



*Agency for Healthcare Research and Quality*  
*Advancing Excellence in Health Care*

# Vanderbilt University Medical Center

## **HIE: Translation of Findings to Other Care Settings**

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# What is the Exchange?

Developed by Vanderbilt University Regional Informatics

Managed by a Memphis Board; moved to commercial vendor (ICA)

15 hospitals; 15 ambulatory sites

Total # of records: **>5 million**

Total # of patients: **1,250,000**

Monthly Encounter Data: 110,000

Monthly ICD-9 admission codes (Chief complaints): 34,000

Monthly labs: **2,400,000**

Monthly microbiology reports: 25,709

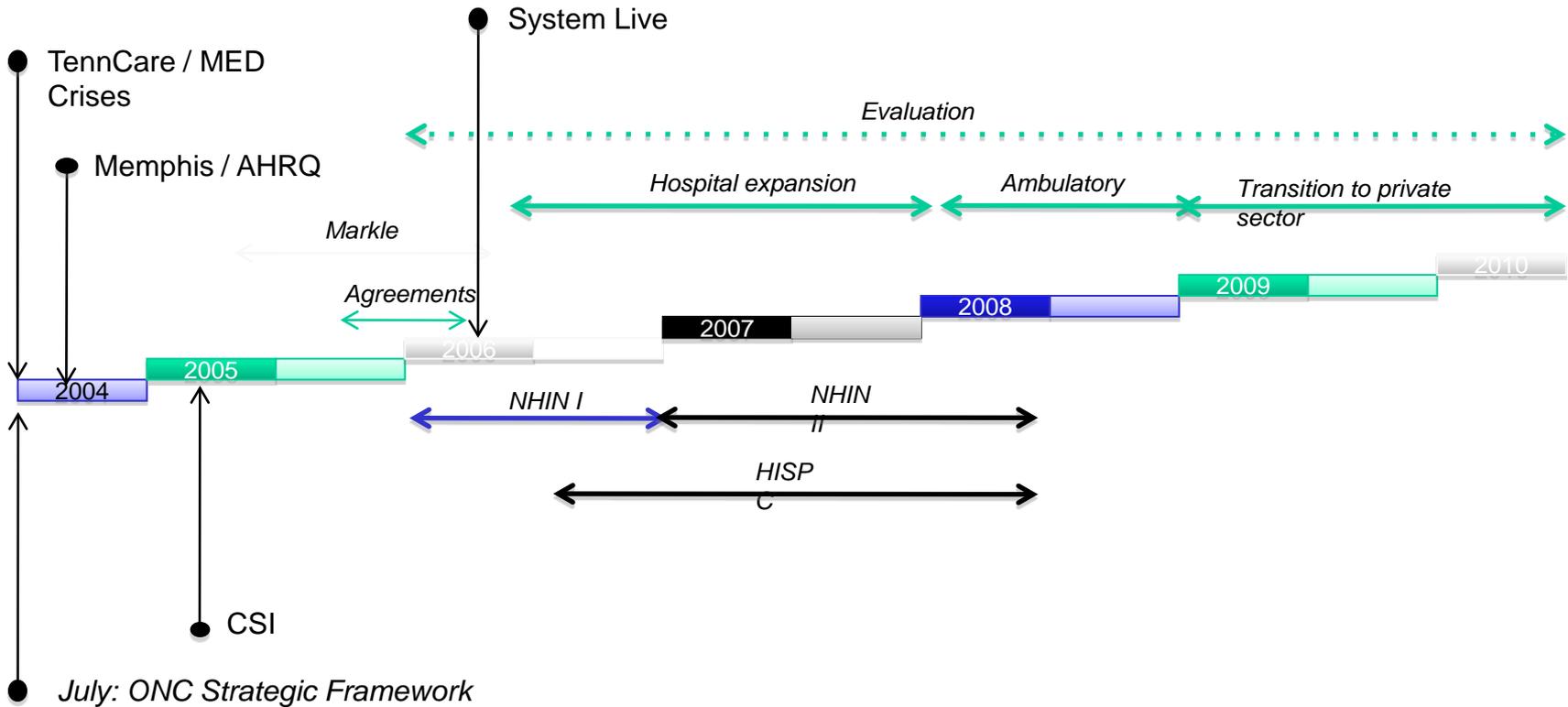
Monthly chest x-ray reports: 34,996

Comprehensive privacy agreements

Costs to participants less than \$50,000 per hospital

Overall annual operating cost – under \$2.5 million

# Timeline





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MSeHA Policies Help

Log Out Lock Clear All

Patient Search

Name SSN MRN

Name/DOB/Gender

First name

Last name

Date of birth

MM / DD / YYYY

Gender

Select gender

Search

Patient Selection

Site	MRN / DOS
<input checked="" type="checkbox"/> BAR	060043821 13-FEB-07
<input checked="" type="checkbox"/> BMHCC-Mem	0002114100 27-FEB-07
<input checked="" type="checkbox"/> BMHCC-Wom	0002114100 11-JAN-07
<input checked="" type="checkbox"/> MED	M001164147 27-JUL-06
<input checked="" type="checkbox"/> MED	M000622054 14-JAN-07
<input checked="" type="checkbox"/> Methodist	11943028 02-DEC-06
<input checked="" type="checkbox"/> MMCC-TLC	41506796301 No DOS
<input checked="" type="checkbox"/> SFH	000952794 06-MAR-07

View Selected View All

Panel Lite V1

Clinical Labs Calendar Encounter Claims

Labs

Blood Gas Cardiac  
Chem Heme  
Micro Other Labs

Lab Panels

CMP HEP Lipids CBC  
PT/INR ABG UA BMP

CBC (Complete Blood Count) [Graph]

Modify Graph(s)

HCT (Hematocrit)

Reported Units: %. Hover over data points for units/comments of a specific lab result.

HGB (Hemoglobin)

Date	Location	HCT	HGB	MCH	MCHC	MCV	MPV	Platelet	RBC	RDW	WBC
03/06/07 06:37	SFH	30.6*	10.0*	24.6*	32.7	75.4*	11.5	225	4.06	15.6*	5.28
