

RHIO Case Studies SW Tennessee

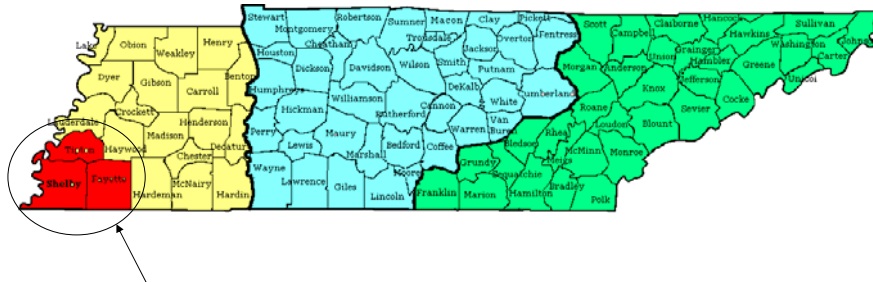


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Recent funding: AHRQ Contract 290-04-0006

This presentation has not been approved by the Agency for Healthcare Research and Quality
Portions of this presentation derive from a planning exercise conducted with Accenture

Example: West Tennessee



All parties recognize that health care is regional and that a significant number of individuals seeking care in Tennessee are residents of one of the 8 bordering states
Note – other regional initiatives and state-wide HIT initiatives funded by AHRQ or HRSA in the state include UT Memphis, UT Knoxville, Vanderbilt, and Kingsport-Johnson City.

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Fayette, Shelby, and Tipton counties: 900,000+

Three-County Region Population

Payor	Fayette	Shelby	Tipton	Total	% of Total
Medicare	3,738	89,581	5,079	98,398	10%
Medicaid	6,684	232,611	12,201	251,496	25%
Uninsured	3,744	108,992	6,412	119,148	12%
Comm./Self-pay	17,036	477,080	29,744	523,860	53%
Total	31,202	908,264	53,436	992,902	100%

The uninsured population is expected to increase by ~36,000 within the three-county region due to the changes in the TennCare program.

20-25% of care in some hospitals to Arkansas and Mississippi residents

Sources:

- 1 – Kaiser Foundation - www.kff.org
- 2 – The Tennessean – January 20th, 2005
- 3 – Medicare population calculated based on population over 65; data provided on www.vanderbilt.edu
- 4 – Population analysis based on 2002 statistics



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Trends: TennCare

STATE-TO-STATE COMPARISONS

Percent of Population Covered By Health Plan

Rank	State	%
1	Tennessee	22.3
2	Mississippi	20.3
3	New Mexico	20.0
4	Louisiana	19.6
4	New York	19.6
6	California	18.1
7	South Carolina	17.6
8	Maine	16.9
9	Arkansas	16.7
10	Delaware	16.6

Source: Kaiser Statehealthfacts.org,
U.S. Census Bureau

Health Plan Expenditures as a Percent of Total Expenditures

Rank	State	%
1	Tennessee	33.3
2	Missouri	30.7
3	Pennsylvania	29.5
4	Maine	29.0
5	New York	28.3
6	Illinois	28.1
7	Vermont	27.5
8	New Hampshire	26.4
9	Mississippi	26.3
10	Rhode Island	25.5

Source: National Association of State
State Budget Officers

Source: Governor's Communications Office, "TennCare at-a-Glance," 10 January, 2005,
<http://www.tn.gov/governor/tenncaredocs/011005%20TennCare%20At-A-Glance.pdf>



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Trends: Urban Hospitals

The Med on precipice of ruin

Hospital CEO counting on state help

By Mark Watson
watson@gomemphis.com
June 22, 2003

Divide The Med's cash balance by \$750,000 and that gives you the number of days Memphis's public hospital could operate - if it received no more money.

On June 16, that number was nine - up from six in January. But it's about 1/15th of the cash on hand to pay a day's worth of expenses available at comparable nonprofit hospitals across the country.

Advertisement

That's one measure of the financial health of the Regional Medical Center at Memphis, which is on track to record a deficit of as much as \$20 million when its fiscal year ends June 30.

