Achieving HIMSS Level 7
Implications for HIM

Children’s Health System of Texas

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Chief Health Information Management & Exchange Officer
Children’s Health℠

Four Campuses, 562 Licensed Beds

Mission: To make life better for children

Vision: To be among the very best medical centers in the nation

Background:
• Serves fourth largest metropolitan area in U.S.
• Highest projected pediatric population growth in the USA in next 20 years
• Over 6,000 employees and 1,000 physicians
• Over 100K inpatient days, 595K outpatient visits, 172K emergency visits
• Academic affiliation with University of Texas Southwestern Medical School
• Only Level I pediatric trauma center in North Texas (1 of 22 in U.S.)
• 20 primary care facilities
• Clinically Integrated Network of community practices
Making life better for children for 100+ years

Dallas Baby Camp 1913

Bradford Hospital for Babies 1930

Children’s Medical Center Dallas 1943

Children’s Medical Center Plano 2008

Population Health & Clinically Integrated Network 2012

Our Children’s House 2015

Electronic Medical Record Journey
Children’s Health℠

**IT Recognition:**
- 2014 AHIMA Grace Award
- 2014 HITRUST CSF and Texas Covered Entity Privacy & Security Certification
- 2013 HIMSS Enterprise Davies Award of Excellence Winner
- HIMSS EMR Adoption Stage 7; first hospital in Texas to achieve this level
- Top 100 U.S. companies by *InformationWeek 500* for IT
- Most Wired by *Hospitals & Health Networks* nine times—named Most Wired-Advanced Organization for 2014

**Board Representation:**
- College of Healthcare Information Management Executives (CHIME) Board Representation
- HITRUST
- Sequoia Project
- Epic Care Everywhere
Vision Statement

Children’s established electronic medical record vision in 2006 for improving safety and quality of care...

Our Electronic Medical Record (EMR) is patient-family centered with Quality, Safety and Accessibility at its core.

It supports anytime, anywhere:

– Our Children in both Wellness and Illness
– Clinicians in Care, Advocacy, Research, & Education
– Business Operations, both Financial and Legal

We accomplish this through a strategic relationship with a primary vendor, an organizational commitment to accuracy, efficiency, effectiveness and continuous improvement of processes and practices.
## Technology Journey

<table>
<thead>
<tr>
<th>Date</th>
<th>Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 2008</td>
<td>Electronic Health Record (EHR) infrastructure (EMPI, HIM, Registration), Scheduling &amp; Revenue Cycle</td>
</tr>
<tr>
<td>May 2009</td>
<td>Emergency department, Operating Room, Inpatient Nursing / Ancillary, Intensive care units, My Chart <em>(Patient access to EMR)</em>, Community Physician Access, Bar code medication administration, Pharmacy &amp; Front-end voice</td>
</tr>
<tr>
<td>Aug 2009</td>
<td>Medical / Surgery inpatient physician documentation</td>
</tr>
<tr>
<td>Nov 2009</td>
<td>Computerized provider order entry inpatient house-wide &amp; Back-end voice engine</td>
</tr>
<tr>
<td>Oct 2008 – Apr 2010</td>
<td>55 ambulatory areas</td>
</tr>
<tr>
<td>Jul - Dec 2010</td>
<td>Ophthalmology, Transplant, Anesthesia, Radiology &amp; Oncology Epic applications</td>
</tr>
<tr>
<td>2011</td>
<td>E-Prescribing, Health Information Exchange, Spanish My Chart, Patient Portal (My Chart), Iphone applications and Data Warehouse</td>
</tr>
<tr>
<td>2012</td>
<td>Physician Mobile Devices, Medical Necessity, Clinical Documentation Improvement, E-APG &amp; Computer Assisted Coding</td>
</tr>
<tr>
<td>2013</td>
<td>Regional Health Information Exchange, Direct Messaging PHR (Health Vault) &amp; Telemedicine</td>
</tr>
<tr>
<td>2014</td>
<td>Private Health Information Exchange, Telemedicine Robot &amp; Transitions of Care with continuity of care document, hosting 60+ private practices EMR</td>
</tr>
<tr>
<td>2015</td>
<td>HISP (connecting to external EMRs), integration with local fire departments, auto generated queries using natural language processing, patient risk stratification &amp; potentially preventable event identification tools</td>
</tr>
</tbody>
</table>
AHIMA and HIMSS

