



HealthBridge

Delivering results...Transforming health care

Enabling Health Information Exchange

Internet2 San Antonio 2009

*HealthBridge is one of the nation's
largest and most successful health
information exchange organizations.*

HealthBridge (HB) Background

Who we are, where we came from, what we do...

HB History

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- In operation since 1997
- Created with investment by local hospital systems and insurers
- Not for profit
- Began by providing “secure” connectivity between hospitals and physician practices
- Private WAN using T1s, ISDN, and dialup
- Migrated to VPNs in 2001 for physician access as broadband deployments by local carriers progressed
- Essentially operated as a “private” ISP for healthcare providers in Cincinnati area to reduce redundant telecom connections by providing remote access to hospital internal systems

HB Today

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- One of the nation's largest and most successful community health information exchanges
- Provides secure, real-time electronic health information exchange for Southwestern Ohio, Northern Kentucky and Southeastern Indiana.
- Primary focus on Clinical Result Delivery, Image Exchange and EHR services.
- One of only a handful of HIE/RHIOs nationwide with cash-positive, sustainable business model
 - 97% of revenue from fees; <3% from grants

Summary of Functionality:

Clinical

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Types of clinical results delivered

- Lab results
- Radiology reports
- Transcribed reports
- Cardiology
- Pathology
- Microbiology
- Admission, Discharge and Transfer (ADT) Messages
- Radiology Images
- Hosted EHR offering
- Ambulatory Order Entry
- Electronic Disease Reporting and Public Health Alerts
- ePrescribing



Summary of Functionality:

Administrative

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- Insurance Eligibility & Claims Status
- Coding Assistance Software
- Online Referrals
- **Secure web access to hospital clinical information systems**
- Direct feed of clinical results to 27 EHR vendors, 100+ practices

