A Strategy for Cerner Corporation to Address the HIT Stimulus Plan

HLTHMGMT 326 Health Economics & Strategy
April 26, 2009

Dan Aycock
Aparna Prasad
Barri Stiber

The authors affirm that no material in this paper has been submitted in other contexts.
The authors grant permission for this paper to be shared with others.
Executive Summary (Abstract)

Electronic health records (EHRs)\(^1\) have the potential to improve the healthcare system through several means including reduced medical errors, better coordination of care, and reduced costs. However, adoption of EHR systems in the U.S. has been slow; only 1.5% of acute care hospitals have comprehensive EHR systems\(^2\). While the Bush administration made efforts to spur adoption of these systems, the Obama administration’s American Recovery and Reinvestment Act of 2009 (ARRA) has pushed EHR adoption to the fore with over $20 billion dollars in incentives. With such a large infusion into a relatively small market the effects of the stimulus package have enormous strategic implications for EHR vendors. This paper seeks to clarify these implications, understand the strengths and weaknesses of various players in the industry and recommend a strategy for Cerner Corporation to maximize its profit from the stimulus package and thereby secure a dominant position in the HIT industry.

While Cerner has several strengths including an integrated end-to-end solution, access to public market funds, and the industry-leading position in managed services, it also has significant areas for improvement. Improving its offering in the ambulatory market as well as improving customer satisfaction in post-sales service will prove crucial to its chances of benefiting from the ARRA. We recommend that Cerner collaborate with other incumbent vendors to establish high regulatory standards, effectively creating a barrier to new firm entry. Other strategic recommendations to capture market share, facilitate EHR adoption, and improve Cerner’s operational readiness are detailed and framed within an implementation plan.

---

\(^1\) The terms Electronic Health Record (EHR) and Electronic Medical Record (EMR) are used interchangeably throughout this paper.

The Greatest Opportunity

The Health IT (HIT) sector received welcome news of potentially the greatest opportunity in the industry to date with the passing of the American Recovery and Reinvestment Act of 2009 on February 17, 2009. This law, which aims to stimulate the nation’s economy through various investments, includes over $36 billion to be used to create a robust health IT infrastructure and promote providers’ adoption of health IT. This act signals that the federal government sees widespread use of electronic medical records as a critical component to health care reform and recognizes that capital constraints represent the greatest barrier to adoption. Expectations are that this funding will drive utilization of electronic health records to a level of 70% for hospitals and 90% for physicians, leading to higher quality outcomes and efficiency savings of $77 billion annually.\(^3\)

While there is little doubt health IT companies like Cerner Corporation are well positioned to benefit as providers plow new funding into installing and upgrading EHR systems, there is still much uncertainty about the timing and scale of the business boom. Preliminary technology standards for what is considered a certified system and the definition of “meaningful use” that would qualify a provider for incentive payments under the stimulus package are not yet fleshed out, but are due before December 31, 2009. While some providers may be energized by this opportunity, others remain skeptical, delaying purchase of a system until details of the stimulus and ensuing benefits become clearer. The “Congressional Budget Office estimated that only 2.3% of health IT funds allocated in the stimulus package would be distributed in fiscal

---

years 2009 and 2010. The expectation is that it will be over a year before health IT firms see this opportunity materialize into sales.

In the meantime, health IT companies may still experience financial difficulties due to the overall down economy and hospitals’ financial strain. While hospital volumes tend to be less affected by economic cycles, hospital investment portfolios have significantly reduced in value. With a desire to hoard cash to maintain good credit ratings, the budget available for technology investments is limited. A March 2009 PwC survey of 100 hospital CIOs found that 82% of hospitals had already cut their IT spending budgets by an average of 10%, while 10% have cut them by more than 30%, and 2/3 of the CIOs surveyed said they anticipate making additional cuts in IT spending by the end of the year. This will likely negatively impact the overall market for new HIT investments in the near future. As Cerner President Trace Devanny notes, “IT projects that may have begun or were planned have stopped or slowed, but it’s difficult how to predict how it will play out and the stimulus package will hopefully have the right effect.”