American Health Information Management Association (AHIMA)

- **Professional organization** working to advance the implementation of EHRs by leading key industry initiatives & advocating high and consistent standards.
- Founded: 1928
- Membership:
  - 103,000 individuals

Health Information & Management Systems Society (HIMSS)

- **Not-for-profit organization** focused on better health through information technology; optimizing health engagements and care outcomes.
- Founded: 1961
- Membership:
  - 52,000 individuals
  - 600 corporations
  - 250 not-for-profit partner organizations
What is HIMSS Level 7?

- HIMSS Analytics EMR Adoption Model (EMRAM)
- An electronic medical record (EMR) adoption model that classifies the level of EMR capabilities ranging from paper and limited ancillary department applications to completely paperless and electronic exchange of clinical data.
- Hospital and ambulatory separate designation
- Provides peer comparisons for organizations in benchmarking the electronic health record journey.

- As experts in the medical record, HIM professionals are naturals to lead this effort for national recognition.
# United States EMR Adoption

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>2013 2\textsuperscript{nd} Qtr</th>
<th>2015 4\textsuperscript{th} Qtr</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Clinical documentation, clinical decision support and PACs outside of Radiology.</td>
<td>34.5%</td>
<td>16.4%</td>
</tr>
<tr>
<td>2</td>
<td>Clinical data repository, HIE capable, basic clinical decision support and may have document imaging system</td>
<td>9.0%</td>
<td>2.6%</td>
</tr>
<tr>
<td>1</td>
<td>Radiology, Pharmacy &amp; Laboratory applications</td>
<td>3.8%</td>
<td>1.7%</td>
</tr>
<tr>
<td>0</td>
<td>Radiology, Pharmacy &amp; Laboratory applications not installed.</td>
<td>7.2%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Data from HIMSS Analytics database © 2015
## United States EMR Adoption

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>2013 2(^{nd}) Qtr</th>
<th>2015 4(^{th}) Qtr</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Complete EMR; Continuity of Care Document transactions to share data via health information exchange with data warehouse</td>
<td>2.1%</td>
<td>4.2%</td>
</tr>
<tr>
<td>6</td>
<td>Physician documentation (structured templates), full clinical decision support for variance and compliance alerts with radiology PACs images available via intranet.</td>
<td>10%</td>
<td>27.1%</td>
</tr>
<tr>
<td>5</td>
<td>Bar code medication administration with CPOE</td>
<td>18.7%</td>
<td>35.9%</td>
</tr>
<tr>
<td>4</td>
<td>CPOE and clinical decision support.</td>
<td>14.6%</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

*Data from HIMSS Analytics database © 2015*
HIMSS Level 7 in Texas

- Baylor Scott & White
- Children’s Health System Texas
- Texas Health Resources
- UTSW Health System

We can add to this list....
Starting the EMRAM Level 7 Journey…

HIM professionals are the perfect discipline to lead this effort….
Why would your organization be interested?

- National recognition
- Optimize use of a large capital expense
- Use as impetus to change historic practices
- Meaningful use incentive funds
- Auto-capturing of charges electronically
- Decreasing manual data entry by clinicians
- Improving patient safety with alerts
- Performance improvement
- A way to “brag” on achievements
- Recruitment of physicians, nurses and hospital staff
Getting Started…

- Organize a Team
- Research requirements
- GAP Analysis

Design

- Put processes in place to meet requirements
- Measure compliance
- Develop case study

