Trends in Healthcare IT and What it Means for Rural Healthcare Delivery

John P Hoyt, FACHE, FHIMSS
Vice President, HIMSS

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And Who Is HIMSS?

- HIMSS is healthcare industry's professional society exclusively focused on providing leadership for the optimal use of healthcare information technology (IT) for the betterment of healthcare
  - 28,000 Individual Members
  - 350 Corporate Members
  - 164 Healthcare Organizational Affiliates
- Offices in Chicago, Washington DC, Ann Arbor, Brussels and Singapore
- John P Hoyt, VP for Healthcare Organizational Services
  - Former COO, CIO
  - Manages the Healthcare Organizational Membership
  - Manages the Senior IT Executive community
  - Consults on HIMSS Analytics database
Definitions and Agenda

• **Market trends** – supported by data that shows true market movement toward or away from a certain technology or application.

• **Market glimmers** – supported by anecdotal data, market noise and industry hype

**Agenda:**

• **Trends** – IT Budgets, PACS, Bar Coding, EMRs, CPOE

• **Glimmers** – RFID, Interoperability Standards, Deriving ROI from Clinical Systems, Digital Hospitals, Stark Relaxation, Benchmarking IT in Healthcare

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Hype Cycle for Healthcare Provider Applications and Systems, 2009

- **Peak of Inflated Expectations**
  - Personal Health Management Tools — Healthcare Providers
  - Real-Time Temperature/Humidity Monitoring
  - Perioperative Charting and Anesthesia Documentation Within the CPR
    Tracking (U.S.)
  - Integrated Clinical/Financial BI Systems
  - Personal Health Record
  - Generation 2 Computer-Based Patient Records
  - Cardiology Imaging Systems
  - Advanced Clinical Research Information Systems
  - Cardiology Imaging Systems
  - Advanced Disease Management Support
  - Patient Decision Aids — Healthcare Provider

- **Trough of Disillusionment**
  - Video Visits
  - Patient Self-Service Portals (Scheduling/Billing)
  - Home Health Monitoring
  - Emergency Department Information Systems as Part of a CPR System
  - Next-Generation Enterprise Patient Financial Systems (U.S.)
  - CPR-Integrated Critical Care IS

- **Slope of Enlightenment**
  - Remote Hosting
  - ERP (SOA)
  - Wireless Healthcare Asset Management
  - E-Prescribing (Healthcare Provider)
  - U.S. Ambulatory Electronic Medical Records
  - E-Visits (Healthcare Provider)
  - Generation 3 Computer-Based Patient Records
  - Patient Portals (Clinical)
  - Rounding Robots (Clinical)
  - Patient Portals (Clinical)
  - Patient Self-Service Kiosks

- **Plateau of Productivity**
  - Generation 2 Computer-Based Patient Records
  - Disaster Recovery and Business Continuity
  - Computer-Based Physician Order Entry

Years to mainstream adoption:
- ◽ less than 2 years
- ● 2 to 5 years
- ■ 5 to 10 years
- ▲ more than 10 years
- × obsolete before plateau

Source: Gartner (July 2009)  Publication Date: 27 July 2009 © Gartner, Inc. and/or its Affiliates. All Rights Reserved
Trends: IT Budgets are moving up

2005

Decrease 27%
Increase 18%
No Change 55%

Based on IT Budget as a Percent of Total Operating Expense for the 155 IDSs that provided data in both 2002 and 2005
Source: HIMSS Analytics™ Database

© 2009 HIMSS Analytics
Trends: IT Budgets are moving up

- Increase: 53%
- No Change: 25%
- Decrease: 22%

Based on IT Budget as a Percent of Total Operating Expense for the 100 IDSs that provided data in both 2002 and 2009

Source: HIMSS Analytics™ Database

© 2010 HIMSS Analytics
Trends: PACS — Not just for the Military Anymore

- CT: Used 41%, Planned 31%
- CR: Used 42%, Planned 31%
- Ultrasound: Used 41%, Planned 31%
- MRI: Used 39%, Planned 30%
- Digital radiology: Used 38%, Planned 30%
- Nuclear medicine: Used 37%, Planned 29%
- Digital fluoroscopy: Used 36%, Planned 29%
- Angiography: Used 36%, Planned 29%
- Mammography: Used 6%, Planned 24%