Today the health IT segment is valued at $10 - $20 billion, and represents only 2% of the overall U.S. IT market. Therefore, with the added funding through the stimulus package, there is the potential to nearly double the current market value; and delayed though it may be, the flood of health IT funding will fuel competition in this relatively small and consolidated market. In addition, the expectation is that as the market for health IT expands, that the costs of EHR

---

systems will go down, making them increasingly affordable and in turn, fuel further adoption. Given the expected market growth and changing competitive landscape, Cerner’s strategic decisions about how to manage limited resources for marketing, operations, and R&D resources will be critical to their continued profitability and success.

U.S. Health Care Providers Slow to Adopt IT

Health care providers have been relative late-comers to adopting medical record technology. A study published in the New England Journal of Medicine in April 2009 found that only 1.5% of U.S. acute care hospitals have a comprehensive electronic-records system present in all clinical units, while an additional 7.6% of acute care hospitals have a basic EHR system."10 And recent studies suggest that less than one-fifth of the doctors’ offices in America use EHRs, a stark contrast to developing countries like India and Thailand, which are leapfrogging these technologies11.

Surveys of U.S. health care providers indicate that 74% of hospitals12 and 66% of physicians13 cite capital costs as the leading barrier to the adoption of EHR systems. Additional factors consistently cited include maintenance costs, physician resistance, shortages of staff with adequate technical expertise, reservations about compatibility of systems and the risk of technology obsolescence. And it is a hefty investment – acute care systems run anywhere from

---

10 The Economist: A special report on health care and technology; April, 2009
$20 million - $200 million and an estimate of ambulatory systems runs $35,000 with $18,000 in annual maintenance and support per physician.\textsuperscript{14}

The stimulus act comes at a time when providers are “between a rock and a hard place”; they are facing mandates to improve patient safety and reduce medical errors, both of which can be enhanced with the implementation of electronic medical records, at a time when their financial position is weak. The health IT funding in the stimulus package is intended to provide hospitals and physicians with a down payment, answering the call for financial incentives to ease the burden of adoption.

\textbf{The HITECH Act – A “Carrot and Stick” Approach}

Part of the ARRA stimulus package, the Health Information Technology for Economic and Clinical Health (HITECH) Act designates funding to improve HIT adoption. Specifically, $20.8 billion is in the form of incentives to Medicaid and Medicare providers to adopt health information technology. This is calculated based on the cost of $36.4 billion in incentives paid out in fiscal years 2009 - 2015 minus expected savings of $15.6 billion between fiscal years 2016-2019. Additionally, $2 billion is allocated to the Office of the National Coordinator for Health Information Technology, headed by David Blumenthal.

The funding “carrot” will take the form of grants to hospitals and physicians to purchase new technology and awards through Medicare and Medicaid bonus payments to hospitals and

physicians who demonstrate “meaningful use” of certified EHR technology over the next five years. After 2015, the “stick” in the form of Medicare reimbursement penalties kicks in.

**Cerner’s Client Mix Favorable to Capitalize on HITECH Funding**

Cerner’s current client base is made up of hospitals (55 percent), independent physician practices and clinics (25 percent), and retail pharmacies and research and development companies. Providers eligible to receive incentives through the HITECH Act make up over three-quarters of their current client mix and may represent a larger fraction of the future customer pipeline. Before considering how Cerner is best suited to compete for customers, it is helpful to review the specifics of the proposed stimulus payments to providers and providers’ key considerations when selecting an EHR vendor.

**Incentive Schedule for Physicians**

Physician incentives provide a “rolling start” for physicians to meaningfully use EHR systems in their practices. Physicians may qualify to receive grants for system implementation beginning in 2010 and in 2011 they may qualify for bonus payments equal to 75 percent of their allowable Part B charges up to the maximums in the Medicare incentive payment schedule as seen in figure 1 below.

---


Physicians with greater than 30 percent of their patients receiving Medicaid would qualify for up to $25,000 for implementation of a health IT system and up to $10,000 per year toward system maintenance. Physicians would have the option of receiving their incentives at the higher of the Medicare or Medicaid rates.

Beginning in 2015, providers who have not demonstrated that they meet standards for technology and meaningful use will receive only 99 percent of their expected Medicare reimbursement. If the percentage of providers has not reached 75 percent by 2017, then the Secretary can increase the fee schedule adjustment by a percentage point each year to a maximum of 95 percent of expected reimbursement rate.

