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Healthcare Information Technology

Present Investment and Future Outlook in the American Healthcare Market

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INTRODUCTION

We are poised at the starting line of a three year investment sprint in information technology by healthcare providers. This sprint will be catalyzed by funds included in the American Recovery and Reinvestment Act (ARRA) and will be further incented on the backend by Medicare reimbursement penalties to providers who have not become "Meaningful Users" of Healthcare Information Technology (HIT) by 2015.

The sprint metaphor is particularly significant because the government, as of the printing of these materials, has not yet defined exactly how the funds, which will take the form of rebates available between 2010 and 2012, will be distributed, or what precise thresholds of investment and utilization will qualify as "Meaningful Use." The effect of this ongoing calibration of government policy is to create a starting line where both healthcare providers and HIT vendors are waiting for these final details before commencing what all stakeholders expect to be an unprecedented, government backed wave of investment in this space.

Despite the current uncertainty surrounding the future of the American healthcare system, HIT is a space where there is surprising agreement among experts on several industry facets, namely the current state of investment, future outlook, and growth areas; all of these will now be discussed in greater detail.

STATE OF INVESTMENT

Economic Fundamentals

"The driving force behind the stimulus package is to overcome this misalignment of costs and benefits and encourage widespread EHR adoption."[1]

Healthcare providers have never been economically incented to make large-scale investments in HIT. Specifically, the marginal benefits of an investment in a standard HIT product, such as Electronic Health Records (EHRs), have never driven provider top line growth enough to justify the allocation of significant resources. Instead, the benefits of such investments are captured by consumers, payers, and future providers more than the investing entity.

This lack of historical investment in healthcare technology is apparent through several metrics that track investment in the space. For instance, Dow Jones VentureSource reports that, in 2008 only $354 million of $28.3 billion, or 1.25%, of venture capital funds were invested in Healthcare IT.[2]

Under these circumstances, the current state of investment in HIT should be viewed as a product of misaligned incentives rather than institutional or investor oversight. Consequently, the ARRA funding is most clearly and appropriately understood as an attempt to realign those incentives to stimulate investment so that the collective healthcare system can garner the benefits of more integrated, portable, and interoperable health data.

Government Involvement

"The Obama-Biden plan will improve efficiency and lower costs in the health care system by adopting state-of-the-art health information technology systems."[3]

In addition to providing stimulus funds, the Federal Government is playing a very active role in shaping the national HIT landscape. In one of the Executive Branch's most visible moves in the space, the Bush Administration formed The Office of the National Coordinator for Healthcare Information Technology (ONC) by executive order on April 27, 2004.[4] Under the Obama Administration, this office, which reports directly to the Secretary of Health and Human Services, has been given an expanded role and tasked with coordinating the "Federal Health Information Technology Strategic Plan 2008 - 2012."[5]

The details of this plan have very real and tangible effects on private investment in HIT. For example, the ONC is charged with defining the "Meaningful Use" criteria which will determine if providers qualify for ARRA rebates. Also, the ONC will establish the standards, or deputize

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[1] "The Stimulus Package and Healthcare IT." The Wall Street Transcipt. 10 August 2009
[2] "Change, Innovation, and Investment in the 'New Health Economy.'" Psilos Group. 28 Jan 2009
[3] http://www.barackobama.com/pdf/issues/HealthCareFullPlan.pdf
[4] http://healthit.hhs.gov/portal/server.pt?open=512&objID=1200&parentname=CommunityPage&parentid=2&mode=2&in_hi_userid=10741&cached=true
[5] http://healthit.hhs.gov/portal/server.pt/gateway/PTARGS_0_10731_848083_0_0_18/HITStrategicPlan508.pdf

an entity to determine the standards, of what constitutes a certified EHR. This establishment of a uniform certification process should both streamline product development while enhancing data interoperability.

