CRISP State Designated Health Information Exchange (HIE)

April 27, 2012

CRISP Background

Chesapeake Regional Information System for Our Patients

- Grew from a conversation between Erickson Living, Johns Hopkins Medicine, MedStar Health, and University of Maryland Medical System (UMMS) in 2006
- Participants collaborated on several pilot projects, and partnered with the MHCC to create a comprehensive plan for a statewide HIE
- In 2009 CRISP was incorporated as a not-for-profit membership organization, with the intention of building a statewide HIE, chartered to serve all Maryland providers and patients
- On April 6, 2010 - CRISP received notice of grant award from ONC to becomes Maryland's REC

What is CRISP?

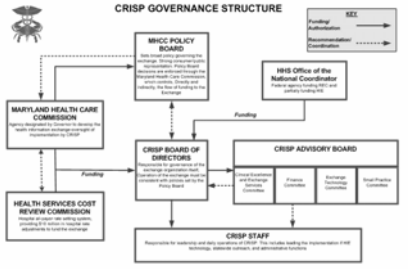
Chesapeake Regional Information System for Our Patients

CRISP (Chesapeake Regional Information System for our Patients) is Maryland's statewide health information exchange (HIE) and Regional Extension Center (REC)

- **Health Information Exchange**, or HIE, allows clinical information to move electronically among disparate health information systems. The goal of HIE is to deliver the right health information to the right place at the right time—providing safer, more timely, efficient, effective, equitable, patient-centered care.
- **Regional Extension Center** (REC) is a program created by the ONC that is funded through the stimulus bill. RECs will offer technical, implementation, and educational assistance to facilitate providers' adoption and meaningful use of electronic medical records (EMRs).

CRISP Governance

Chesapeake Regional Information System for Our Patients



Chesapeake Regional Information System for Our Patients

Health Information Exchange

What is the CRISP HIE?

Chesapeake Regional Information System for Our Patients

- Query Based HIE went live September 30, 2010 with 5 hospitals in Montgomery County
- CRISP HIE is predominately Hospital ADT and Clinical Content
- CRISP Portal access for Providers gives the ability to query the HIE contents and retrieve documents
- CRISP Direct will soon be piloting to determine how to incorporate into our Query Based HIE Infrastructure

CRISP Portal

Chesapeake Regional Information System for Our Patients

- Physicians and support staff can query patients they are treating and view lab, radiology, and transcribed documents in the HIE for that patient
- Information obtained through the portal can be printed and incorporated into records

Types of data available:

- Patient demographics
- Lab results
- Radiology reports
- Medication fill history
- Discharge summaries
- History and physicals
- Operative notes
- Consults

Connectivity Progress to Date—Key Numbers

Chesapeake Regional Information System for Our Patients

Progress Metric	Result
Live Hospitals	48 – All Hospitals
Live Labs and Radiology Centers (Non-Hospitals)	5
Live Clinical Data Feeds	52 (lab, rad, a clinical document feeds)
Identities in MPI	~3M
Active Users (log-in w/in past 60 days)	101
Queries (past 30 days)	800
ADT Available	~38M
Lab Results Available	~ 9.2M
Radiology Report Available	~ 2.7M
Clinical Documents Available	~ 1.2M
Opt-Outs	865

As of March 31, 2012

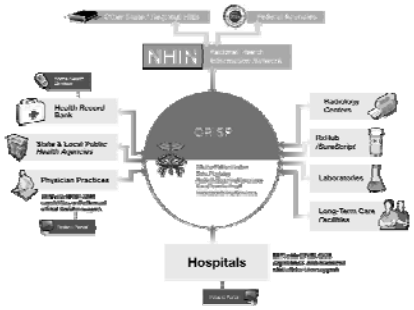
Transport Approaches

Chesapeake Regional Information System for Our Patients

- Clinicians can **query** the exchange to find recent results for a patient
- Reports can be automatically **pushed** from one provider site to another (ex: lab results delivery, radiology report delivery)
- Clinicians can **subscribe** to a patient, and be alerted when a new result for their patient exists in the exchange
- Secure email **pushed** using the Direct Standards

Infrastructure Design

Chesapeake Regional Information System for Our Patients



Standards-based, SOA, distributed infrastructure model with the ability to store data in local edge devices and consumer driven health record banks

Technology Approach

Chesapeake Regional Information System for Our Patients

Optum Insight: Core Infrastructure Solution

- Optum company located in Silicon Valley, California
- Elysium exchange solutions are used by nearly 30,000 physicians, 100,000 healthcare professionals, over 200 hospitals, 20 RHIOs, 3 Statewide HIEs
- Demonstrated ability to facilitate a rapid roll-out of the core infrastructure
- Distributed, hybrid-federated architecture

Initiate: MPI Solution

- Most sophisticated MPI solution on market
- Probabilistic matching proven in a range of geographies

Master Patient Indexing

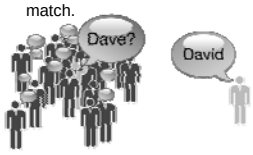
Chesapeake Regional Information System for Our Patients

Challenge: accurately and consistently linking identities across multiple facilities to create a single view of a patient.

