



Status Report: MidSouth eHealth Project

eHealth Council
16-March, 2007

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Origins

“This might be an impossible dream, except for the fact that we already have right here in Tennessee the national leader in the field of medical informatics — Vanderbilt University Medical School. While we are at work saving TennCare, I’d also like to start building some of the foundations to turn it into a model for other states. I’d propose to start with one of our large providers — the Med in Memphis — and working with Vanderbilt and our own medical schools pioneer a real 21st century approach there. When it is successful, we can begin expanding it to other providers.”

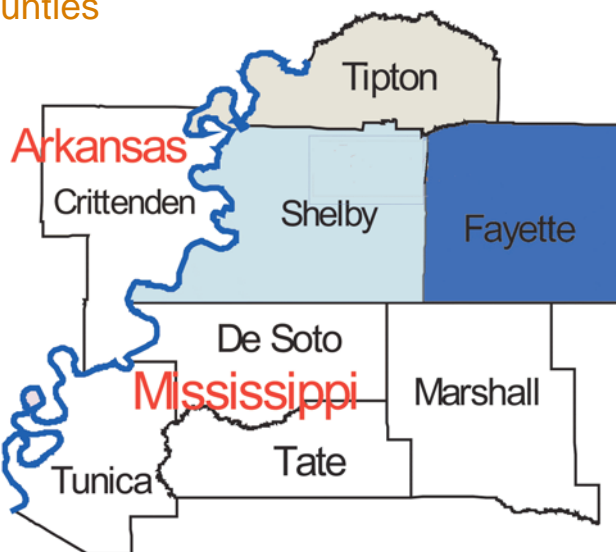
Bredesen, [Saving TennCare](#) - Address to the Tennessee Legislature, February 17, 2004

“Put plainly, my thesis this morning is, ‘Enough with the grants, enough with the conferences, enough with new paradigms, enough with the pilot projects; this is good stuff; how do we actually get health care professionals and organizations to use it?’ .”

Bredesen, [Keynote Address](#) – HIMSS, New Orleans, February 27, 2007

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Three Counties



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The MidSouth eHealth Alliance — a 501(c)(3) corporation

Broad Participation

- Baptist Memorial Health Care Corp. (4 facilities)
- Christ Community Health (4 primary care clinics)
- Methodist Healthcare (7 facilities including Le Bonheur Children's Medical Center)
- The Regional Medical Center (The MED)
- Saint Francis Hospital & St. Francis Bartlett (Tenet Healthcare)
- St. Jude Children's Research Hospital
- Shelby County/Health Loop Clinics (11 primary care clinics)
- UT Medical Group (300+ clinicians)
- Memphis Managed Care/TLC (MCO)

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A collaboration with extensive reach and influence

- The Memphis BioWorks Foundation
- The Memphis Business Coalition
- Universities in Tennessee
 - Tennessee Tech
 - University of Memphis
 - University of Tennessee – Memphis
 - Vanderbilt University
- State collaborations
 - State of Tennessee
 - Tennessee Hospital Association
 - Tennessee Health Information Management Association
 - Tennessee Health Information Management Systems Society
 - Hospital Alliance of Tennessee
- National collaborators
 - Regenstrief (Indiana)
 - eHealth Initiative
 - Markle Foundation
 - Robert Wood Johnson Foundation
 - American Health Information Management Association
 - Agency for Healthcare Research and Quality HIT National Resource Center

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A foundation for improved health and a stronger economy

- Legal / policy framework
- Public Health (Robert Wood Johnson grant)
- E-prescribing (AHRQ contract expansion)
- Quality (AHRQ contract expansion)
- Community Action (Robert Wood Johnson; Healthy Memphis Common Table)
- Understanding of emergency department use
- Extension to safety-net clinics to strengthen “medical home” concepts (AHRQ grant)
- Technology – Tennessee Tech involvement with state development of databases
- Retail pharmacy (coming soon)
- Commercial vendors (coming soon)

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We measure progress and “get things done”