Build

- Complete Application
- Schedule on site visit

Apply
Key Points

1. Involve people, it is good to work and celebrate together
2. Regular structured, tailored communication
3. Think about how you can use tools at hand to improve care delivery, be creative
4. Communicate clinical benefits for future along with financial benefits of fully using your EMR.
5. Use this project to explore organizational opportunities and serve as a change agent
Team Needed

- **Executive Leadership:**
  - Chief Information Officer
  - Chief Medical Information Officer

- **Project Leader:**
  Health Information Management

- **Stakeholders:**
  - HIM
  - Information Services
  - Registration
  - Nursing
  - Perioperative Services
  - Health Unit Coordinators
  - Reporting
  - Quality
Research Requirements

- www.HIMSSanalytics.org
- Participate in HIMSS Annual Survey – free to everyone
- Example Case study:

Resulting Value / ROI

Altru Health System has successfully qualified for E-Prescribing incentives offered by CMS.

Altru has qualified to receive the maximum incentive available for our Eligible Hospitals and Eligible Providers through the Meaningful Use program. We completed our attestation for Stage 1 (both years), Stage 2, Year 1 and we are well positioned for successful attestation for Year 2 of Stage 2.

Immediately after go live, we significantly reduced our dictation/transcription by over 70% resulting in reduced costs for chart handling, paper charts and other supplies. We also freed up over 19,000 square feet of chart filing floor space to be used for other health system needs. As a result of our providers documenting online into the EMR our HIM staff has been reduced saving the organization over $2.5 million in salaries per year. HIM alone has seen over $10 million dollars saved over the last 4 years.
# Summarized Criteria

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No ancillaries installed</td>
</tr>
<tr>
<td>1</td>
<td>Laboratory, pharmacy &amp; radiology systems installed</td>
</tr>
<tr>
<td>2</td>
<td>Clinical data repository, document imaging, basic clinical decision support for conflict checking &amp; HIE capable</td>
</tr>
<tr>
<td>3</td>
<td>Nursing documentation &amp; clinical decision support error checking with order entry. PACs is available outside of radiology</td>
</tr>
<tr>
<td>4</td>
<td>Computerized provider order entry (CPOE) &amp; clinical decision support (clinical protocols)</td>
</tr>
<tr>
<td>5</td>
<td>Closed loop medication administration</td>
</tr>
<tr>
<td>6</td>
<td>Physician documentation including structured templates, full radiology PACS and decision support compliance measurement and variance identification</td>
</tr>
<tr>
<td>7</td>
<td>Complete EMR, data continuity house-wide and sharing data electronically with external organizations. Breast milk and bar coded blood administration</td>
</tr>
</tbody>
</table>
Gap Analysis

1. Criteria cumulative
2. You must meet all criteria
3. Can have scanned images, but must have information available for next service area
4. Must prove you use data warehouse to improve quality
Improve processes, use what is at hand…

1. Scanning at the point of care options
   - CPR
   - Trauma
   - Anesthesia

2. Scanning within 24 hours
   - Patient consents
   - Medical records from other hospitals
   - Cardiac monitor strips

3. Discrete entry of medications
   - Anesthesia
   - Codes
   - Trauma
More Challenging to Achieve

- Bar code blood administration
- Bar code breast milk
- Code / trauma documentation
- Code / trauma medications administered
- CPOE at 90%+
- Decreasing dictation
- Demonstrating with data warehouse across platforms how you have improved patient outcomes
Get Ready for the Onsite

1. Structured agenda with time for operational leaders to showcase the value the EMR has brought

2. Your story should provide examples of how you have met every stage

3. Surveyors will want to see examples of how you have used the data warehouse to improve patient care with discrete data from more than one system

4. Surveyors will go to the HIM Department and Nursing Units looking for paper
Sample Agenda

• Welcome

• Discrete Data Overview
  – Provider Documentation
  – Clinical Decision Support / Best Practice Alerts
  – Physician Templates

• Clinical Data Warehouse
  – Strategy
  – Performance Improvement
  – Network Development Strategy
  – Pharmacy Process Improvement

