

Can Health IT Improve Medical Care?

Yes, But ...

Joseph Swedish

President and CEO, Trinity Health

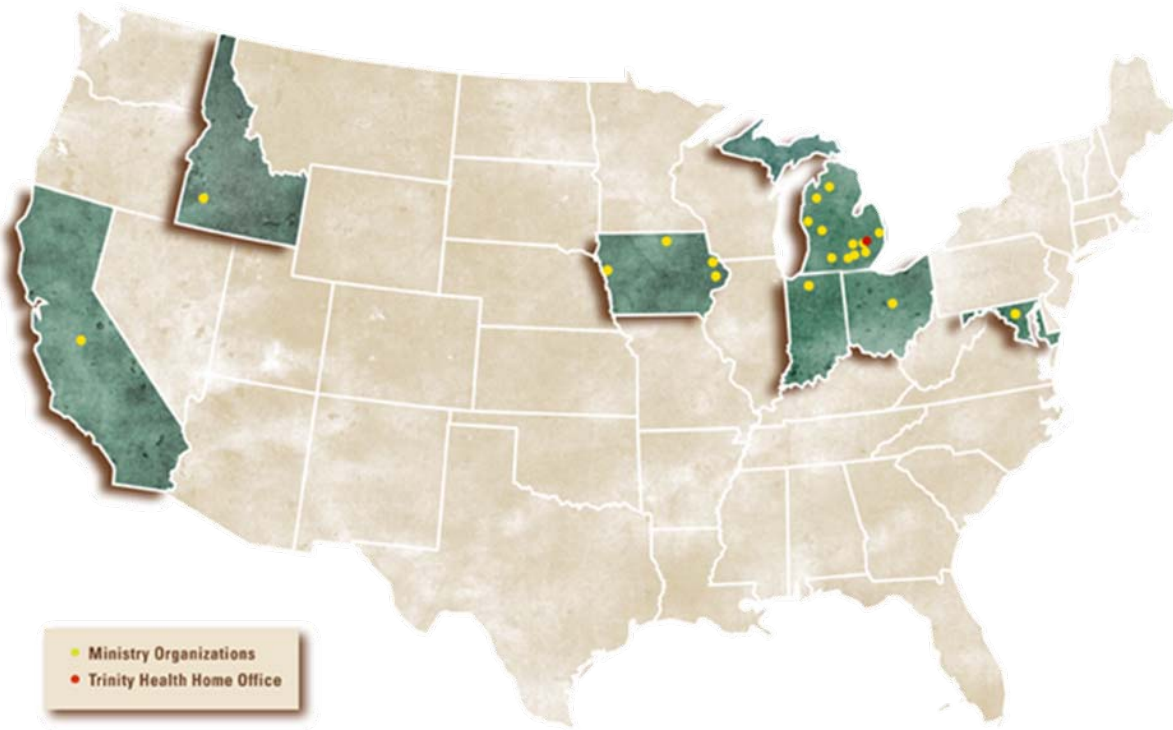
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*American Enterprise Institute
for Public Policy Research*

TRINITY  HEALTH
Now, Michigan

Trinity Health



- 44 Hospitals (32 Owned and 12 Managed) Across the Nation
- 8,074 Active Staff Physicians
- 44,500 Full-Time Equivalent Employees
- Revenue of \$6.3 Billion
- Fourth Largest Catholic Health System in the U.S.

Trinity Health IT: Circa 2001...