This incentive structure will certainly drive adoption for some physicians. Estimates for adoption without the financial incentives were 65 percent by 2019, and with the capital boost are estimated to reach 90 percent. However, a study published in March by Avalere Health Care

---

highlights that some physicians may find that the penalties for not adopting may be less than the cost of compliance.\footnote{Konig M, et al. “Stimulus Spending: Will the HER Incentives Work?” Avalere Health LLC. March 2009. Report available at www.avalere.com. (Accessed April 2009).}

**Incentive Schedule for Hospitals**

Hospitals adopting EHR systems by 2013 would receive a base payment of $2 million, with additional incentives distributed based on a formula including Medicare discharges (capped at 23,000 annually), year of adoption and amount of charity care provided. Beginning in 2015, like physicians, hospitals who do not demonstrate meaningful use of an EHR will face declining reimbursement rates for Medicare. The incentive schedule is expected to boost acute care EHR adoption from a predicted 45 percent in 2019 without funding to 75 percent.\footnote{Advani P. “IT Incentives for Doctors, Hospitals Vary Under Federal Stimulus Package.” California Healthcare Foundation. 24 March 2009. Available at http://www.ihealthbeat.org. (Accessed 19 April 2009)}

**Customer Considerations in EHR Vendor Selection**

Due to the size of the investment, the decision to purchase of an EHR system is typically a strategic one, and customers may not be as price sensitive relative to other items considered within a provider’s annual IT budget. Criteria providers use in selection of an EHR vendor typically include: vendor reputation/ performance, vendor scale, extent of enterprise solution, associated support, and interoperability.\footnote{Holder LM and Lindsay-Wood EJ. “Mission-Critical Decisions for Launching an Integrated EMR Across a Healthcare System.” Presented at the 2009 American College of Healthcare Executives Congress, 25 March 2009.} Clients may differ on selection strategy for EHR solutions. Some have traditionally been focused on self-development while others may be looking for a single vendor approach, best in breed or best solution for a cluster or suite of options throughout the organization. Due to the timeframe of incentives associated with the stimulus package, providers may feel increased pressure to make a decision about an EHR system more quickly and within the next 18 months.
While Cerner’s customer satisfaction are industry average for acute care systems for hospitals > 200 beds, they trail Epic, Siemens and McKesson in new sales. Their performance for community hospitals (<200 beds) is on the upswing with an EHR system that can be more quickly implemented and hosted remotely, though it still may require more technology support than many facilities can provide. Cerner’s ambulatory performance (over 25 physicians) has not been strong, however may begin to trend upward as the company has put more emphasis on PowerWorks and improved performance of its hosted solution. Figures 2-4\textsuperscript{21} depict Cerner’s KLAS customer satisfaction scores across the past two years as compared with key competitors for acute care and ambulatory EHR clients.

Cerner’s Current Industry Position

Cerner is playing in an industry characterized by low supplier power, low threat of substitutes, high industry rivalry, high threat of entry, and medium/high buyer power (See Appendix A). In a recent report published by Gartner on “Magic Quadrant for U.S. Enterprise EMR Systems”, as seen in Figure 5, Cerner Corporation and Epic Systems emerged as industry leaders.
A strong influence of both Cerner’s and Epic’s leadership position is their ability to offer an integrated end-to-end solution for Clinical Decision Support Systems (CDSS). CDSS include Electronic Medical Records (EMR), Computerized Physician Order Entry (CPOE), Electronic Prescribing (eRx), and Physician Practice Management Systems. Figure 6 below depicts this breakdown.

**Figure 5: Magic Quadrant for U.S. Enterprise CPR Systems**

**Figure 6: Clinical Decision Support Systems**

---

Among significant players like Eclipsys, GE Healthcare, McKesson, Meditech, MedPlus, Siemens Healthcare, and QuadraMed Corporation, only Cerner and Epic are leaders in offering this integrated enterprise solution. The majority of EMR vendors are not ranked as high with respect to the following key competitive factors - breadth and quality of service offerings, stability of the service provider, features and capabilities of the information systems, ongoing support and maintenance, potential for future enhancements, and interoperability with other systems. Over the next decade, it is predicted that more companies will move from the “visionaries” quadrant into the “leaders” quadrant, and several new players will emerge in the “niche” quadrant, developing customizable solutions that integrate with larger enterprise applications, as seen in Figure 5 above.