Source: M. Watson, "The Med on the Precipice of Ruin: Hospital CEO Counting on State Help," The Commercial Appeal, 21 June, 2003.
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Demand: American Nomads

- In 2002-03, 41 million Americans changed their residence (20% of these to another county, another 20% to another state)
- 21% of children age 4 or less moved during the same period
- 11% of a Medicaid Managed Care population sought care in an ED more than once a year. (average use for this group – 5 visits per year!)
- 20-25% of patients seeking care in two Memphis hospitals were from other states
- Tennessee borders 8 other states

Sources:

1 – U.S. Census Bureau and J. P. Schachter, "Geographical Mobility: 2002 to 2003," <http://www.census.gov/prod/2004pubs/c2k3-50.pdf>

2 -- Data supplied by a Medicaid Managed Care Organization 07/2003-07/2004

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Value to Region and Stakeholders

Providers

- Timely access to relevant data for improved decision making
- Rapid access -- anywhere, anytime
- Reduced clerical and administrative costs
- More efficient and appropriate referrals
- Increased safety in prescribing/monitoring compliance; alerts to contraindications
- Better coordinated care
- Potential additional revenue sources (e.g. preventive care)
- Enhance revenue through decrease in rejected claims

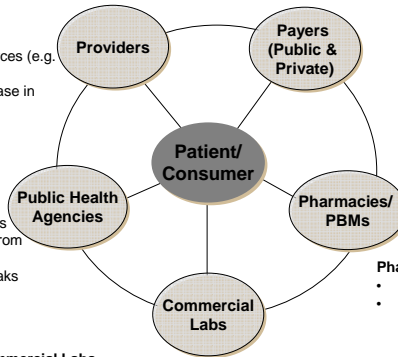
Public Health Agencies

- More comprehensive data
- Greater participation by physicians
- Easier integration of information from disparate sources
- Early detection of disease outbreaks or cases that suggest a local epidemic
- Outcomes analysis
- Bio-terrorism preparedness

Commercial Labs

- Enhanced public relations; exclusive contracts
- Decreased write-offs from unnecessary tests
- Decreased EDI costs; increase efficiencies

Overall Value



Payers

- Improved customer service
- Improved disease and care management programs
- Improved information to support research, audit and policy development

Patient

- Improved quality of care through better informed caregivers
- Safer care
- Decreased cost of care

Pharmacies/PBMs

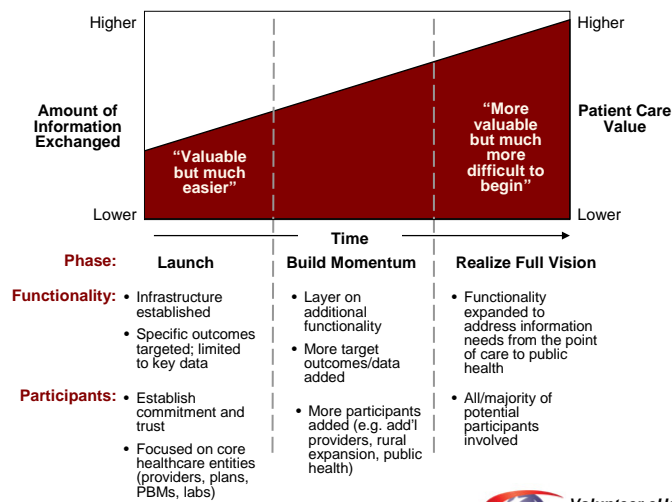
- Reduced administrative costs
- Increased medication compliance

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An Initial Provider-Centric Approach



"It is more important to first build the highway than the hotel or fast food place," Clem McDonald, MD, FACP, Regenstrief Institute, Indianapolis, IN.



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Value of Integration

The infrastructure being established will create opportunities to improve data collection and aggregation processes with the public health arena

Public Health Area	Opportunities
Immunizations	<ul style="list-style-type: none"> • Increase automation and volume of data collected in the State Immunization database (TWIS) from provider sources through integration with the Volunteer eHealth Initiative RHIO • Provide physicians with ability to see complete immunization records within RHIO to limit number of applications to access
Newborn Screening and Lead Poisoning Prevention	<ul style="list-style-type: none"> • Difficult to submit or receive information. Today must use mail or telephone to request information • Secure access through the internet can improve value
Child Health	<ul style="list-style-type: none"> • Integration of the immunization, newborn screening, genetics, and lead poisoning data to provide a holistic view of clinical history • Enables improved continuity in care for patients who change physicians or move to a different area of the state
Disease Surveillance	<ul style="list-style-type: none"> • May simplify reporting infectious diseases to appropriate agencies • Potential to improve early identification of public health threats
Home Visitation Programs	<ul style="list-style-type: none"> • More integrated information will ease in transitions of care from hospital to home and support other home visitation programs

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Regional Clinical – Technology Interaction

Outcomes evaluated

Bold items indicate priorities

- **Asthma**
- **Group B Strep**
- Cancer Screenings
- **Diabetes Management**
- **Immunizations**
- Hypertension
- Post MI care
- Congestive Heart Failure
- **Sickle Cell Pain Management**
- Depression
- **Medication Management**
- **Reducing Redundant Testing**
- Well Child Screening
- ER Utilization