Over 200 users

- ED Staff including clinicians, registrars, and unit secretaries
- Between 70 and 95 percent of registered users used the system last month
- Since May, 2006, 900,000 encounters; more than 90,000 lab tests per day

Our goal is 100% use

- Records are currently sought on about 40% of ED visitors
- For these visitors between 30 and 60% have information from other sites

Anecdotally, our system affects care

- Impact on patients with chest pain
- Avoidance of CTs and MRIs
- Avoidance of admissions

*The third principle centers on how we incorporate what we do into the mainstream, day-to-day business of delivering health care. Aside from early adopters and true believers, **how do you get ordinary, mainstream health providers to use this technology, how do you establish a reason powerful enough to compel large numbers of them to invest their time and resources and participate.** (Bredesen, HIMSS, 2007)*

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Low cost of entry; burden is not on the provider

- Data feeds in varying formats - project team does the required conversions
 - HL7 v 2.1 – 2.3
 - XML code
 - Flat files
 - Multiple laboratory systems with differing specs
 - Multiple parsing programs created for each organization
 - Parsing (“translating”) ongoing as each institutions evolves to standards
- Most data are real-time or near-real time
 - Daily batch - one hospital system (soon moving to real-time)
 - Health Plan member file (weekly update)
- Example: Laboratories
 - We receive over 90,000 laboratory tests a day
 - Approximately 60% are converted to a standardized (LOINC) format

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Privacy and confidentiality are central

Participants:

- are allowed the use of the data for designated purpose of treatment and diagnosis only.
- signed a Registration Agreement that designates them as a Data Provider and/or a Data Recipient.
- signed a Data Sharing Agreement.
- have a vote on the policy committee known as the Operations Committee

Patients :

- are notified that their clinical data could be shared with the MidSouth eHealth Alliance..
- have the right to "Opt Out" of the system. It is assumed they are in the system until they "Opt Out".

Documents: <http://www.volunteer-ehealth.org>

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What is the MidSouth eHealth Alliance?

Certain health care providers in the Memphis area share health information through the MidSouth eHealth Alliance (the Alliance). The Alliance is a communitywide information system that helps health care providers in the treatment of patients. Providers are doctors, nurses, healthcare workers, hospitals and clinics.

Which organizations in the MidSouth eHealth Alliance share information?

The following organizations now participate in the MidSouth eHealth Alliance:

- Baptist Memorial Hospital/Coleville
- Baptist Memorial Hospital for Women
- Baptist Memorial Hospital/Memphis
- Baptist Memorial Hospital/Tipton
- Christ Community Health Services
- Memphis Managed Care/TLC
- Methodist Healthcare including LeBonheur
- Children's Medical Center
- Saint Francis Hospital Memphis
- Saint Francis Hospital Bartlett
- St. Jude Children's Research Hospital
- The Med
- Health Loop Clinics
- UT Medical Group Inc.

Why is health information shared?

Health care providers can make better choices about a patient's care and treatment when they have as much information as possible about that patient's health, lab tests, medical history, medicines, or other reports. The Alliance permits providers to review medical information in a system that better than contacting patient's health care providers currently involved in that patient's care.

Is shared health information kept private and confidential?

Yes. The Alliance obeys all applicable federal and state laws about privacy of medical information. The Alliance will not share health information with anyone not involved in the care of a patient related to operations of the Alliance. Every organization and provider that shares or uses information from the Alliance must obey strict rules to secure and protect privacy.

What are your rights?

As a patient, you have the right to not share your health information in the system called "Opting Out." However, if you choose to opt out, health care providers may not have access to health information that may be important and useful in making choices about your medical care.