| Operating Units | Eastern Division | | | | | | | Western Division | | | | | | | | | | | |
|-------------------------------------------|-------------------|---------------------------------|------------------|-----------------|-------------------|-------------|-------------------|------------------|-------------------|-----------------|---------------------------------|----------------|-------------------|----------------------|----------------|-------------------|---------------------------------|---------------|--------------------|
| | Silver Spring, MD | Columbus, OH | Port Huron, MI | Mt. Clemens, MI | Pontiac, MI | Livonia, MI | Ann Arbor, MI | Battle Creek, MI | Grand Rapids, MI | Muskegon, MI | South Bend, IN | Clinton, IA | Dubuque, IA | Mason City, IA | Sioux City, IA | Boise, ID | Fresno, CA | | |
| Patient Administration | | | | | | | | | | | | | | | | | | | |
| Registration | | | | | | | | | | | | | | | | | | | |
| Patient Accounting | HBOC STAR | | SMS Med Series4 | HBOC Plus 2000 | HBOC Health-Quest | HBOC Series | HBOC Health-Quest | | SMS Med Series4 | | HBOC STAR | | SMS Med Series4 | | | | HBOC STAR | | |
| Medical Records | | | | | | | | | | | | | | | | QuadraMed | 3M | | |
| DRG Grouper | | 3M | 3M | Quadramed | | | | | | | 3M | | | | | | | | |
| APC/APG Grouper | | | | | HSS | | | | | | | | | | | | | | |
| Enterprise Resource Planning (ERP) | | | | | | | | | | | | | | | | | | | |
| General Ledger | People Soft | | | | | | Global | | | | People Soft | | | | | | People Soft | | |
| Payroll/Human Resources | | | SMS Med Series4 | GEAC | | | Ceridian | GEAC | | | | | | SMS Med Series4 | | | | | |
| A/P | | | | | | | | | | | | | | | | | | | |
| Materials Management | HBOC | | | | | | Global | | | | HBOC | | | SMS Med Series4 | | | HBOC | | |
| Cost Accounting | | Self Developed (Analysis & DSS) | | TSI Mainframe | | | | TSI Mainframe | | TSI AS400 | Self Developed (Analysis & DSS) | | TSI AS400 | | | | Self Developed (Analysis & DSS) | | |
| Contract Management | | | | | | | | | | | | | | | | | SARMC | McKesson HBOC | |
| Clinical Systems | | | | | | | | | | | | | | | | | | | |
| Physician Order Management | | | | | | | | | | | | | | | | | SMS Med Series 4 | Eclipsys | |
| Order Entry | HBOC STAR | | SMS Med Series 4 | HBOC Plus 2000 | TDS | | HBOC Series | TDS | | SMS Med Series4 | | HBOC STAR | | | | | SMS Med Series 4 | HBOC STAR | |
| Results Reporting | | In-house/3M | | CWS | | | | | | CWS | | Cerner | | | | | | In-House | |
| ADEs | | | | | | | | | | | | | | | | | | | |
| Clinical Documentation | Eclipsys | HBOC Care Manager | | | TDS | | HBOC Care Manager | TDS | | | | | | | | | | Eclipsys | LifeServ Patronics |
| Laboratory | HBOC STAR | Cerner Pathnet | Cerner Pathnet | Sunquest | Classic | | HBOC ALG | Classic | Cerner Millennium | Classic | Classic | Cerner Pathnet | Cerner Millennium | United Clinical Labs | Sunquest | Cerner Millennium | Sunquest | HBOC STAR | |
| Pharmacy Hospital | | | Cerner MsMeds | Cerner MsMeds | Cerner MsMeds | | HBOC Series | Cerner MsMeds | Cerner MsMeds | Cerner MsMeds | Cerner MsMeds | HBOC STAR | Cerner MsMeds | Cerner MsMeds | Cerner MsMeds | Cerner MsMeds | Mediware WORK | | |
| Surgey Management | RES-Q Healthcare | Per-Se' ORSOS | | | | | | Omni-server | | | | | | | | | | | |
| Patient Scheduling | | | | | HBOC Pathways | | | | | HBOC Pathways | | | | | | | | HBOC Pathways | |
| Radiology | HBOC STAR | | IDX | | ADAC MARS II | | HBOC Series | ADAC MARS II | | | | HBOC STAR | | | | ADAC MARS II | Per-Se' Consort | HBOC STAR | |
| Transcription | Softmed | Dolbey | | Softmed | | | Dolbey | Softmed | | Medrite | | Softmed | | Dotophone | | Softmed | SARMC | Softmed | |

Crossing the Health IT Rubicon

Trinity Health is using Genesis to standardize operational processes and information systems.

- Genesis was launched in 2000
- Goal is to **transform** care delivery, increase patient safety and improve financial performance
- Vision to **unite state-of-the-art information management systems** in three areas: clinical, revenue and supply chain
- **Strategic investment in excess of \$400 million** capital over 10 years
- Trinity Health has **completed its installation of supply chain** and is **75% complete with the clinical/revenue system implementation**
- **Leading adopter of HIT** among community hospital systems

Genesis “ranks among the industry’s most ambitious IT projects”

HealthLeaders Magazine, 2006

Genesis: Smarter, Safer, More Cost-Effective Care

Trinity Health's investment in Genesis has delivered measurable benefits. Multiple studies have demonstrated the positive clinical outcomes as a result of the EHR implementation.

- Clinicians access records and place orders **at any place and time**
- **Nurses spend 8% more time at bedside** rather than with paper records
- Emergent **medications administered 40% faster**
- **Comparative effectiveness eliminates clinical variation** with 172 adopted standard order sets and over 2,500 standard drugs in our formulary
- Computer-generated alerts prompt physicians to change medication orders, **avoiding approximately 14,000 potential Adverse Drug Events** per year
- **Hardwired alert** on diabetes medication (Avandia) within 10 days of FDA warning

Can Health IT Improve Medical Care?

Yes, but not on its own: While Trinity Health is implementing this technology, success is only possible with **changes to process and culture.**

- Achieving **Computerized Physician Order Entry** rates of 75% (Performance across health care industry is variable)
- Providing **order sets and alerts** to advise clinicians at the point of care
- Documenting **clinical and financial benefits in multiple studies**
- Improving outcomes using **comparative effectiveness**

Can Health IT Improve Medical Care?