A Changing Competitive Landscape

The rapid pace of technological innovation coupled with dramatic regulatory changes, have made the Health IT sector intensely competitive. Today, the industry is rather consolidated. The combined market share of the top five health IT vendors is as high as 70 percent.\(^2^4\) And further consolidation is possible as companies look to grow more rapidly through acquisition. With over $1.5 billion in cash and cash equivalents, McKesson and MediTech can aggressively target companies with stronger product offerings or greater market share.


With an estimated 13.5% growth rate, the market for electronic health records in the United States is already poised to exceed $4.85 billion by 2015\textsuperscript{25}. However, according to Bruce Carlson, associate publisher at Kalorama Information, the best type of market is one with a guaranteed pool of new customers. The stimulus package effectively increases this effect the EHR market in the U.S today\textsuperscript{26}. Further, as the economy improves and creates better access to credit, we anticipate continued greater investment in IT by hospitals over the next three to five years.

With the introduction of stimulus funding, this industry is ripe for disruptive innovation, which could significantly change the competitive landscape. Examining Christensen’s work on disruptive innovation outlined in Figure 6, the primary factor that will influence the entry of new HIT vendors is regulation. Therefore, the technology standards and definitions of “meaningful use” which are under development have the potential to raise or reduce barriers to entry, limiting or enhancing the ability for disruptive innovations to enter at a lower performance point. When asked about which competitors the organization is most concerned about, a Siemens Executive indicated “it is these new guys who could come in and undercut prices with substandard products.”\textsuperscript{27} Therefore, incumbent firms, like Cerner, have strong incentives to influence regulation in their favor, keeping barriers to entry high.

\textsuperscript{27} Quinn, Donal. Personal Interview. 15 April 2009.
Capabilities Analysis

With the expected changes to the industry landscape, the result will come down to who can execute on this market opportunity. Cerner’s strengths are in their product offerings, managed service solutions, and access to capital. However, the organization faces limitations today in human capital depth and potential readiness for meeting new technology standards which may present a challenge when implementing a strategy to optimize growth and profitability.

Breadth in Product Offerings

As discussed earlier, Cerner provides robust applications in CPOE and clinical decision support systems, but is also a leading player in the EHR and ePrescribing market. Although there is a significant emphasis on growth through R&D, Cerner’s product portfolio has also been broadened through acquisitions allowing it to deliver this enterprise-wide solution. While this may be imitable, Cerner and Epic have the benefit of being early movers into this type of
solution. Being able to have a single vendor solution is likely to be an attractive option for clients who will be making quick decisions about vendors.

**Managed services**

Managed Services give Cerner an edge in tough economic times as they are able to capture sales that rely on hospitals’ operating expenses rather than capital expenses. In a managed services environment, the vendor maintains the complete software and hardware environment on behalf of its client. Only the electronic prescribing applications are installed in the client’s system. The application is then remotely connected to the vendor’s server and the data exchange occurs.

Monthly lease payments are made to vendor instead of large upfront license fees. This gives the client the flexibility to amortize its cash outflows across many periods instead of infrequent, but large, fees. It also provides more operational flexibility, making installation quicker with less internal support needed from the client side.

While Cerner bears the risk of hardware malfunction and obsolescence, its core competencies, unlike those of hospitals, are in technology. It can also benefit from economies of scale and purchasing power by making large hardware and software purchases and using a concentrated pool of labor to maintain many systems. These savings can in turn be used to improve net income or be passed onto hospitals in the form of more competitive pricing. We see the further development and delivery of Cerner Managed Services solutions across customer segments as a critical competitive advantage.

**Access to public markets & Financial Position**

As of December 2008, Cerner has a $3.8 billion market cap, revenues $1.7 billion with a projected growth of 18% per quarter. According to a recent report by the Market Intelligence
Center, Cerner (CERN) appears to be doing well on Wall Street, trading at a higher than usual volumes\textsuperscript{28}. Its stock over the last 52 weeks has ranged from a low of $30.37 to a high of $50.00, and it is currently trading at $47.42 (\textit{as of April 26, 2009}). This further strengthens Cerner’s position in the market, making access to capital relatively easy.

\textbf{Limitations}

The primary supply input for HIT vendors is human capital. The skills needed include computer science, management, and medicine and ideal employees possess a mix of all three disciplines. Such workers, particularly American citizens, are already in short supply as evidenced by the need to import such skilled workers via the H-1B visa program. Given the restrictions placed on TARP recipients to not hire foreign citizens using government money, Cerner may be limited in its ability to meet workforce demand using such sources\textsuperscript{29}. Therefore, a focus on building the workforce pipeline is critical to meeting expected new customer demand.