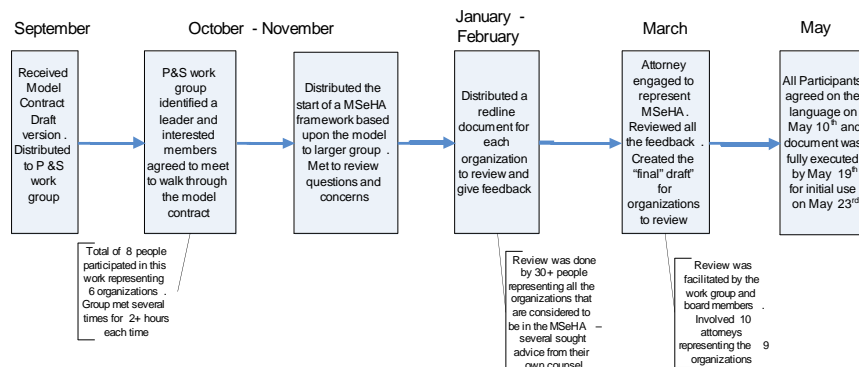
If you have questions regarding your privacy rights, please refer to the Notice of Privacy Practices provided to you by your health care provider. If you need another copy, that Notice, please ask your provider to give you one. This Fact Sheet is intended for educational purposes only. Operations of the Alliance and the content of this Fact Sheet may be changed by the Alliance from time to time without notice.

Who do I contact for more information?

Every organization in the Alliance has a person who is responsible for privacy. When you have a question, ask for the Privacy Officer. He or she will be able to answer your questions or find someone who can help you.

Scores of individuals are involved in our policy

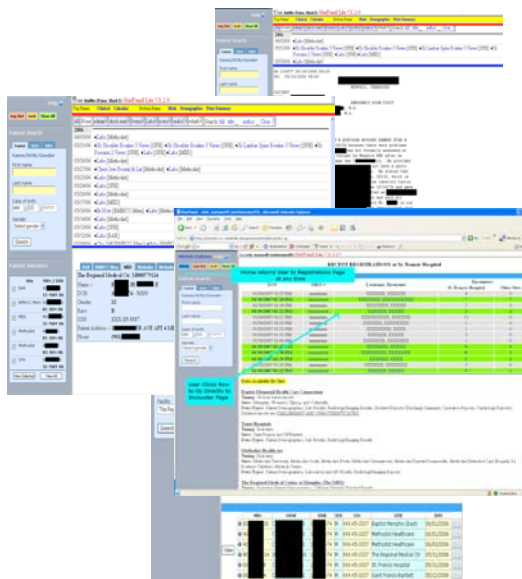
From June through August, 2005, the workgroup focused on key policy issues. This laid a foundation for trust and open dialogue. When we began working on the Regional Data Exchange agreement, our overall approach was to do as much work as we possibly could without incurring legal fees.



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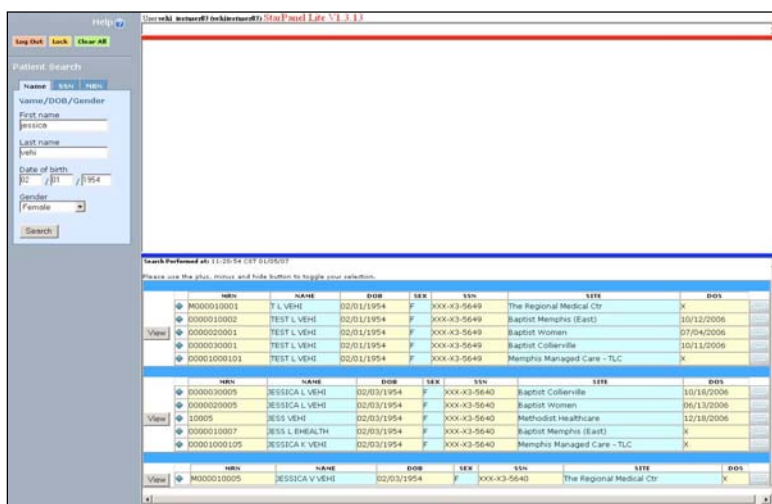
Currently, access is through a web browser and the use of a secure token. We keep learning