- Hardwiring **safety practices** into routine care
 - All patients are now assessed for risk of pressure ulcers and falling
 - If patients are at risk evidenced based order sets can be enacted to mitigate against the risk
 - New risk alerts under development
- Electronically reporting **serious reportable events** (“Never Events”) to Trinity Health Home Office for review, assessment and, if appropriate, implementation of system-wide process changes
- Routine performance reporting of **40 clinical quality indicators**
 - Better than the national average 91% of the time
 - Better than the top quartile 64% of the time
 - Better than the top decile 30% of the time

Challenges and Lessons Learned

Genesis began as a massive technology project, with a clinical change component. In reality, Genesis is a massive clinical & cultural change project, with a technology foundation.

- Technology is necessary, but alone is not sufficient to improve quality & safety
- Health IT products often limit effective process change
- Management and medical leadership engagement is an absolute necessity
- Costs to implement are greater than anticipated

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Trinity Health IT Unification 2010...

Consistent Tools + Best Practice Processes = Operational Excellence

| | Silver | | Port | | | | Ann | Battle | Grand | | South | | | Mason | Sioux | | | |
|--------------------------|--------|----------|-------|--------|---------|---------|-----------------------------|--------|--------|----------|-------|---------|---------|-------|-------|-------|--------|------|
| Core Systems | Spring | Columbus | Huron | Macomb | Oakland | Livonia | Arbor | Creek | Rapids | Muskegon | Bend | Clinton | Dubuque | City | City | Boise | Fresno | |
| Revenue Management | | | | | | | McKesson - HealthQuest | | | | | | | | | | | |
| Patient Access | IP | | X | X | X | X | IP | X | X | X | IP | X | X | X | X | IP | IP | |
| Patient Accounting | IP | | X | X | X | X | IP | X | X | X | IP | X | X | X | X | IP | IP | |
| Clinical Operations | | | | | | | Cerner | | | | | | | | | | | |
| Core Clinical Repository | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Results Reporting | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| ADE Alerting | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Medical Records | IP | | X | X | X | X | IP | X | X | X | IP | X | X | X | X | IP | IP | |
| Order Mgmt / CPOE | IP | | X | X | X | X | IP | X | X | X | IP | X | X | X | X | IP | IP | |
| Clinical Documentation | IP | | X | X | X | X | IP | X | X | X | IP | X | X | X | X | IP | IP | |
| Pharmacy | IP | | X | X | X | X | IP | X | X | X | IP | X | X | X | X | IP | IP | |
| Emergency Department | IP | | X | X | X | X | IP | X | X | X | IP | X | X | X | X | IP | IP | |
| Radiology | IP | | | X | X | X | IP | X | X | X | IP | X | X | X | X | IP | IP | |
| Surgery | | | | X | | | IP | | | | X | | | | | | | |
| Laboratory | | | | | | | | | | | | | | | | | | |
| ICU | IP | | | X | | | | | | | | | | | | IP | IP | |
| Point of Care | | | | | | | | | | | | | X | X | | | | |
| Document Management | IP | | X | | | | | X | | | | | | | | IP | IP | |
| ERP | | | | | | | PeopleSoft | | | | | | | | | | | |
| General Ledger | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Payroll | X | X | X | X | X | X | X | IP | X | X | X | X | X | X | X | X | X | |
| Human Resources | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Accounts Payable | X | IP | X | X | X | X | IP | X | X | X | X | X | X | X | X | IP | X | |
| Supply Chain Management | X | IP | X | X | X | X | IP | X | X | X | X | X | X | X | X | IP | X | |
| Integration | | | | | | | xCare.net | | | | | | | | | | | |
| EMPI | X | X | X | X | X | X | | | | | X | X | X | X | X | X | X | |
| Informatics | X/IP | X/IP | X/IP | X/IP | X/IP | X/IP | Internal / Business Objects | | | | | | | | | | X/IP | X/IP |
| Web Foundation | X | | X | X | X | X | TIBCO | | | | | | | | | | X | X |

Implications

Trinity Health accomplishments:

- Achieved original vision to transform care delivery
- Effectively merged HIT with people, process, and culture change
- Using comparative effectiveness analysis & HIT to improve quality

Federal and state health care policy challenges:

- Data standards
- Conditions on the receipt of HIT funds
- Identify HIT best practices and establish guideposts
- Promote the leverage of scale and provider integration
- Establish comparative effectiveness infrastructure to reduce cost and improve quality

Can Health IT Improve Medical Care?

Yes, but not on its own:

- Changes to process and culture must accompany Health IT implementation
- Health IT alone will not improve quality and safety: Must have management, clinicians and medical staff engagement with long-term commitment
- Health IT must support two absolutely essential components of reform: Comparative effectiveness and new payment incentives

Closing Thought: A “Black Swan” moment?

“Thinking that Distorts Decision Making”

- Our tendency to see data that confirm our prejudices more vividly than data that contradict them
- Our tendency to over-value recent events when anticipating future possibilities
- Our tendency to spin concurring facts into a single causal narrative
- Our tendency to applaud our own supposed skill in circumstances when, in fact, we have simply benefited from dumb luck



Source: David Brooks, *New York Times*, October 28, 2008, “Interpreting the Work of Nassim Taleb”