Recommendations

Our recommendations for Cerner can be broken down into four key strategic areas:

1. Operational Readiness
2. Thought Leadership
3. Accelerating Physician Adoption
4. Geographical Targeting

These are described in greater detail as follows:

1. **Operational Readiness.** Much of Cerner’s success depends on its ability to execute. This translates into four major recommendations: 1) establish a central command for ARRA operations, 2) build the workforce pipeline, 3) assess product requirements, and 4) enhance managed services.

   - **Establish a central command for ARRA operations.** The impact of the ARRA on the HIT industry and Cerner cannot be understated. Such a major transformational period requires a military campaign-like approach to managing and coordinating efforts. Cerner should immediately establish a taskforce focused exclusively on managing the company’s response to the stimulus package. A Senior Vice President should be appointed to lead this effort, be allowed to select a high quality team and be granted a budget to run operations. The central command would be the nerve center of Cerner’s stimulus plan operations with all related information flowing to and from the command’s office. A database to capture and report information flowing from the sales force and government liaisons should be established to ensure that critical information does not get lost in the shuffle. This command structure allows for a single point of control and responsibility and ensures that there is no question who is the go-to person for matters related to the ARRA.
• **Build the workforce.** Cerner must develop both short and long-term capabilities for meeting projected workforce requirements. Cerner will need to rapidly expand its presence at schools with strong computer science, healthcare and management programs. The ability to attract and retain such workers will likely be a critical component to success in the coming years.

  o **Short-term.** The most immediate need is to increase the size of its sales force whose mission will be to fill the knowledge gap caused by the ARRA and the inherent the complexity of implementing an EHR system. Clear and compelling materials must be created to explain the HITECH portions of the ARRA, the implication for large hospitals and physician practices and how Cerner is best positioned to meet customers’ needs. Acquiring lobbying talent will also be crucial; however external consultants can likely fill this role more quickly and effectively. Cerner should act immediately to build and train its sales force. Cerner must also quickly establish or bolster relationships with key sources of talent, particularly universities. In the current economic climate, top schools will likely be very interested in catering to the company’s needs, making it easy to recruit new talent. Cerner should spread its recruiting efforts across the country in order to staff engagements that will occur throughout the country. This will make it easier to attract and retain talent more likely to stay close to home and decrease the amount of travel required for implementations.

  o **Long-term.** Hiring additional management, computer science and health care talent will become increasingly important as the scale of Cerner implementations becomes clearer in the coming months. With many organizations ramping up
staff, there will be shortage of qualified workers. Generous compensation plans will be necessary to attract the best talent. Internal development of skills is also an important step for workforce development. Specifically, weaknesses cited in both Gartner and KLAS point to a need to improve service and support for clients. Since physicians and hospitals will look to their peers for recommendations of EHR systems, Cerner must invest more resources into improving post-sales support.

- **Assess Product Standards.** As the healthcare environment becomes increasingly outcome-oriented, the measurement and reporting of key performance indicators will be critical. This concept first applies to the measurement of “meaningful use of EHR”. Cerner must develop the ability to allow clients to easily capture and report EHR usage statistics for the purpose of qualifying for ARRA incentives. As HIT is believed to facilitate improved healthcare quality and reduced costs, the ability to track key health outcome measures is a critical requirement. In addition, ARRA strengthens Federal privacy and security laws to support the use of electronic medical records. With these higher standards for HIPAA compliance, Cerner will need to ensure that its products meet these new requirements.

- **Enhance Managed Services.** While Cerner has a leading position in the industry in leased managed services, it should push even harder to make its offering easier to adopt while also driving cost efficiencies. Continual improvement in this area will allow Cerner to maintain an edge over its competitors who are only beginning to offer managed services. Specifically, Cerner should market its capabilities to less technically sophisticated providers who see management of an EHR system as a major inhibitor to adoption. 44% of physicians who have yet to adopt and EHR cite concern that the
system will become obsolete\textsuperscript{30}. We believe that large physician practices are ideal candidates for this service.