Additionally, the IT Strategic Plan calls for the creation of a "Nationwide Health Information Network" (NHIN) to facilitate sharing information between providers, consumers, and payers. The NHIN's proposed functions will overlap with a proposal of Kaiser Permanente CEO George Halverson's referred to as "Infrastructure Vendors." (IVs) These IVs were envisioned as new private businesses, or extensions of existing businesses, that would provide consumers access to comprehensive lists of local providers and provider outcome histories while "virtually integrating" care.[6] The term virtual integration refers to creating a competitive bidding process that allows different providers who are not in the same practice to make a collective bid for the treatment of conditions that require multiple providers. While ARRA funding, "Meaningful Use" definitions and EHR standardization are examples of government assistance in the HIT market, the overlapping functionality of the NHIN and IV proposal is a different example; an example of how private investment may have to be augmented because of roles or functions that the government takes upon itself in the public sector.

Market Structure

Currently, the healthcare provider market is easily segmented into large hospital, midsized hospitals, small hospitals (< 100 beds), and physician practices. Within these segments, the large and midsized hospitals often behave more like standard, enterprise customers in the macro IT space, while small hospitals and physician practices are demonstrably more adverse to significant capital expenditures.

Current HIT vendors have become associated with specific market segments. For example larger public companies such as Eclipsys and Cerner as well as a private company named Epic are the main vendors for the large hospital market. McKesson is known as the dominant player in the midsized hospital market, and smaller hospitals are predominantly served by companies such as Computer Programs and Systems. Allscripts is the best known name in the physician practice market which is, predictably, the most numerous and fragmented market segment.[7]

Business Model

"There has been a lot of talk of transitioning toward a subscription model to better align the cash outflows associated with purchasing a system with the Medicare and Medicaid incentive payments. In the physician practice or ambulatory market, we have already seen the software as a service model (SaaS) take hold. Under the SaaS model, the software is essentially rented on a monthly basis, eliminating the vast majority of the upfront costs."[8]

[6] "Healthcare Reform Now!" Halverson, George
[7] "Investing in Healthcare IT." The Wall Street Transcript. 10 Aug 2009
[8] "The Stimulus Package and Healthcare IT." The Wall Street Transcript. 10 Aug 2009

Of particular note to both current and future investment in HIT is the emergence of the software as service, or SaaS, model of product delivery. As referenced in the above quote, this remotely hosted, essentially rented, software model is compelling for smaller hospitals and physician practices. This is because the SaaS model allows smaller providers to match their expenditures with their revenue stream while avoiding large, upfront HIT expenditures.

Outside of this obvious suitability for smaller providers, there is speculation that the SaaS model may become even more prevalent because of a flaw in the existing, perpetual license model of software delivery. Some experts have been outspoken on this matter; for instance, Brett Jones of Brean Murray, Carret & Co., LLC recently said he believes that risk in the HIT space, "primarily lies in the use of the perpetual license business model. The companies recognize a lot of the software license revenue and the associated EPS upfront and then will likely have trouble refilling or restocking the pipeline."[9]

The increased prevalence of the SaaS model will mean that stakeholders should expect HIT vendors to explore further or expanded SaaS offerings while reexamining current perpetual licenses products. However, despite this industry trend, existing data suggests that larger, enterprise-sized providers will continue to prefer in house, perpetual license products that remain more suitable for their existing investments and in house IT departments.

Equity Valuations

"They need to have a long-term outlook, two to three year outlook, because some of these stocks have come too far too fast."[10]

As stated in the introduction, industry experts are in general agreement about many aspects of the current status and future outlook of HIT. Perhaps chief among their agreements concerns the current equity valuations of HIT vendors. The practically unanimous opinion is that, while revenues will almost surely significantly increase across the board, these expectations are already factored into equity prices and opportunity must be looked for judiciously, either through specific industry leaders, or after pullbacks in current equity valuations. Additionally, most HIT analysts share the fear that the 2012/2013 expiration of the ARRA rebates, the prevalence of the perpetual license model, and the relatively fixed number of healthcare providers create the potential for a depression in HIT equity values once the stimulus spending has run its course.