- **Data available today**
 - Patient identification/demographics
 - Lab results
 - Encounter data: date of service, physician and reason
 - Dictated Reports
 - Imaging studies
 - Cardiology studies
 - Discharge summaries
 - Operative reports
 - Emergency room summaries
 - History and Physicals
 - Diagnostic Codes
 - Some medication history (TennCare Claims)
 - Etc.
- **Data to be available in the future**
 - Medication history
 - Allergies



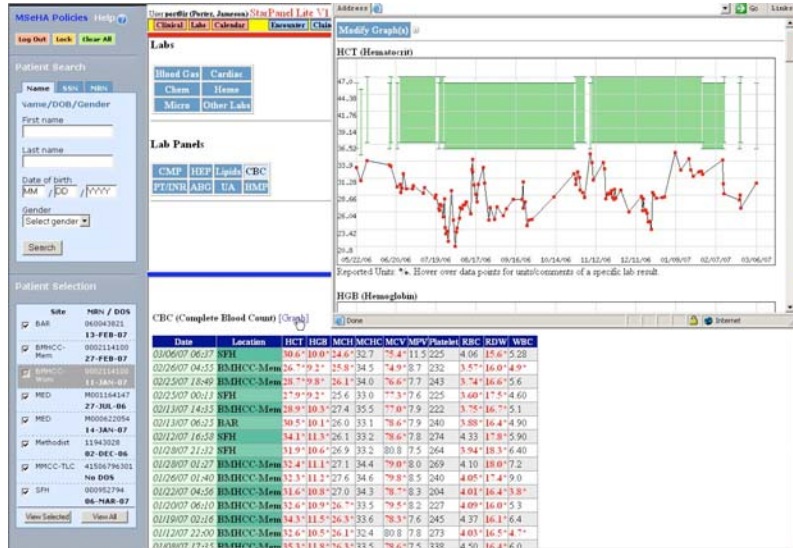
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Record locator services; multiple means of access



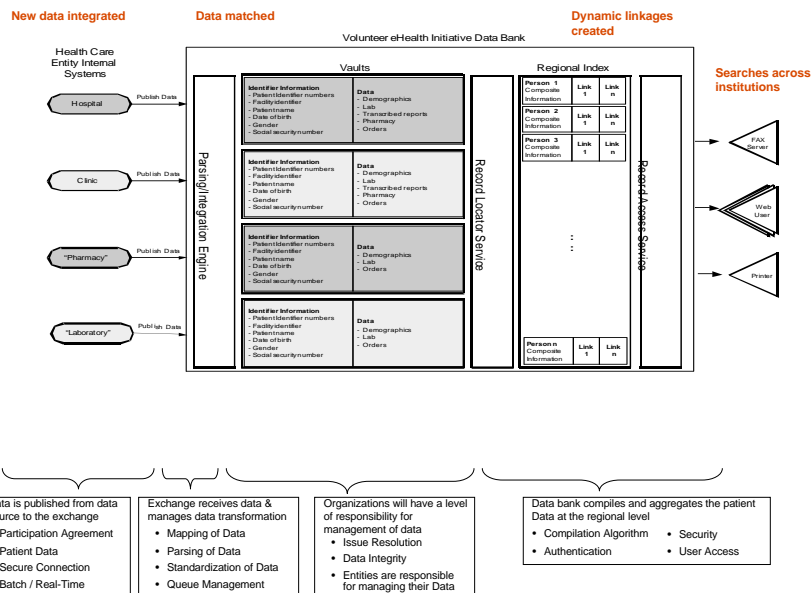
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Normalized (LOINC) across sites