A zero or near-zero tolerance of a "false positive" match with a low tolerance of a "false negative" match.

Approach: Get the best technology: Probabilistic vs. Deterministic

Single threshold vs. dual threshold and managing the gap with constrained resources

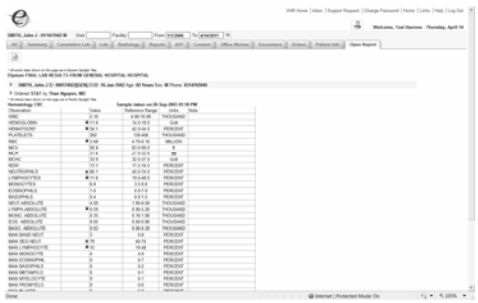


VHR Summary Page

Chesapeake Regional Information System for Our Patients

Lab Result

Chesapeake Regional Information System for Our Patients



Radiology Report

Chesapeake Regional Information System for Our Patients

Transcription Report

Chesapeake Regional Information System for Our Patients

Medication History

Chesapeake Regional Information System for Our Patients

Policy Board and Opt Out Policy

Chesapeake Regional Information System for Our Patients

- CRISP was designated as the state's HIE by the Maryland Health Care Commission (MHCC)
- The MHCC facilitates a consumer oriented Policy Board, which advises the MHCC on setting policies, which are then adopted by the HIE
- The MHCC's Policy Board has determined Maryland will be an opt out state for patient participation

Opt-Out and Protecting Privacy

Chesapeake Regional Information System for Our Patients

- CRISP will operate patient consent based on an opt-out model
- Opt-out will be controlled *centrally* by the HIE, not at the provider sites
- Opt-out will be available through website, mail, fax, and phone
- CRISP will provide hospital registrars with patient education materials, opt-out forms, and training sessions on how to talk about HIE with patients

Opt Out Form

Chesapeake Regional Information System for Our Patients

Chesapeake Regional Information System for Our Patients

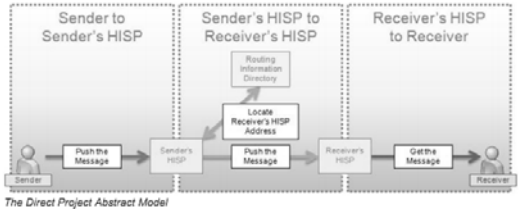
Direct Project
(Secure Messaging)

Direct Technology

- Direct Addresses
  - a.physician@direct.aclinic.org
  - An individual may have multiple Direct addresses
- Security & Trust Services
  - Each Direct Address must have at least one digital certificate associated with it in order to securely transmit and receive health information
- Direct Messages
  - Direct Messages are essentially email messages (RFC 5322)
  - Contents can be (and often are) structured, but can be unstructured: HL7 lab results, CCD, CCR, PDF, TIFF, text, IHE XDM specifications
- Message Transport & Delivery
  - Direct specifies Simple Mail Transport Protocol (SMTP) as its primary mechanism for delivering healthcare content from a sender to a receiver

Direct Technology (cont.)

- HISP: package messages, ensure authenticity, route securely



The Direct Project Abstract Model

- Certificate Authority (CA): The HISP may issue the certificates itself as a CA or obtain the certificates from a trusted third-party CA.
- Provider Directories: The HISP may support certificate publication in a directory that is available to other HISPs

CRISP Direct Use Cases

In Patient

- Clinical: Notification of Admission delivery to the PCP
- Clinical: Discharge Summaries delivery to the PCP
- Operations: Medical Records Request (HIM Department) to Providers

Additional Use Cases

- Clinical: Admit/Discharge Summaries delivery to Payer's
- Clinical Hospital Clinical Summary to Payer's Care Coordination
- Operations: Patient Records Request to Hospital from Providers (Specialist)

CRISP Direct Use Cases

Chesapeake Regional Information System for Our Patients

Out Patient

- Clinical: PCP Referral to Specialist with Clinical Summary
- Operations: Practice Fax Replacement – Provider to Provider Communications

Additional Use Cases

- Clinical: Specialist Clinical Summary to PCP Referral

Chesapeake Regional Information System for Our Patients

Questions?

Daniel Wilt
daniel.wilt@crisphealth.org
rec@crisphealth.org
hie@crisphealth.org