N=5,150 Source: HIMSS Analytics Databases © 2009 HIMSS Analytics
Trends: PACS — Not just for the Military Anymore

- CT: 80% Used, 80% Planned
- CR: 79% Used, 79% Planned
- Ultra sound: 78% Used, 78% Planned
- MRI: 75% Used, 75% Planned
- Nuclear medicine: 70% Used, 70% Planned
- Digital radiology: 70% Used, 70% Planned
- Digital flouroscopy: 69% Used, 69% Planned
- Angiography: 62% Used, 62% Planned
- Mammography: 41% Used, 41% Planned
- Orthopedic: 37% Used, 37% Planned

N=5,237 Source: HIMSS Analytics Databases © 2010 HIMSS Analytics
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Used</th>
<th>Planned</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>68%</td>
<td></td>
</tr>
<tr>
<td>Ultra sound</td>
<td>63%</td>
<td></td>
</tr>
<tr>
<td>CR</td>
<td>62%</td>
<td></td>
</tr>
<tr>
<td>MRI</td>
<td>57%</td>
<td></td>
</tr>
<tr>
<td>Digital radiology</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>Nuclear medicine</td>
<td>44%</td>
<td></td>
</tr>
<tr>
<td>Digital fluoroscopy</td>
<td>42%</td>
<td></td>
</tr>
<tr>
<td>Angiography</td>
<td>31%</td>
<td></td>
</tr>
<tr>
<td>Mammography</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>Orthopedic</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

Source: HIMSS Analytics Databases
Trends: Bar Coding — Three Decades After Safeway

- Bar Coding Used in Nursing Point-of-Care: 6%
- Bar Coding Used in Pharmacy for Dispensing: 81%

Source: HIMSS Analytics Database

© 2009 HIMSS Analytics
Trends: Bar Coding — Three Decades After Safeway

Bar Coding Used in Nursing Point-of-Care
- Used: 41%
- Planned: 33%

Bar Coding Used in Pharmacy for Dispensing
- Used: 56%
- Planned: 23%

Source: HIMSS Analytics Databases

N=5,237
© 2010 HIMSS Analytics
Trends: Bar Coding —
Three Decades After Safeway

Bar Coding Used in Nursing Point-of-Care

- Used: 33%
- Planned: 21%

Bar Coding Used in Pharmacy for Dispensing

- Used: 35%
- Planned: 27%

Source: HIMSS Analytics Database

© 2009 HIMSS Analytics
Trends: CPOE Adoption

- 10.42% - Live & Operational
- 13.44% - Contracted/Not Yet Installed
- 1.9% - Installation in Process
- 33.44% - Not Automated
- 40.8% - Planned Purchase

N=5,146
Source: HIMSS Analytics Database

© 2009 HIMSS Analytics
Trends: CPOE Adoption

- 25.02% - Live & Operational
- 13.68% - Contracted/Not Yet Installed
- 0.12% - Replacement Plans
- 8.04% - Installation in Process
- 3.40% - Planned Purchase
- 50.94% - Not Automated

N=5,237
Source: HIMSS Analytics Databases

© 2010 HIMSS Analytics
Trends: CPOE Adoption

- 12.47% - Live & Operational
- 4.11% - Planned Purchase
- 5.34% - Installation in Process
- 9.45% - Contracted/Not Yet Installed
- 68.63% - Not Automated

