Impact of the Stimulus Package on Health IT Marketplace

Eric G. Brown
Vice President, Research Director
Forrester Research

June 30, 2009
## The American Recovery & Reinvestment Act

$790 Billion

<table>
<thead>
<tr>
<th>Amount</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2B</td>
<td>Office of the National Coordinator (ONC)</td>
</tr>
<tr>
<td>$17.2B</td>
<td>Medicare and Medicaid reimbursement to assist providers in adopting EHRs (net after savings)</td>
</tr>
<tr>
<td></td>
<td>And some health IT components in:</td>
</tr>
<tr>
<td>$4.7B</td>
<td>Federal Broadband and Technology Opportunities Program</td>
</tr>
<tr>
<td>$2.5B</td>
<td>U.S. Department of Agriculture’s Distance Learning, Telemedicine, and Broadband Program</td>
</tr>
<tr>
<td>$1.1B</td>
<td>AHRQ, NIH, and HHS grants to examine comparative effectiveness</td>
</tr>
<tr>
<td>$1.5B</td>
<td>for the community health centers through the Health Resources and Services Administration;</td>
</tr>
<tr>
<td></td>
<td><strong>A few million more.</strong> Indian Health Service, Social Security, Veterans’ Administration</td>
</tr>
</tbody>
</table>
Actual stimulus outlays are higher

<table>
<thead>
<tr>
<th>Office of the National Coordinator</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>$1,980</th>
</tr>
</thead>
<tbody>
<tr>
<td>Est. Outlays</td>
<td>$300</td>
<td>$1,280</td>
<td>$360</td>
<td>$40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIT Incentives for Medicare and Medicaid Providers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$36,347</td>
</tr>
<tr>
<td>Est. Outlays</td>
<td>$417</td>
<td>$178</td>
<td>$4,741</td>
<td>$6,469</td>
<td>$6,463</td>
<td>$14,231</td>
<td>$3,848</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Est. Savings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-$5,535</td>
<td>-$4,980</td>
<td>-$2,780</td>
</tr>
<tr>
<td>Federal Tax Revenue Increases from reduced deductible health expenses and premiums</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-$2,233</td>
<td>-$15,528</td>
</tr>
<tr>
<td>Est. Revenues</td>
<td>$120</td>
<td>$250</td>
<td>$360</td>
<td>$410</td>
<td>$435</td>
<td>$435</td>
<td>$425</td>
<td>$415</td>
<td>$410</td>
<td>-$3,260</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$19,539</td>
</tr>
</tbody>
</table>

- $36 Billion allocated for HIT Incentives
- $15.5 Billion projected for future penalties and savings
- $3.2 Billion projected for increased tax revenue

Source: Congressional Budget Office, Massachusetts Health Data Consortium
HITECH incentives for providers

• Incentives start in 2011
• Hospital payments range from $2M to $11M
  – Both Medicare and Medicaid programs
• Physician payments up to $113,400
  – Up to $48,400 from Medicare
  – Up to $65,000 from Medicaid
  – On top of existing eRx and quality reporting incentives
• Incentive program uses a complicated formula to determine payments
• Providers adopting after 2013 receive reduced payments
• No incentive payments for providers first adopting after 2015
Must be meaningful EHR use to qualify

- An Electronic Health Record (EHR) must:
  - Includes patient demographic and clinical health information, such as medical history and problem lists
  - Provide clinical decision support
  - Support physician order entry
  - Capture and query information relevant to health care quality

- Report on clinical quality measures

- “Meaningful use” of “certified EHR technology”, including use of electronic prescribing

- Clinical information exchange
  - Exchange electronic health information with, and integrate such information from other sources
## Hospital EHR adoption has a ways to go