02/26/07 04:55	BMHCC-Mem	26.7*	9.2*	25.8*	34.5	74.9*	8.7	232	3.57*	16.0*	4.9*
02/25/07 18:49	BMHCC-Mem	28.7*	9.8*	26.1*	34.0	76.6*	7.7	243	3.74*	16.6*	5.6
02/25/07 00:13	SFH	27.9*	9.2*	25.6	33.0	77.3*	7.6	225	3.60*	17.5*	4.60
02/13/07 14:35	BMHCC-Mem	28.9*	10.3*	27.4	35.5	77.0*	7.9	222	3.75*	16.7*	5.1
02/13/07 06:25	BAR	30.5*	10.1*	26.0	33.1	78.6*	7.9	240	3.88*	16.4*	4.90
02/12/07 16:58	SFH	34.1*	11.3*	26.1	33.2	78.6*	7.8	274	4.33	17.8*	5.90
01/28/07 21:32	SFH	31.9*	10.6*	26.9	33.2	80.8	7.5	264	3.94*	18.3*	6.40
01/28/07 01:27	BMHCC-Mem	32.4*	11.1*	27.1	34.4	79.0*	8.0	269	4.10	18.0*	7.2
01/26/07 01:40	BMHCC-Mem	32.3*	11.2*	27.6	34.6	79.8*	8.5	240	4.05*	17.4*	9.0
01/22/07 04:56	BMHCC-Mem	31.6*	10.8*	27.0	34.3	78.7*	8.3	204	4.01*	16.4*	3.8*
01/20/07 06:10	BMHCC-Mem	32.6*	10.9*	26.7*	33.5	79.5*	8.2	227	4.09*	16.0*	5.3
01/19/07 02:16	BMHCC-Mem	34.3*	11.5*	26.3*	33.6	78.3*	7.6	245	4.37	16.1*	6.4
01/12/07 22:00	BMHCC-Mem	32.6*	10.5*	26.1*	32.4	80.8	7.8	273	4.03*	16.5*	4.7*
01/08/07 17:35	BMHCC-Mem	35.3*	11.8*	26.3*	33.5	78.6*	7.5	338	4.50	16.4*	6.0



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# Evaluation components

Usage: who, who often, where, why

Financial value

Overall

Disease-specific

Clinical value

Backache

Headache

Chest pain

Usability

Impact on workflow

# Clinical Impact of HIE

Value: High-profile impact.

Examples: Active TB; ectopic pregnancy.

Value: financial.

Examples: Significant reductions in head CT, body CT, hospital admissions.

Value: Real-time surveillance and quality

Example: influenza tracking

Value: political.

Increase in trust among historic competitors.  
Policy and governance to advance HIE in TN.



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# What we have learned

HIE is primarily a verb

Secondary data use is threatening

Ambulatory connectivity is difficult but HITECH helps

It's about trust, not technology

Value in a low barrier to entry, low cost, and simplicity

Some data were not part of the HIE (e.g., eRx)

We did not over-engineer (used the VU tagging model)

Standards were allowed to evolve and not forced

Our focus was on what we could uniquely do

Cost considerations were paramount