CAH 2009

N=1,291
Source: HIMSS Analytics Database

© 2009 HIMSS Analytics
**Trends: CPOE Adoption**

- **Academic Hospitals**: 31%
- **Non-academic hospitals**: 9%

2005

Source: HIMSS Analytics Database

© 2009 HIMSS Analytics
Trends: CPOE Adoption

2009

CPOE Automated

- Academic Hospitals (N=296) 23%
- Non-academic hospitals (N=4,941) 21%

CPOE Contracted

- Academic Hospitals (N=296) 21%
- Non-academic hospitals (N=4,941) 21%

Source: HIMSS Analytics Database

© 2010 HIMSS Analytics
Trends: EMR Adoption

- 2009 CAH (N=1,291) 61%
- 2009 (N=5237) 83%
- 2008 (N=5147) 82%
- 2007 (N=4919) 69%
- 2006 (N=4223) 61%
- 2005 (N=3973) 60%
- 2004 (N=3989) 61%
- 2003 (N=4005) 58%
- 2002 (N=4023) 51%

Source: HIMSS Analytics Database
EMR and EHR Environments

- Laboratory
- Radiology
- PACS
- Transcription
- Departmental Systems
- Doc. Imaging

- Pat. Access
- Billing/Coding
- HR
- Scheduling
- ERP
- Resource Management

© 2009 HIMSS Analytics
## 2005-2009 EMR Adoption Model Trends

<table>
<thead>
<tr>
<th>Stage 7</th>
<th>Complete EMR; CCD transactions to share data; Data warehousing; Data continuity with ED, ambulatory, OP</th>
<th>2005 Final</th>
<th>2009 Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 6</td>
<td>Physician documentation (structured templates), full CDSS (variance &amp; compliance), full R-PACS</td>
<td>0.0%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Stage 5</td>
<td>Closed loop medication administration</td>
<td>.001%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Stage 4</td>
<td>CPOE, Clinical Decision Support (clinical protocols)</td>
<td>2.5%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Stage 3</td>
<td>Nursing/clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology</td>
<td>10.0%</td>
<td>50.9%</td>
</tr>
<tr>
<td>Stage 2</td>
<td>CDR, Controlled Medical Vocabulary, CDS, may have Document Imaging; HIE capable</td>
<td>48.8%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Stage 1</td>
<td>Ancillaries – Lab, Rad, Pharmacy – All Installed</td>
<td>19.6%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Stage 0</td>
<td>All Three Ancillaries Not Installed</td>
<td>18.4%</td>
<td>11.5%</td>
</tr>
</tbody>
</table>

Source: HIMSS Analytics™ Database  
N = 3,816/5,235
## 2009 EMR Adoption Model Trends

<table>
<thead>
<tr>
<th>Stage 0</th>
<th>All Three Ancillaries Not Installed</th>
<th>2009</th>
<th>2009 Final</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11.5%</td>
<td>11.5%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Stage 1</td>
<td>Ancillaries – Lab, Rad, Pharmacy – All Installed</td>
<td>7.2%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Stage 2</td>
<td>Clinical Data Repository, Controlled Medical Vocabulary, CDSS inference engine, may have Document Imaging</td>
<td>16.9%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Stage 3</td>
<td>Clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology</td>
<td>50.9%</td>
<td>50.9%</td>
</tr>
<tr>
<td>Stage 4</td>
<td>CPOE, Clinical Decision Support (clinical protocols)</td>
<td>7.4%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Stage 5</td>
<td>Closed loop medication administration</td>
<td>3.8%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Stage 6</td>
<td>Physician documentation (structured templates), full CDSS (variance &amp; compliance), full R-PACS</td>
<td>1.6%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Stage 7</td>
<td>Medical record fully electronic; HCO able to contribute CCD as byproduct of EMR; Data warehousing/mining</td>
<td>0.7%</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