<table>
<thead>
<tr>
<th>Level</th>
<th>Capabilities</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 7</td>
<td>Medical record fully electronic; able to contribute CCD as byproduct of EMR; Data warehousing in use</td>
<td>0.0%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Level 6</td>
<td>Physician documentation (structured templates), full CDSS (variance &amp; compliance), full RPACS</td>
<td>0.3%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Level 5</td>
<td>Closed loop medication administration</td>
<td>1.9%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Level 4</td>
<td>CPOE, CDSS (clinical protocols)</td>
<td>2.2%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Level 3</td>
<td>Clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology</td>
<td>25.1%</td>
<td>35.7%</td>
</tr>
<tr>
<td>Level 2</td>
<td>Clinical Data Repository, Controlled Medical Vocabulary, CDSS, may have Document Imaging</td>
<td>37.2%</td>
<td>31.4%</td>
</tr>
<tr>
<td>Level 1</td>
<td>Ancillaries – Lab, Radiology, Pharmacy - All Installed</td>
<td>14.0%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Level 0</td>
<td>All Three Ancillaries Not Installed</td>
<td>19.3%</td>
<td>15.6%</td>
</tr>
</tbody>
</table>

Source: HIMSS Analytics, Essentials of the U.S. Hospital IT Market 4th Edition

"Meaningful Use" probably looks like HIMSS Analytics’ Level 6.
HITECH toughens HIPAA privacy and security

• Security Breach Notification
  – “… without unreasonable delay and in no case later than 60 calendar days after discovery of the breach.”

• Improved Enforcement
  – Mandatory penalties for “willful neglect” up to $1.5M.

• Periodic Audits
  – Act requires HHS to make periodic audits of providers and their “business associates.”
Is $36 billion a lot of money? Yes it is.

- Over $2.2 trillion spent each year on healthcare in the US
- The 4,900 US community hospitals spend $580 billion per year
- With an estimated 2.5% spending on IT, that’s $14.5 billion per year
- Hospitals spend roughly 25% of their IT budget on new initiatives: $3.6b
- Or $14.5 billion over 4 years in new IT initiatives (that’s just hospitals).

The economy has impacted hospitals

**Source:** DATABANK, 557 hospitals reporting data for both 3rd Quarter 2007 and 3rd Quarter 2008 as of November 11, 2008.

* Total Hospital Margin is calculated as the difference between total net revenue and total expenses divided by total net revenue. Operating Margin is calculated as the difference between operating revenue and total expenses divided by operating revenue. Patient Margin is calculated as the difference between net patient revenue and total expenses divided by net patient revenue.
Healthcare IT folk are little more cheery

“What is the outlook for your industry in 2009?”

**Healthcare**
- Very good year: 6%
- Somewhat good year: 13%
- Somewhat challenging year: 51%
- Very challenging year: 29%

**All industries**
- Very good year: 4%
- Somewhat good year: 10%
- Somewhat challenging year: 51%
- Very challenging year: 35%

Base: 78 North American enterprise and SMB healthcare IT decision-makers

Base: 1,560 North American enterprise and SMB IT decision-makers

*Source: Enterprise And SMB Global IT Budgets And Spending Survey, Q2 2009*
ROI justification is a key decision tool

- Increased ROI justification for IT projects
  - Healthcare (N=78): 13%
  - All industries (N=1,560): 26%

- Defer capital expenditures
  - Healthcare (N=78): 19%
  - All industries (N=1,560): 24%

- IT staff layoffs
  - Healthcare (N=78): 17%
  - All industries (N=1,560): 19%

- Reduce IT electricity usage
  - Healthcare (N=78): 15%
  - All industries (N=1,560): 15%

- Accelerate certain projects to realize cost savings sooner
  - Healthcare (N=78): 11%
  - All industries (N=1,560): 15%

- None of the above
  - Healthcare (N=78): 14%
  - All industries (N=1,560): 14%

- Increased contractors or consultants
  - Healthcare (N=78): 9%
  - All industries (N=1,560): 14%