[9] "The Stimulus Package and Healthcare IT." The Wall Street Transcript. 10 Aug 2009
[10] "Healthcare IT Overview" The Wall Street Transcript. 10 Aug 2009

FUTURE OUTLOOK

"It's not hard to figure out what the ideal healthcare marketplace might look like; the challenge is to actually make it happen."[11]

While some would argue that this section would be best written by blindfolding oneself and throwing darts at a board with different scenarios written on it, George Halverson's above quote illustrates that there is also far more consensus about the future of healthcare and, derivatively, HIT than most imagine.

In this spirit, if one removes the insurance component and focuses on HIT's role in future care, a clear picture emerges that can be divided into three categories: 2010 - 2015, Care Efficiency, and Care Integration.

2010 - 2015

"There are not many industries too that have a demand scenario or an adoption scenario as rosy as the healthcare IT sector at this point. Now with that being said, a lot of the management teams have focused on the stimulus and the opportunities that exist."[12]

As discussed in the above section, HIT vendors generally specialize in one segment of the provider market. As ARRA funds become available next year, consensus estimates are that HIT vendors' incremental revenue gain will predominately come from selling into the increased demand in their existing provider segment. Consequently, minimal up or downstream movement by the vendors is expected during this period.

The ARRA-led investment will take different forms in the different industry segments. Specifically, large hospitals with substantial existing HIT assets are expected to make incremental investments to ensure compliance with Meaningful User provisions, midsized and small hospitals are expected to make either incremental or initial investments to guarantee compliance, and small practices are expected to explore different SaaS solutions to compny with Meaningful User provisions.

As mentioned in the introduction, providers who do not qualify as Meaningful Users of HIT will be faced with approximately 5% Medicare reimbursement penalties beginning in 2015. Consequently, stakeholders should expect higher compliance rates with Meaningful User criteria by large and midsized institutions. Consensus opinion is that small rural hospitals and individual physician practices are at the greatest risk of continued noncompliance.

Care Efficiency

"America's healthcare system could save more than $81 billion annually and improve the quality of care if it were to broadly adopt computerized medical records,"[13]

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[11] "Healthcare Reform Now!" Halverson, George

[12] "Pending Reform and Emerging Trends in Healthcare IT." The Wall Street Transcript. 10 Aug 2009

[13] http://www.rand.org/news/press.05/09.14.html

Regardless of the exact manifestation of changes in the American health insurance industry, the utilization of HIT to reduce medical errors, redundant testing, fraud, and abuse will be a cornerstone of any reform effort.

It is important to note that HIT vendors offer a wide range of products beyond EHRs that are in the processes of aiding these universally held policy goals. For example, Cardinal Health's Pyxis® medication dispensing systems and Alaris® infusion devices are examples of medical technology with heavy reliance on HIT that reduce human error by both patients and care providers. Additionally, increased adoption of EHRs will allow cost management services, such as HMS Holdings, to be more effective in their efforts to "cut waste and abuse in the Medicaid program."[14]

The above quoted RAND Corporation report summarizes, in stark and unambiguous terms, the absolute centrality of HIT to efforts to create a more efficient healthcare system. In perhaps its most vivid passage, RAND argues that, if the healthcare system were able to capture similar efficiency gains as other industries that rely heavily on IT, up to $346 billion USD annually could be saved in domestic healthcare spending.

Given the general consensus around the validity of these projections, and regardless of the fate of health insurance reform, efforts to leverage HIT to create a more efficient American healthcare system should continue with broad based support for the foreseeable future.

Care Integration

Once the systems are in place, it becomes possible to reform the reimbursement system and reward improved patient outcomes rather than utilization."[15]

While stakeholders are in agreement that healthcare must become more integrated, this, like the current state of HIT investment, is an area where current economic incentives are not aligned with policy goals.

The most salient example of these misaligned incentives is chronic diseases. Chronic diseases put such a strain on our healthcare system that five conditions, diabetes, asthma, congestive heart disease, coronary artery disease, and depression consume 35% of our healthcare expenditures.[16] Yet, the current economic model rewards providers for treating an asthma attack, not preventing one; it rewards treating diabetes-related complications, not helping a patient control their blood sugar.