**Source:** HIMSS Analytics™ Database  
**N = 5,172/1,249**  
© 2009 HIMSS Analytics
### Regional EMRAM Numbers 4rd Q

<table>
<thead>
<tr>
<th>Hospital Type Segment</th>
<th>Mean</th>
<th>Median</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic/Teaching</td>
<td>3.7836</td>
<td>3.3770</td>
<td>296</td>
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<tr>
<td>Non-Academic</td>
<td>2.6903</td>
<td>3.1470</td>
<td>4,939</td>
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<tr>
<td>General Medical/Surgical</td>
<td>3.0282</td>
<td>3.2150</td>
<td>3,156</td>
</tr>
<tr>
<td>Others</td>
<td>2.3332</td>
<td>3.0550</td>
<td>2,079</td>
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<tr>
<td>Rural</td>
<td>1.8593</td>
<td>2.0710</td>
<td>1,171</td>
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<tr>
<td>Urban</td>
<td>3.0094</td>
<td>3.2150</td>
<td>4,064</td>
</tr>
<tr>
<td>IDS</td>
<td>3.0017</td>
<td>3.2160</td>
<td>3,134</td>
</tr>
<tr>
<td>Independent Hospital</td>
<td>2.3800</td>
<td>3.0640</td>
<td>2,101</td>
</tr>
<tr>
<td><strong>Critical Access</strong></td>
<td><strong>1.8494</strong></td>
<td><strong>2.0630</strong></td>
<td><strong>1,291</strong></td>
</tr>
<tr>
<td>Segment</td>
<td>Mean</td>
<td>Median</td>
<td>Number</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>0-100 Beds</td>
<td>2.1999</td>
<td>2.2070</td>
<td>2,675</td>
</tr>
<tr>
<td>101-200 Beds</td>
<td>3.0949</td>
<td>3.2170</td>
<td>986</td>
</tr>
<tr>
<td>201-300 Beds</td>
<td>3.3780</td>
<td>3.3070</td>
<td>624</td>
</tr>
<tr>
<td>301-400 Beds</td>
<td>3.4009</td>
<td>3.3040</td>
<td>397</td>
</tr>
<tr>
<td>401-500 Beds</td>
<td>3.5128</td>
<td>3.3320</td>
<td>227</td>
</tr>
<tr>
<td>501-600 Beds</td>
<td>3.6051</td>
<td>3.3480</td>
<td>141</td>
</tr>
<tr>
<td>600+ Beds</td>
<td>3.8236</td>
<td>3.3630</td>
<td>185</td>
</tr>
</tbody>
</table>
## Regional EMRAM Numbers 4rd Q

<table>
<thead>
<tr>
<th>Segment</th>
<th>Mean</th>
<th>Median</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regions (U.S. Census Defined)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East North Central</td>
<td>2.9981</td>
<td>3.2135</td>
<td>816</td>
</tr>
<tr>
<td>East South Central</td>
<td>2.5713</td>
<td>3.0960</td>
<td>448</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>3.0805</td>
<td>3.2080</td>
<td>493</td>
</tr>
<tr>
<td>Mountain</td>
<td>2.3731</td>
<td>3.0880</td>
<td>417</td>
</tr>
<tr>
<td>New England</td>
<td>3.4212</td>
<td>3.2920</td>
<td>203</td>
</tr>
<tr>
<td>Pacific</td>
<td>2.9186</td>
<td>3.1400</td>
<td>583</td>
</tr>
<tr>
<td>South Atlantic</td>
<td>3.0769</td>
<td>3.3040</td>
<td>781</td>
</tr>
<tr>
<td>West North Central</td>
<td>2.3753</td>
<td>3.0615</td>
<td>698</td>
</tr>
<tr>
<td>West South Central</td>
<td>2.3163</td>
<td>3.0150</td>
<td>796</td>
</tr>
</tbody>
</table>
Glimmers: RFID — Just when you thought it was safe to bar code

Bar Code vs. RFID

Inventory management

Process management

Security

Patient asset tracking

Management of labor costs
One of the world’s first, and best, interoperability standards
AIR ON A G STRING

J. S. Bach
A LITTLE MORE LOVE

Words and Music by VINCE GILL

Moderate country rock = 116
Interoperability - the ability of two or more systems or components to exchange information and to use the information that has been exchanged.*

- Requires standards for exchange and content that haven’t existed.

- Problems:
  - Key standards organizations have been battling over how to create the standards.
  - The federal government has been loath to “mandate” standards for exchange and content because before, they would never have passed Congress. The economy changed that – see ARRA.
  - We don’t have CMV standards.
  - We don’t have an atomic-level data dictionary.

