 1 group of 13 key informants
- **Data source(s):** focus group sessions with providers, payers and public health officials
- **Relative costs:** Medium, requires interviews
- **Time frame:** 12/1/05 – 11/30/06

Evidence-based Guideline Implementation

- **AHIC Priority Area:** Chronic Disease Management
- **Audience:** Colorado practitioners, and patients
- **Funding:** AHRQ, Amendment 35 (CDPHE)
- **Purpose:**
 - To document how a common vocabulary engine and decision support system can interface and the results of rules executed for a patient and provider system.
- **Principal investigator:** Lisa Schilling, MD
- **Population:** Convenient sample from a community health clinic and non-FQHC provider in the Colorado Springs area
- **Study design:** cohort study
- **Main outcome:** metrics on system usage and results from rules execution for diabetes mellitus
- **Sample size:** all auditable events in system
- **Data source(s):** review of audit logs
- **Relative costs:** Low
- **Time frame:** 2/1/06 – 12/31/06

Attitudes to PHR in patients/ providers

- **AHIC Priority Area:** **Consumer Empowerment**
- **Audience:** practitioners, patients
- **Funding:** AHRQ, pending General Internal Medicine small grant
- **Purpose:**
 - To document attitudes and barriers to implementation of a PHR in patients visiting a safety-net institution and private practices; assess attitudes of Colorado providers regarding utility of interfacing, use of and general acceptance of patient-provided PHR information.
- **Principal investigator:** Steve Ross, MD
- **Population:** Convenient sample from Denver Health, CARENET Clinics and a random sample of Colorado healthcare providers
- **Study design:** cross-sectional study
- **Main outcome:** attitudes and belief about PHR value for health information exchange (e.g., registration clipboard, common health history)
- **Sample size:** *undetermined*
- **Data source(s):** interview with physicians and patients
- **Relative costs:** Medium, requires interviews
- **Time frame:** 7/1/06 – 6/30/07

Improving Performance in Practice

- **AHIC Priority Area:** Quality Monitoring
- **Audience:** Colorado practitioners, payers
- **Funding:** RWJF, Caring for Colorado Foundation, AHRQ
- **Purpose:**
 - To document how practitioners can use the RHIO to effect change in their practice behaviors.
- **Principal investigator:** Marjie Harbrecht, MD
- **Population:** Providers registered within the CORHIO sphere
- **Study design:** cross-sectional, serial measures study
- **Sample size:** *undetermined*
- **Main outcome:** metrics on guideline adherence
- **Data source(s):** review of audit logs, calculation of guideline adherence and missed opportunities
- **Relative costs:** Medium, need to create registry and metrics
- **Time frame:** 10/1/07 – 9/30/09

BioSense and RHIO

- **AHIC Priority Area:** **Biosurveillance**
- **Audience:** Public health practitioners
- **Funding:** AHRQ, CDC
- **Purpose:**
 - To document the interface between Biosense operations and RHIO and how tools for one may support the other
- **Principal investigator:** Arthur Davidson, MD
- **Population:** Convenient sample from national, state and local public health agencies
- **Study design:** qualitative, focus groups
- **Main outcome:** visual diagrams, analysis and a road-map for decentralized data systems to contribute to population-based analyses
- **Sample size:** *undetermined*
- **Data source(s):** review of audit logs, retrieval of aggregate data from each institution through specialized queries
- **Relative costs:** High
- **Time frame:** 10/1/07 – 9/30/09

Evaluation of User Interface and Usability

- **AHIC Priority Area:** Chronic Disease Management
- **Audience:** Colorado practitioners
- **Funding:** AHRQ
- **Purpose:**
 - To document how practitioners use the RHIO and how the interface is viewed as valuable or in need of change.
- **Principal investigator:** Arthur Davidson, MD
- **Population:** Providers registered within the CORHIO sphere
- **Study design:** cross-sectional study
- **Main outcome:** metrics on system usage, value, change in care plans and end-user assessment of ease of use
- **Sample size:** *undetermined*
- **Data source(s):** review of audit logs, “gate” screen responses, utilization measures, key informant or focus groups
- **Relative costs:** Medium due to interviews and need to build user-friendly gate screens
- **Time frame:** 10/1/07 – 9/30/09

Practice-based research network

- **AHIC Priority Area:** Quality Monitoring
- **Audience:** Colorado practitioners
- **Funding:** AHRQ
- **Purpose:**
 - To document what impact a HIE has on patient safety.
- **Principal investigator:** Wilson Pace, MD
- **Population:** Providers registered in CAREnet
- **Study design:** cross-sectional study, ? card study
- **Sample size:** *undetermined*
- **Main outcome:** reports of events with impact on patient safety
- **Data source(s):** review of audit logs
- **Relative costs:** Low
- **Time frame:** 10/1/08 – 9/30/09

Technology pilots

- *InformationLinks* (Mesa County and State Health Dept.)
- Quality Health Network - Colorado Department of Public Health and Environment
- Purpose:
 - to transfer communicable disease reports to CDPHE.
 - CDPHE to transfer newborn metabolic lab data to QHN
- Focus:
 - Assess CORHIO message specification to serve both needs
- Connectivity between a single community-based RHIO (Axolotl) flexibility in fulfilling laboratory reporting and exchange needs between laboratories and providers
- Potential impact:
 - Model for communication between sites; capacity for MPI to solve clinical messaging issues related to CDPHE newborn screening results delivery