2. \textit{Thought Leadership}. In the current environment, much of the strategy concerning the ARRA stimulus package depends on the details of government regulation. Specifically, the outcome of the definition of “meaningful use of EHR” will greatly impact the strategy that Cerner should adopt. The higher the regulatory burden placed on vendors the greater the advantage is to incumbent vendors. Therefore, it is a critical time to influence the direction of regulatory decision regarding “meaningful use”. In the coming months as Congress and Health and Human Services decide the details of the regulations, Cerner should invest resources to understand the direction of proposed regulations and partner with other incumbent firms to lobby the government to raise the regulatory hurdles as high as possible. Using the Healthcare Information and Management Systems Society (HIMSS) classification scheme for EHR adoption, Cerner should influence policy makers to set the meaningful use bar around stage 4 of 7 stages. This level would encourage even large academic hospitals, which currently average stage 2.5 adoption, to adopt new technologies to qualify for government incentives\textsuperscript{31}. It would also erect significant barriers to entry for new firms and encourage small, less technically capable and financially limited firms to exit the market. The message to government officials must not appear to be for the purposes of establishing barriers to entry, rather, it must suggest that meaningful cost savings and quality improvements cannot be achieved without a high standard of “meaningful use.”


Cerner must also make efforts to become a recognized thought leader. Even after regulations have been set, mindshare will influence market share. Key decisions on adoption of data standards and the level of interconnectivity between vendor platforms will be fought out in the standards committees, industry conferences and trade publications in the coming years. Using key “idea ambassadors” such as CEO Neal Patterson, Cerner must be at the forefront of such discussion, not just for the purpose of influencing decisions but to also be top-of-mind for providers that are in the active search phase of EHR adoption.

3. **Accelerate Provider Adoption.** The ARRA seeks to address financial barriers to EHR adoption. However, 54% of physicians that have not adopted an EHR said that they were unable to find “an electronic-records system to meet needs” 32. Cerner must first understand if this is due to a lack of functionality, a failure to convey product benefits or another unknown factor. There is also a clear need to improve Cerner’s organizational change management consulting service. Since it is widely believed that cultural, rather than technical, hurdles impede EHR adoption, dedicating more resources to ongoing client education efforts is important to long-term success. In addition, 36 percent of providers cite physician resistance as a barrier to EHR adoption, which will require EHR vendors to examine their product development and client education strategies closely.33 In a recent conference held at The Fuqua School of Business, Duke University, “Delivering on the Value Proposition for Connectivity and Health IT”, Health IT experts frequently cited cultural challenges, not technical ones, as the biggest inhibitors to EHR adoption. EHR vendors that hope to sell and successfully implement health IT systems

---

must develop organization change management consulting capabilities. Product Development
must also take a fresh look at making systems easier to operate and manage.

As hospitals and physicians struggle to understand what the ARRA means for them, vendors
have the opportunity to fill the knowledge gap. This translates into a full-fledged marketing
campaign explaining the implications of the legislation in easy to understand terms, and the
means by which Cerner can efficiently and effectively meet customer needs. A critical piece of
this campaign will include sales force contact with key customers, government officials at the
federal and state levels and a strong presence at HIT and provider conferences. Infrastructure to
capture sales leads and critical strategic information and then coordinate efforts to act on such
information will be essential, especially given the 5-year incentive window in which demand will
be strongest.

**Geographic Targeting.** In targeting specific hospitals and physician practices, Cerner should
attempt to build “Cerner islands” around key customers. A Cerner island would convert nearly
all major hospitals and practices affiliated with those hospitals onto a Cerner platform. Such
islands would encourage related providers to adopt a Cerner solution for the sake of easier
interoperability and reduce caregiver learning curves. For Cerner, this would serve as a powerful
barrier to protect hospital business from competitors. To introduce this strategy, Cerner should
encourage hospitals and related practices to discuss a simultaneous implementation of an EHR.
Bundled and volume-driven pricing between the hospitals and practices can be used as an
incentive to purchase jointly. In addition, having a strong geographical presence is also helpful
for developing relationships in local government, which may be involved in funding decisions as
well as the development of future regulations.
Implementation Plan

2009 - Meaningful Use Decisions Published by government
2011 - Physician stimulus payment begins
2013 - Hospitals - Last year for full stimulus package availability
2015 - Physician stimulus payments end, penalties begin, Hospital non adoption penalties begin
2016 - Hospitals - stimulus payments end, penalties begin