Data Elements

Detailed requirements for each element to be defined

Bold items indicate greatest significance

- **Medications**
- Problem list
- **Lab Results**
- **Radiology Results**
- **Cardiology Results**
- Weight
- **Allergies**
- **Encounter data**
 - Where was patient seen
 - When was patient seen
 - What was done during visit

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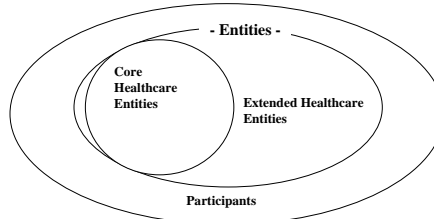


Proposed Initial Entities

Core Healthcare Entities

- Baptist Memphis
- Le Bonheur Children's Hospital
- Methodist University Hospital
- The Regional Medical Center (The MED)
- Saint Francis Hospital
- St. Jude Children's Research Hospital
- Shelby County/Health Loop
- UTMG
- LabCorp
- Memphis Managed Care-TLC
- OmniCare

Stakeholders



Extended Healthcare Entities

- BCBSTN
- Better Health Plans of Tennessee
- First Health
- RxHub
- SureScripts
- Memphis Pathology Lab
- Remaining Tennessee Baptist and Methodist Facilities
- Others

Participants

- Christ Community Health Services
- Kindred Healthcare (Nursing Home)
- Memphis Children's Clinic
- Health Choice, LLC
- County Public Health Departments
- Immunization Program
- Memphis Community Programs
- Shelby, Tipton and Fayette County Governments
- TN Department of Health
- Others

Source:

1-AHRQ submission Nov 29,

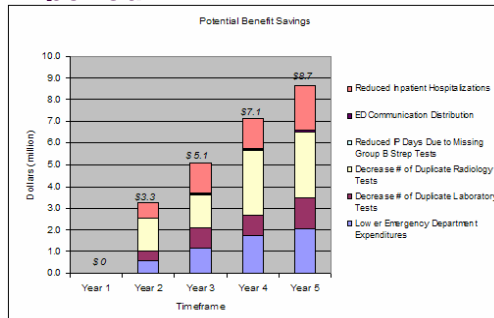
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A data exchange across the core healthcare entities can achieve significant dollar savings over a five year period



Financial Measures	Dollar Savings (millions)
Reduced inpatient hospitalization	\$5.6
ED communication distribution	\$0.1
Reduced IP days due to missing Group B strep tests	\$0.1
Decrease in # of duplicate radiology tests	\$9.0
Decrease in # of duplicate lab tests	\$3.8
Lower emergency department expenditures	\$5.6
Total Benefit	\$24.2

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The overall benefit to the core healthcare entities has potential to reach \$24.2 million.*

Assumptions

- Based on data obtained from Memphis Managed Care (TLC) and extrapolated for the remaining population
- 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

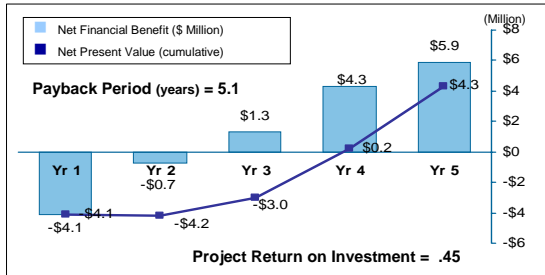
*If data is exchanged across all facilities within the three-county region the overall benefit has potential to reach \$48.1 million.



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Preliminary calculations indicate that the core healthcare entities can expect a NPV of approximately \$4.3 million after 5 years



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

State of Tennessee	Core Healthcare Entities
Payback Period = 2.7	Payback Period = 1.2
Return on Investment = 1.6	Return on Investment = 8.18

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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Potential Benefit to a 600-bed hospital

Illustrative Example

Financial Measures	Dollar Savings (thousands)
Reduced inpatient hospitalization	\$857
ED communication distribution	\$12
Reduced IP days due to missing Group B strep tests	\$30
Decrease in # of duplicate radiology tests	\$1,489
Decrease in # of duplicate lab tests	\$636
Lower emergency department expenditures	\$600
Total Benefit	\$3,624