- Other
  - Healthcare (N=78): 3%
  - All industries (N=1,560): 10%

Base: North American enterprise and SMB healthcare IT decision-makers
Source: Enterprise And SMB Global IT Budgets And Spending Survey, Q2 2009
EMR’s measured benefits at Partners HealthCare System

- Decreased billing errors: 13%
- Increased billing capture: 14%
- Drug savings: 29%
- Lab savings: 4%
- Transcription savings: 5%
- Radiology savings: 15%
- ADE prevention: 15%
- Chart pull savings: 5%

Increased billing capture 14%

Drug savings 29%

ADE prevention 15%

Radiology savings 15%

Transcription savings 5%

Chart pull savings 5%

Decreased billing errors 13%
Where will the greater savings come from?

Net Estimated Annual Savings: $132 Billion

- Substantial benefits from reduction in duplicate diagnostic procedures and medical error prevention
- Majority of savings come from the exchange of clinical information among care providers

Source: Center for Information Technology Leadership
Hospitals create an enterprise view

Improve facilities utilization
Demonstrate superior outcomes
Identify candidates for clinical trials
Keep patients in the system
Entities come together in regions

Better coordination of care
Reduced duplication of tests
Elimination of manual transfer of medical records
Analytics for population management
Regions participate in a national network

Bridge regional boundaries
Detect bioterror and disease outbreak
Understand actual clinical practices and outcomes
Inform national health policy
What’s slowing clinical exchange?

• No proven or successful model for funding, governance, and sustainability.

• Conflicting expectations for use cases and benefits make architectural decision difficult.

• Uncertainty about privacy, ownership, and litigation.
Barrier 1: How do we fund and govern?

• Regions experiment with governance models
  – Stakeholders collaborate and govern by committee.
  – Commercial entities try to make something that people will buy.
  – State governments assert their role as payers and policy makers.
Barrier 2: What do we build?

- Fundamental architectural questions linger
- Regions are still experimenting with approaches to health information exchange
  - Federated EHR vs. Point-to-point messaging
  - Common viewer vs. native viewer
  - Record locator vs. clinical data repository
  - Packaged HIE solution vs. best-of-breed integration
  - Personal health records (Microsoft, Google, etc.)
Barrier 3: How do we protect ourselves?

- Lawyers And Execs See Risk
  - What if third parties start browsing through our records? Will we get sued?
  - What if another provider discloses information from our medical records? Will we get sued?
  - What if we neglected to access information newly available to us via the RHIO and that neglect caused a medical error? Will we get sued?
Where will connectivity take us?

Prototype AutoID computers on a dime
Medical monitoring goes mainstream

• Cygnus GlucoWatch
  – Device measures glucose levels through the skin
• Sunglasses monitor body temperature
  – Help athletes to drink more water, detects low-grade fevers, signals ovulation
• Medication compliance aid
  – Med-eMonitor carries a month’s supply of pills
  – Prompts patient to take doses as prescribed
• Neural cybernetic vagus nerve stimulation
  – Implant delivers neurologic signals to combat depression
• Wireless endoscope can be swallowed like a pill
The next frontier: Healthcare Unbound

• Healthcare Unbound: technology in, on, and around the body that frees care from formal institutions.
  – Wearable medical monitors, home monitors, remote sensing devices, motion sensors in the home. . .
  – For elder care, chronic care, acute care
  – Post-discharge observation (“hospital at home”)
  – Wellness and prevention

• Continua Health Alliance driving standards and promoting innovation
What will help us get there?

• $36 Billion

• Open Source
  – Nearly 800 healthcare open source projects like VistA, OpenEMR, OpenEMed, and CARE2X

• Software as a Service
  – Critical to reaching the physician office

• Service Oriented Architecture
  – Connectivity *and* flexibility

• Analytics
  – We don’t even know yet what we don’t know
Thank you

Eric G. Brown
+1 617.613.5787
ebrown@forrester.com
www.forrester.com