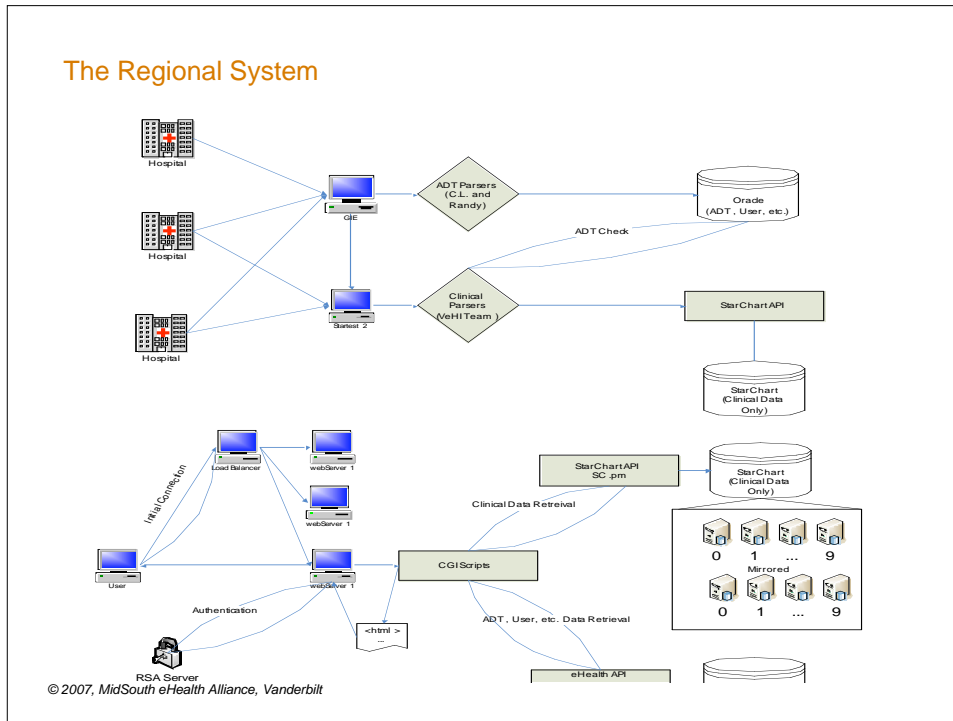


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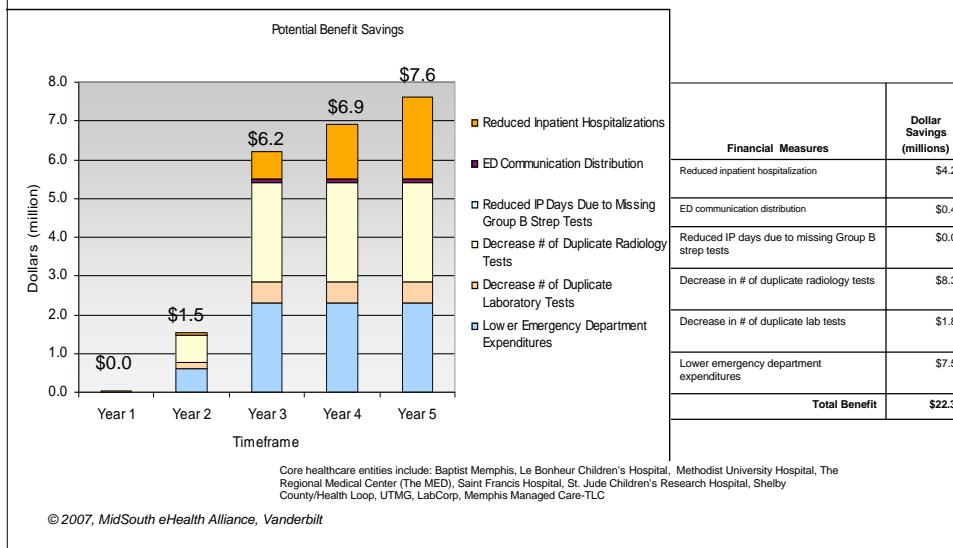
Technology is inexpensive and scales



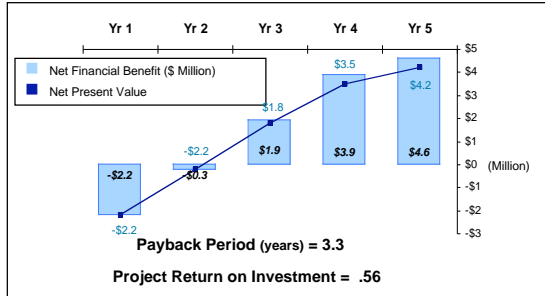
The Regional System



We are updating the model developed in the 2004 plan



NPV (2007 model) - \$4.2 Million



The State of Tennessee and the Core Healthcare Entities realize a higher financial gain when you consider the different stakeholder contributions.