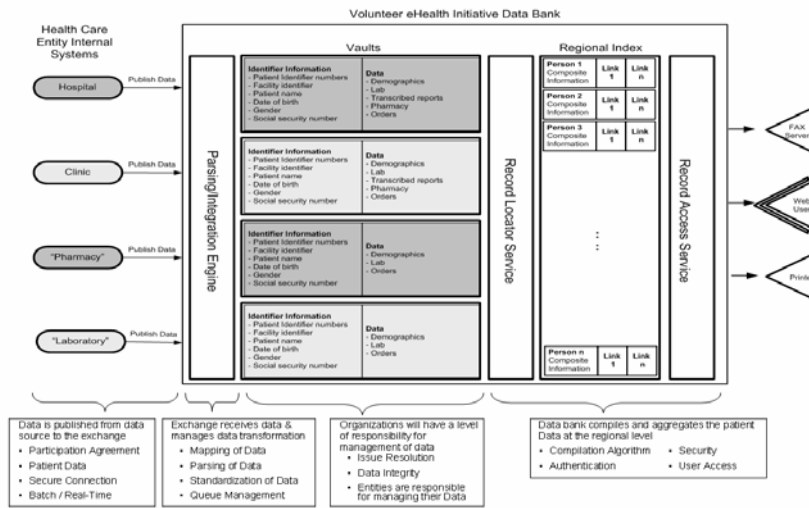
Assumptions

- Licensed Beds: 600
- Radiology Procedures: 200,000
- ER Visits: 50,000
- Admissions: 20,000
- Births: 4,000

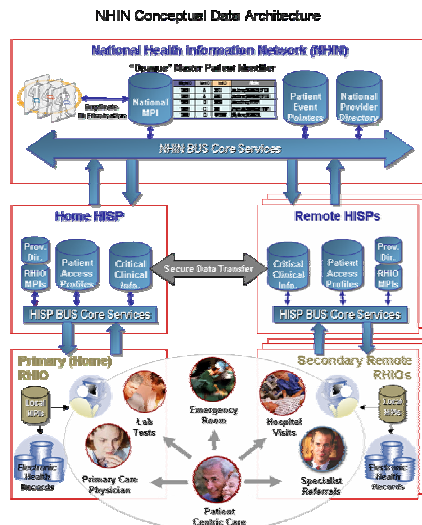
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A technical blueprint of the information exchange shows data flow and management from the point of data publication to the regional view.



RHIOs and HISPs



Source: Interoperability Consortium: An Alliance of Accenture Cisco CSC Hewlett-Packard IBM Intel Microsoft & Oracle, "Development and Adoption of a National Health Information Network," January 18, 2005. Not to be distributed without permission

Regional Health Information Organization

- Multi-stakeholders organizations enable the exchange and use of health care information for the general good
- Business organization
- Three-county region is a RHIO

Health Information Services Provider

- Technical services organizations
- Can contract with a range of organization types including RHIOs
- Vanderbilt is the RHIO's HISP

Lessons Learned: the Need for RHIOs

- A community emphasis requires a new organizational framework focused on the individual and requiring the participation of all providers of care for that individual
 - Identity – who is Dr. X? Who is patient Y?
 - Authority – can Dr. X. see my records?
 - Standards – can systems “talk” to each other?
 - Certification – do systems use standards?
 - Quality – am I getting the care I need?
 - Legal – Stark, HIPAA, safe harbor compliance

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Lessons Learned: HISPs

RHIOs in turn Require Health Information Services Providers (HISPs)

- Provide technical services to a RHIO
- Assure evolution and compliance
- Can work across RHIOs or other organizations to gain economies of scale
- Work upward – to the national level – to assure that the technology standards employed will communicate with others as individuals move from one RHIO to another.

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Everyone Must Play a Part

State	Regional Information Exchange	Participating Organization
<ul style="list-style-type: none"> • Encourage information exchange coverage across the State • Set standards and policies as required for statewide interoperability • Work in collaboration with neighboring states • Provide financial support as appropriate • Ensure compliance with Federal Standards across projects • Facilitate negotiation and data collection from sources that can benefit all regions (e.g., RxHub, SureScripts, National Lab Companies) 	<ul style="list-style-type: none"> • Facilitates collaboration among participating stakeholders • Contains information from all participating stakeholders • Coordinates data publication from stakeholders • Provides neutral governance organization • Sets and implements regional policy (e.g., security, authorization, privacy, and authentication) • Identification management and support for regional patient identification • Pursues opportunity to expand exchange capabilities such as patient portal access or decision support 	<ul style="list-style-type: none"> • Agrees to participate in a regional information exchange • Serves as a medical data source • Publish information to the exchange and/or utilizes information from the exchange • Supports Entity workflow • Encourages use and adoption • Governs decision making as it relates to the organization • Identification management and support for organization patient identification

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The Trillion Dollar Question



- Can we as consumers be empowered to own their system?
- Can we develop a system where our health information is under our control and not used as a barrier to our pursuit of better medical care?
- Can our health care system evolve in this direction without major regulatory pressure?
- Can financial benefits be realized? (one person's savings is another's revenue loss)
- Is "transformation" possible without obsolescence in some sectors of the health care system?