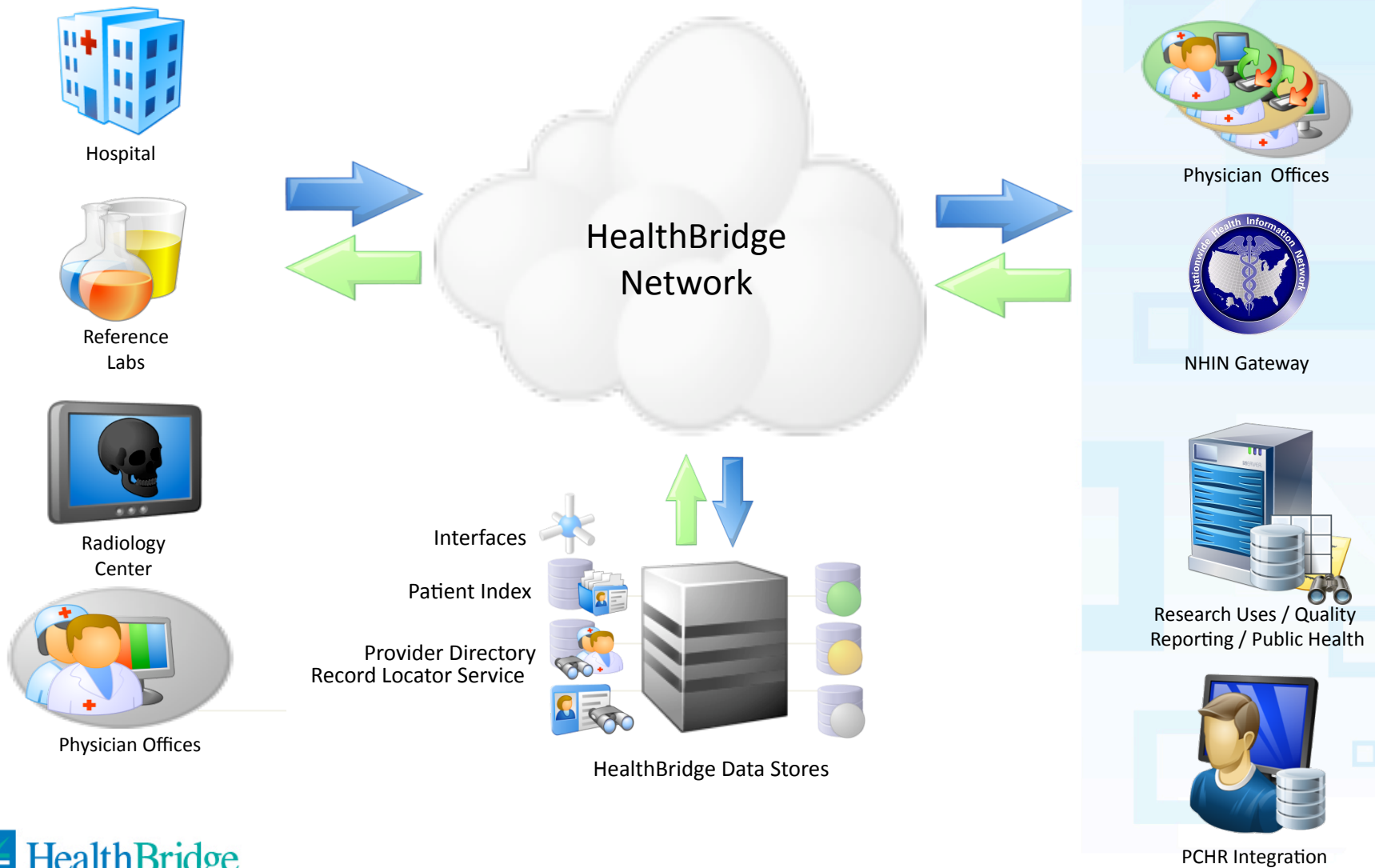


HealthBridge Network Infrastructure

What does it look like?

HB Network

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HB Network Metrics

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- Network includes:
 - 24 local hospitals in Kentucky, Ohio and Indiana, 4 out of territory
 - 5400 physicians at 750 practices
 - 17 local health departments
- Delivered 2.9 million clinical results in July 2009; more than 25 million total results in 2008
- 85 HIS/Data Provider inbound connections
- Over 95% of Hospital Sector Activity in Greater Cincinnati

Current Architecture

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- Combination of private lines and Internet VPNs
 - 100meg dedicated lines between hospitals
 - IPSec VPNs to physician practices, rural hospitals
 - SSL VPN Internet access for users
- Integrated result delivery network => low bandwidth needs
- Image transfers between facilities => high bandwidth, use 100 meg dedicated connections, gigabytes of data, time sensitive
- Telecom is a budget item in 100s of thousands of dollars range
- Moving away from “reselling” direct connections

Building a Health Information Exchange

What services? What telecom?

Building HIEs

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- Critical technology learnings from previous efforts...
 - Old answer --- Identifying services that have demonstrable ROI
 - Clinical Messaging
 - EHR-Lite
 - Radiology Image transfer
 - etc., etc.

Building HIEs

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- Landscape has dramatically changed in last year...
 - “It’s now all about **Interoperability** and demonstrating **Meaningful Use**”
 - NHIN is a game changer as it provides standards for data format and its secure transport.
 - Potential to ultimately eliminate creation of proprietary interfaces => costly, time consuming, huge barrier.
 - HB pursuing Open Source Interface repository.
 - Meaningful Use goal is to drive adoption of electronic medical records.
 - Quality reporting

Wish list for HIEs

If we could have x... what would it be?

Wish List

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- More reliable, faster, low latency connections to physician offices => last mile
 - Current DSL and Cable networks are unreliable
 - In HB case, it was necessary to install dedicated network connections from our datacenter to the carrier DSL and cable POPs even in local urban area
 - Internet had high latency and radiology viewer applications were timing out.
 - Future need is to include images with result delivery to EHRs => need more bandwidth
 - RHCPP should help with this...

Wish List (cont.)

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- Higher speed access to rural hospitals
 - Consumer broadband access not adequate for rural hospitals and large physician practices
 - Lots of QOS problems connecting regionally through multiple carriers regionally
 - Internet2 could help with this...
- Simplified High Speed access between regional and local hospitals
 - have multiple internet providers which we load balance using BGP peering arrangements, etc.
=> HB is an ISP
 - Not our core business, would like to get out of it.

Closing Thought

Thank you!

Contact Info:

Rodney Cain

HealthBridge

rcain@healthbridge.org

<http://www.healthbridge.org>