State of Tennessee

Payback Period = 1.7

Return on Investment = 1.95

Core Healthcare Entities

Payback Period = 0.5

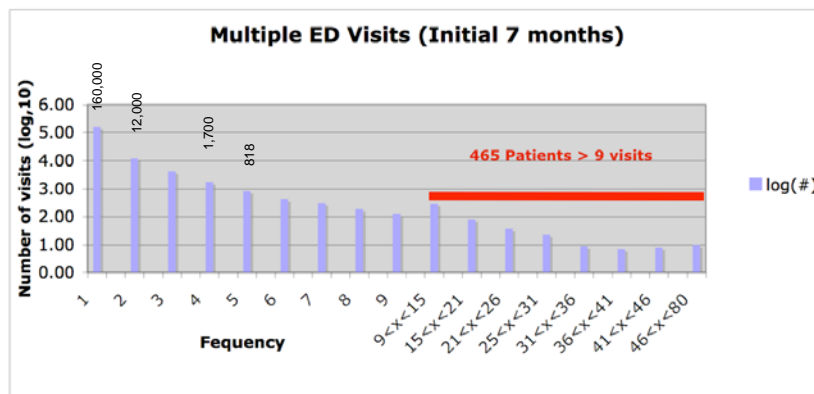
Return on Investment = 17.5

Assumptions

- Based on data obtained on the core healthcare entities and Memphis Managed Care
- Research factors are applied to calculate the benefits
- Deployment schedule is limited initially to EDs and Labor & Delivery; years four and five will extend to all healthcare providers
- Inflation and volumes remain constant
- The costs to move and support the RHIO data center are not included in the five-year forecasts
- The RHIO support desk infrastructure is not established; Vanderbilt will provide this service
- Labcorp will not charge the project for their effort
- The average cost for a core healthcare entity for implementation and operation activities is \$30,000 per year.

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High frequency of repeat visits



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The real opportunity: find alternatives to ED care

Date	Test Description	Institution
10/18/06	Radiology: •Xr Ab-d Compl W/Flat/Erect	BMHCC-Coll
10/16/06	Radiology: •Xr Ab-domen 2 Views	SFH
09/20/06	Radiology: •Ct Ab-d+pelv W/Con O&	BMHCC-Coll
09/09/06	Radiology: •Ct Ab-d+pelv W/Con O&	BMHCC-Coll
09/06/06	Radiology: •Ct Pelvis With Contrast [SFH] •Ct Ab-domen With W/O Contrast [SFH] •Xr Ab-domen 2 Views [SFH]	SFH
09/04/06	Radiology: •Xr Ab-domen 2 Views [BAR]	BAR
09/03/06	Radiology: •Ab-domen Acute Series [BMHCC-Mem]	BMHCC-Mem
08/21/06	Radiology: •Ct Pelvis With Contrast [BAR] •Ct Ab-domen With W/O Contrast [BAR]	BAR
08/17/06	Radiology: •Nin Gastric Emptying Study [SFH]	SFH
08/16/06	Radiology: •Ct Ab-domen With W/O Contrast [SFH]	SFH
08/15/06	Radiology: •Xr Chest 1 View [SFH]	SFH
08/12/06	Radiology: •Xr Ab-domen 2 Views [SFH] •Talk Report [MED]	SFH
08/05/06	Radiology: •Ab-domen Flat And Upright [BMHCC-Mem] •Chest Pa/Lat [BMHCC-Mem]	BMHCC-Mem
07/25/06	Radiology: •Ct Ab-d+pelv W/Con O&	BMHCC-Coll
07/09/06	Radiology: •Ct Ab-d+Pelvis W/O Contrast [BMHCC-Mem]	BMHCC-Mem
07/02/06	Radiology: •Xr Ab-domen 2 Views [SFH]	SFH
07/01/06	Radiology: •Xr Ab-domen 2 Views [SFH]	SFH