Regulatory Key Events

Recommendations
- Establish Central Command
- Lobby government
- Increase thought leadership position
- Build sales force and launch marketing efforts
- Develop relationships with universities
- Enhance Managed Services
- Develop organizational change capabilities
- Implement Geographical Targeting

Resources

Wave 1
- Separate operating budget for Central Command
- Money to purchase lobbying services
- Sponsorship dollars for industry conferences
- Funds to recruit, train sales force and launch marketing campaign

Wave 2
- Increased funding for university recruiting
- Additional funding for internal development of Cerner Associates
- Additional funding to improve Managed Services ease-of-use and drive operational costs down

Wave 3
- Money to bring in top external talent with experience driving change in healthcare
- Funds to establish organizational consulting practice and develop EHR-specific methodology
- Additional sales management to develop and roll out geographic targeting strategy

People
- Senior VP to head Central Command
- Hire external lobbying firm, internal regulatory liaison to manage relationship
- Increase sales force and hire additional sales force managers
- HR will take lead role in managing recruiting efforts. Scale of hiring will require additional management and recruiters
- Additional systems and software engineers will be needed to improve Managed Services ops
- New Organization Change Management VP
- Core group of experienced Org Change Consultants
- Hire sales managers with strong regional sales experience with targeted hospital groups

Incentives
- Senior VP compensated based on sales, profitability targets for new EHR business
- Sales force compensated based on sales volume quotas
- HR should be compensated based upon volume quotas, employee satisfaction and employee performance after 1 and 2 years
- Engineers rewarded with salary/bonus
- Org Change group compensated on client satisfaction with system adoption
- Sales managers compensated based on successful hospital/practice bundled contracts
Conclusion

The HITECH Act passed in February as part of the American Recovery and Reinvestment Act will have a significant impact on the health IT industry. The competitive dynamics in this industry will continue to evolve as the technology standards and definition of “meaningful use of EHR” are fine-tuned over the next seven months. Cerner Corporation, a recognized leader in this industry, is well positioned to capture business from providers investing funding into the implementation of systems related to electronic medical records. However, in order to achieve a more dominant position in the industry over the next five years, Cerner will need to make focused investments in marketing, operations and human capital development. Specifically, Cerner will need to scale up its operational capabilities, position itself as a thought leader, advocate for high technology standards, assess functionality of its products to ensure compliance with new standards, educate physicians on benefits of EHR systems to help accelerate adoption, and focus marketing efforts geographically to gain strategic market share.

While strategic decisions are needed to be made rapidly in anticipation of market growth over the next 18 months, long-term implications must be considered as well. After 2017 when adoption is expected to level-off, companies will need to be able to shift their focus from rapid implementation to continuous improvement of product capabilities, interoperability and usefulness in outcomes reporting. At the same time as we are seeing a push for hospitals and physicians to adopt EHRs, Tech companies like Google and Microsoft are building consumer health records that will be able to interact more universally with the EHR systems. These applications are a complement to products produced by vendors like Cerner, and Cerner will need to consider what level of involvement they would like to make in this industry space.
Appendix A – Industry Five Forces Analysis

<table>
<thead>
<tr>
<th>Supplier Power - Low</th>
<th>Threat of Substitutes - Low</th>
<th>Industry Rivarly - High</th>
<th>Threat of Entry - High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suppliers like IBM and Oracle are constantly looking to partner with health IT vendors. Additionally, companies like Microsoft are also making their foray into health IT systems, which may have a potential impact on the supplier space.</td>
<td>The adoption rate for health IT is predicted to be initially low, with smaller hospitals and clinics developing in-house applications. It is however unlikely that these will be approved by the government as &quot;qualified&quot; systems.</td>
<td>The health IT industry is expected to have a 19.5 percent compound annual growth rate each year over the next five years. More competitors will lead to higher competition.</td>
<td>Increase in budgeted IT spending by healthcare organizations will create a robust market place for new entrants. Additionally, expanding market for EHR systems means that new entrants might be especially successful targeting underserved areas such as physician practices.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Buyer Power - Medium/High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare providers have many vendors to choose from. Despite the associated cost, fully integrated health IT systems can increase patient safety, reduce medication errors and save time and money for healthcare providers. Only a limited number of vendors currently provide integrated systems.</td>
</tr>
</tbody>
</table>
References