- 80% Solution – Continuity of Care Document

*Source: IEEE 90 © 2009 HIMSS Analytics
Glimmers: Digital Hospitals

- **Indiana Heart Hospital**
  - Opened in December 2002
  - Features GE technology, including its electronic medical records system, CPOE, PACS and digital cardiovascular imaging and ultrasound systems

- **St. Francis Heart Hospital**
  - Opened in September 2004
  - GE technology

- **Kaiser Irvine Medical Center**
  - Opened in May 2008
  - Epic technology

Source: HIMSS Analytics © 2009 HIMSS Analytics
NorthShore University HealthSystem implemented an EMR (Epic) with CPOE capability at three hospitals and 50 outpatient clinics and medical offices. The number of system users is 6,200.

- Number of delays in administering medication has fallen by 70%
- Omitted administration of drugs has dropped 20%
- Test results for mammograms now take one day, down from as long as three weeks
- Cardiographics reports also take one day, down from as many as 10 days
- Almost half the patients that come to the EDs have complete Epic records now—meds list, allergies, problem list, history, etc. due to automation efforts in employed and independent doc offices. Now have over 600,000 office visits a year in Epic.
- 1/3 of the time Epic gives an alert for an allergy, the physician changes the medication order
- Spent $7.5 million on training and $35 million capital on hardware, software, and implementation
- Won the Davies Award for 2004 and is a EMRAM Stage 7 health system.
Q: Do you currently provide Ambulatory EMR services to your community physicians under the current relaxation of Stark laws?

<table>
<thead>
<tr>
<th>Type of Organization</th>
<th>EOY 2008</th>
<th>Q3 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Delivery System (IDS)</td>
<td>3.30% (N=484)</td>
<td>8.21% (N = 487)</td>
</tr>
<tr>
<td>Single Hospital Health System</td>
<td>1.18% (N = 2,112)</td>
<td>3.90% (N = 2,102)</td>
</tr>
</tbody>
</table>

Q: If you’re not providing them, do you plan to offer Ambulatory EMR services to your community physicians (non-owned clinics)?

<table>
<thead>
<tr>
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<td>3.09% (N=484)</td>
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</tr>
<tr>
<td>Single Hospital Health System</td>
<td>1.70% (N = 2,112)</td>
<td>3.81% (N = 2,102)</td>
</tr>
</tbody>
</table>

Source: HIMSS Analytics Database
Glimmers: Being able to “benchmark” IT in healthcare

Source: HIMSS Analytics Database © 2009 HIMSS Analytics
Implications for Hospitals

- Hospitals must position their cultures and budgets to actively pursue IT applications that transform their operations.

- But don’t get ahead of yourself or your organization – **Type C organizations should not be implementing Type A applications**. Build your application infrastructure and delivery credibility first and wait for the technologies to get to the point where you can implement them safely.

- While “return on investment” remains a critical factor for deciding some IT investments, it cannot become the sole factor in determining the value of IT on service quality or outcomes.
ARRA

Stimulus Funds for Healthcare IT

$20.8 Billion

with strings attached
General Construct of the Incentives

• Available to eligible professionals (physicians) and hospitals for the “meaningful use” of *certified* EHR technology
  – Incentives offered FY2011- 2014 for physicians
  – Incentives offered FY2011- 2015 for hospitals
  – Both will see a reduction in their Medicare reimbursements if they are not “meaningful users of certified EHR technology” by the last year

• Those that adopt first will benefit the most due to declining incentives
Key Points on “Meaningful Use”

• Requirements should be made *increasingly stringent* in three phases of two year increments

• The final phase should include four attributes:
  – A functional EMR certified by CCHIT*
  – Electronic exchange of patient data with clinical & administrative stakeholders
  – Clinical decision support providing clinicians with clinical knowledge
  – Capabilities to support process that drive improvements in patient safety, quality outcomes, and cost reductions

* or by HHS itself – still unclear
Policy Priority Categories

1. Improve quality, safety, efficiency and reduce health disparities
2. Engage patients and families
3. Improve care coordination
4. Improve population and public health
5. Ensure adequate privacy and security protections for personal health information

Policy Priority ➔ Objectives ➔ Measures
“These goals can be achieved only through the effective use of information to support better decision-making and more effective care processes that improve health outcomes and reduce cost growth.”