This individual had over 40 ED visits to multiple emergency departments within a 7-month periods.
Options:
- more effective treatment in ED
- more effective care outside of ED

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Repeat tests: conservative estimates

Over 7 months:

- 176 individuals had more than 15 visits to EDs
- Approx 1600 radiology tests
- 44 individuals met criteria
- 395 total radiology tests
- 108 tests met criteria of "repeat"

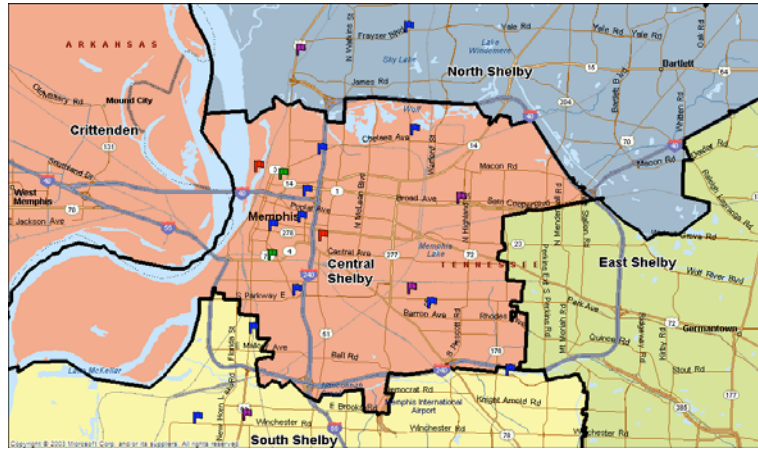
Case	Description
A	>2 x-rays from >1 hospitals <2 weeks
B	>1 CTs from >1 institutions <2 weeks
C	>1head MRIs >1institutions <2 weeks
D	>1 abdominal CTs >1institutions <2 weeks

- These are very crude assessments meant only to validate the belief that the potential for reducing tests is what we think

Tentative Findings: Each high frequency ED patient incurs at least \$4,090/year in repeat radiology tests at each institution they visit. We believe expenses could be attenuated with effective clinic follow-up and case management.

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Medical homes – continuity of care



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Supporting clinicians in ED and clinic

RECENT REGISTRATIONS at St. Francis Hospital

DOB	MRN #	Lastname, Firstname	St. Francis Hospital	Encounters	Other Sites
01/26/2007 02:55 PM	XXXXXXXXXX	XXXXXXXXXX	4	0	0
01/30/2007 02:10 PM	XXXXXXXXXX	XXXXXXXXXX	7	0	0
01/30/2007 02:32 PM	XXXXXXXXXX	XXXXXXXXXX	1	1	1
01/29/2007 02:21 PM	XXXXXXXXXX	XXXXXXXXXX	11	0	0
01/29/2007 02:20 PM	XXXXXXXXXX	XXXXXXXXXX	1	0	0
01/29/2007 02:19 PM	XXXXXXXXXX	XXXXXXXXXX	3	0	0
01/29/2007 01:51 PM	XXXXXXXXXX	XXXXXXXXXX	3	0	0
01/29/2007 01:49 PM	XXXXXXXXXX	XXXXXXXXXX	1	0	0
01/30/2007 01:47 PM	XXXXXXXXXX	XXXXXXXXXX	4	3	3
01/30/2007 01:40 PM	XXXXXXXXXX	XXXXXXXXXX	8	2	2
01/30/2007 01:29 PM	XXXXXXXXXX	XXXXXXXXXX	2	1	1
01/30/2007 01:20 PM	XXXXXXXXXX	XXXXXXXXXX	3	0	0
01/30/2007 01:13 PM	XXXXXXXXXX	XXXXXXXXXX	1	0	0