• Paper Scanning Process
  – Process Overview
  – Tour to HIM & ED

• Computerized Provider Order Entry

• Information Sharing

• Summary
## Discrete Data Example

<table>
<thead>
<tr>
<th>July 2010</th>
<th>June 2011</th>
<th>July 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structured templates: 90.5% (includes NoteWriter)</td>
<td>Structured templates: 95% (includes NoteWriter)</td>
<td>Structured templates: 95% (includes NoteWriter)</td>
</tr>
<tr>
<td>NoteWriter: 13%</td>
<td>NoteWriter: 25%</td>
<td>NoteWriter: 35%</td>
</tr>
<tr>
<td>Dictation/transcription: 9% (includes Dragon)</td>
<td>Dictation/transcription: 5% (includes Dragon)</td>
<td>Dictation/transcription: 5% (includes Dragon)</td>
</tr>
<tr>
<td>Scanned documentation: &lt;1%</td>
<td>Scanned documentation: &lt;1%</td>
<td>Scanned documentation: &lt;1%</td>
</tr>
<tr>
<td>Discrete data capture: 27%</td>
<td>Discrete data capture: 50+%</td>
<td>Discrete data capture: 60+%</td>
</tr>
</tbody>
</table>
Using various methods, Children’s captures data in a discrete manner...

Source of Information:
Informant Name: ***
Relationship to patient: ***(310081)
Language: [language spoken 18765 "English"]
Medical Records reviewed: [yes no 315432]

Primary Care Physician: Physician Unknown

Chief Complaint: ***
History of Present Illness: ***
Past History:
Clinical Decision Support Example

*Decision support improves care...*

**Epic integrated with First Data Bank:**
- Dose range checking
- Allergy checking
- Duplicate alerts
- Medication interaction alerts

**Best Practice Alerts (BPA):**
- Total built to date = 94
- Total active = 55
- Example Alerts:
  - Amino glycoside Peak / Trough levels
  - Difficult Airway Alert
  - 23 hour Observation Alert
  - Fall Risk
  - Pain Score and Reassessment
  - Allergies Not Reviewed in This Encounter
Data Warehouse Examples

Operating Expense

Revenue
Current Main Pharmacy work loads have exceeded Pharmacist’s capacity during 4am to 6am timeframe and 4pm to 6pm timeframe (checking 12 hour cartfill).

Dose Administration times have large peaks at 9am and 9pm causing spikes in dose preparation.

Pharmacist’s “non-dose cart duties” (i.e. calls, Narcotics Management, etc. currently have large spikes at 5am to 11:00am and Noon to 6pm).

Note: Total calls/tasks are Pharmacist required minutes spent per hour.
Looking Forward

An electronic health record positions an organization for the future...

<table>
<thead>
<tr>
<th>Industry Trend</th>
<th>How EMR Helps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure on reimbursement</td>
<td>• Become more cost efficient</td>
</tr>
<tr>
<td></td>
<td>• Facilitate process improvement</td>
</tr>
<tr>
<td>Increased transparency; focus on safety</td>
<td>• Clinical decision support improves safety and outcomes</td>
</tr>
<tr>
<td></td>
<td>• Active surveillance systems monitor for adverse patient events</td>
</tr>
<tr>
<td>Incentives for positive outcomes; advent of accountable care organizations</td>
<td>• Data warehouse leverages vast amount of clinical data</td>
</tr>
<tr>
<td></td>
<td>• Clinical protocols ensure efficient optimum care</td>
</tr>
<tr>
<td></td>
<td>• Patient family portals and social networking facilitate patient and family-centered care</td>
</tr>
</tbody>
</table>
Opportunities for HIM Professional

- External confirmation as market leader
- Showcasing your professional knowledge
- Establishing yourself as a strategic & tactical leader
- Contributes globally to sharing of information which leads to improved patient outcomes
- Provides a safer mechanism for patient care delivery
- You serve as the patient advocate
The End of the Beginning of the Journey

“Now this is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.“

-- Winston Churchill
What is stopping you from getting started?