Criteria in 2013 will focus on process measures to demonstrate providers have started to meaningfully use EHRs. Goals and objectives for 2015 criteria will be heavily outcomes-oriented.

Connecting for Health, Markle Foundation “Achieving the Health IT Objectives of the American Recovery and Reinvestment Act” April 2009
Medicare Incentives for Hospitals

- Formula is Initial Amount times Medicare Share times Transition Factor

- “Initial Amount” is $2M plus
  - $200 for each discharge between the 1,150th to 23,000th discharge in a 12 month period
  - $0 for first 1,149 discharges and $0 for each discharge after 23,000
Phase 1 Commencing FY11

• Use objectives:
  – 10% of all orders entered by authorizing provider
  – Basic drug to drug and drug to allergy checks for all orders
  – Record & chart changes in vital signs
  – Maintain an up to date problem list
  – All Lab results as structured data
  – Generate at least five clinical support rules for high clinical priorities

• Report key basic quality measures:
  – Report lists of patients with specific conditions
  – % diabetics with hemoglobin A1c >9%
  – % hypertensives with BP under control
  – % patients with LDL under control
  – % heart failure and LVSD patients who were prescribed ACE inhibitor or ARB therapy
  – % patients >50yrs who received flu shot during season
  – % smokers offered smoking cessation
  – % females ages 40 -69 receiving bi-annual mammogram

“Interim Final Regs”
Phase 2 Commencing FY13

• Use objectives:
  – 100% of all orders entered electronically by authorizing provider
  – Use evidence based orders sets
  – Utilized closed-loop medication administration and e-MAR
  – Use CDSS at point of care for rules & alerts
  – Record clinical documentation in EHR
  – Access to PHR for all patients

• Additional quality measures:
  – % of all orders entered by authorizing care provider
  – Additional quality reports using HIT-enabled NQF endorsed quality measures
  – Report potentially preventable ED visits and hospitalizations
  – % of patients with full access to PHR
Phase 3 Commencing FY15

• Use objective:
  – Medical device interoperability
  – Multi-media support (PACS)
  – CDSS for national high priority conditions
  – Electronic reporting on “experience of care”

• Additional quality measures:
  – Clinical outcome measures
  – Efficiency measures
  – Safety measures
  – Quality measures related to patient and family engagement
What Does This Mean for IT Planning?

Discussion of Planning Implications
IT Planning Impacts

• Do you know your EMR Adoption Model score?
  – Does the Executive Committee know your EMR Adoption Model score?

• Move aggressively to take advantage of the ARRA incentive schedule – earlier is better
  – Re-craft IT Strategic Plan to mimic the ARRA incentives

• Do you know if you are within “striking distance”?
IT Planning Impacts

• Specifically:
  – CPOE
    • Start with employed physicians… is it in their contract?
    • Medicine has far more orders, will move you to 100% faster
    • The CIO cannot do this alone, must have Medical Staff driving

• Closed Loop Medication Administration
  • Significant investment in technology and processes
  • Are you now bar coding the unit dose medications?

• HIMSS Analytics’ data shows that Stages 4 & 6 have the highest costs associated
  – Significant involvement of physicians in process redesign
  – Often involve consultants in training and implementation
IT Planning Impacts

• Are you ready to generate e-prescribing?
  – Are the pharmacies in your market ready? This could be an issue in very rural areas

• Networked Medical Device interoperability
  – The ability of monitors and pumps to receive an order and to write results to the EMR
  – Are you buying the right equipment now? Is your Clinical Engineering department ready for this?

• Writing pertinent clinical results to a Personal Health Record

• Electronic submission of “the experience of care”
  – If you use an outsourced patient satisfaction vendor, be certain they can meet reporting requirements
Thank You!

John P Hoyt, FACHE, FHIMSS
HIMSS
230 E. Ohio St., Suite 600
Chicago, IL 60611
jhoyt@himss.org
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