Data Available By Site

Region: Memorial Health Care Corporation
 Timing: 24 hour batch reports
 Sites: Memorial, Women's, Tumor, and Cellular
 Data Types: Patient Demographics, Lab Results, Radiology/Imaging Results, Discharge Reports (Discharge Summary, Operation Reports, Cardiology Reports)
 Discharge reports are ZENITH/SUPPLY AND LOG/UTTERLICK/CATZEL

Tumor Hospital
 Timing: Real-time
 Sites: East Francis and OHSU/erlen
 Data Types: Patient Demographics, Lab Results, Radiology/Imaging Results

Memorial Healthcare
 Timing: Real-time
 Sites: Methodist University, Methodist South, Methodist North, Methodist Germantown, Methodist Fayette/Germantown, Methodist Extended Care Hospital, Le Bonheur Children's Medical Center
 Data Types: Patient Demographics, Laboratory and AP Results, Radiology/Imaging Reports

The Regional Medical Center at Memphis (The MEM)
 Timing: Real-time Patient Demographics & Medical Records Supplemental Services

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Other potential expansion areas

- Regional ED utilization Services
 - Lower cost of care within institutions
- Collaborative Care Services
 - Lower cost of care across selected facilities (ED, HealthLoop, & Christ Community)
 - Lower cost of communication of clinicians
 - Expand data communicated to clinician
 - Case management improvement
- Public Health Report Services
 - Lower cost to deliver reportable data sets or public health data.
- Employer Benefits Reporting Services
 - Lower utilization review costs
- P4P/Quality Indicators Reporting Services
 - Pilot studies with Plans & Employers (report cards, P4P/Quality Indicators, patient/disease specific, disease management)

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Summary

- The MidSouth eHealth exchange is operational
- Although the results are preliminary, it is effective
- The Exchange is relatively low-cost
- The Exchange is scaleable
- The power of such an Exchange is only beginning to be explored
- The true impact has been on the community
 - Informed consumers concerning health care technology
 - Educated in the practical applications of technology, policy, and confidentiality
 - Changing the way care is delivered
- This is a very real production system
- It is delivering as promised

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Previous

- [The MidSouth eHealth Alliance Data Sharing Agreements and Supporting Documents](#)
- [FORE / AHIMA Report](#)
- [The Tennessee eHealth Advisory Council](#)
- [Tennessee one of 9 States Participating in HHS / AHIMA Study](#)
- [Governor Predesen, Healthcare Leaders Launch Campaign to Help Thousands of Tennessee Physicians Start e-Prescribing](#)
- [Volunteer eHealth Initiative Described in Recent AHRQ-funded Report](#)
- [Technical Advisory Panel Member Featured in Wall Street Journal](#)
- [Doctors Explore Prescription Usage](#)
- [Harvard and Industry Partners Announce Open-Source, User-Centric Identity Management Project](#)
- [CareSpark to co-Sponsor May 6 EMR Meeting](#)

Tuesday, September 26, 2006

The MidSouth eHealth Alliance Data Sharing Agreements and Supporting Documents

As of September, 2005, the MidSouth eHealth Alliance (MSeHA) and the AHRQ/TN State regional demonstration project is receiving comprehensive clinical data (labs, reports, diagnoses, etc.) from 15 organizations and is in operation in several emergency departments in the greater Memphis Area.

Our work led us to conclude that data-sharing agreements are critical. This process was based on data-sharing and other documents from the Markle Connecting for Health Policy Group. The process took much longer than expected but served as a vital means of bringing over 50 people within the region to a more common, patient-centered goal.

The MidSouth eHealth Alliance is a non-profit company chartered specifically to manage the data exchange demonstration project and is supported by multiple sub-groups and an inclusive operations committee working continually on updating policies and procedures. We present on this site three documents produced in the course of our work.