In an integrated care, outcomes based model the availability of EHRs will facilitate providers' ability to bid for the comprehensive treatment of such chronic conditions. Under these bids, providers will be economically rewarded by the successful management of the disease, not the treatment of its complications.

[14] "Pending Reform & Emerging Trends in Healthcare IT." The Wall Street Transcript. 10 Aug 2009
[15] "The Stimulus Package and Healthcare IT." The Wall Street Transcript. 10 Aug 2009
[16] "Healthcare Reform Now!" Halverson, George

While such incentive realignment is further on the horizon than the national effort to adopt EHRs or increase care efficiency, there is, as with many other sections of this report, general expert consensus that aspects of this integrated model must eventually be adopted to control costs.

GROWTH AREAS

***"IBM** has estimated that for every $10 billion that the government pumps into the healthcare IT space, it will create 100,000 jobs. If you follow that logic and use the $36-$37 billion of incentive payments that the government expects to pay, then this program should create somewhere in the neighborhood of 350,000 jobs."* [17]

"A major opportunity exists to earn substantial equity-based returns through investment in new, innovative healthcare businesses that rise to the challenge of addressing the value imperative, bringing accountability, efficiency, reduced costs and higher quality to the delivery of healthcare products and services to and expanding and aging population."[18]

Returning to the earlier metaphor of the 2010 – 2015 window of government involvement as an HIT sprint, the passage of the ARRA in February did not leave enough time for new players to enter the market and compete in the EHR installation process.

However, as the second quote illustrates, the increased emphasis on the HIT space should create new growth areas over the foreseeable future for existing entities and new ventures. Under this assumption, the following potential growth areas will be discussed in greater detail, EHRs, E-Prescribing, Value-Based Health Plans, and Services.

Electronic Health Records (EHRs)

EHRs are the backbone of the HIT agenda and almost too well known and ubiquitous to warrant mention; however, as is often the case, there are layers of complexity in the process of EHR adoption which are noteworthy.

In fact, the current EHR adoption rate by healthcare providers remains startlingly low. Recent estimates suggest that current adoption rates of EHRs stand at only 10% for hospitals and 20% for physicians. The government estimates that the ARRA funds will boost adoption to 55% and 85% by 2014.

Most notably, from a growth perspective, the EHR itself is still a work in progress. With the current generation of EHRs, teams must still come in, listen to a doctor's verbal notes, and fill in blanks such as blood pressure or heart rate. [19] Next generation EHRs should incorporate voice recognition software to perform tasks such as detecting keywords and automatically transcribing the information into the appropriate form. Additionally, next generation EHRs

[17] "Outlook for Healthcare IT." The Wall Street Transcript. 10 Aug 2009
[18] "Change, Innovation, and Investment in the 'New Health Economy.'" Psilos Group. 28 Jan 2009
[19] www.itpodcast.org

will utilize continually improving voice recognition software to increase usability for care providers who are not native English speakers.

E-Prescribing

E-prescribing solutions allow doctors to send prescriptions directly from their computers or handheld devices to the pharmacy of their choice. This is a classic product dedicated to increasing efficiency by eliminating redundant care, fraud, and abuse. While the technology has been around for approximately a decade, adoption rates have only recently seen substantial increases and project to become even more popular in the near future because of what Auriga USA Managing Director, Gene Mannheimer describes as "advances in wireless technology."[20]

Value-Based Health Plans

Some companies, such as Triveris, are pioneering what have been called "Value-Based Health Plans." These plans can be seen as manifestation of the previous integrated care discussion. For example, "A diabetic who subscribes to such a value-based plan will be financially incented through enhanced benefits and lower out of pocket costs to stay in compliance with their prescribed treatment regimen."[21]

HIT makes such plans possible on two levels. First, the availability of standardized, portable EHRs makes the necessary data available to insurers and providers to be able to confidently prescribe a course of treatment and the accompanying incentives. Secondly, recent HIT advances allow data like blood sugar or hemoglobin readings to be easily transmitted to providers and stored for constant evaluation; an early model of such a technology is A.D.A.M. Inc.'s Medzio application for the iPhone.

Services

Finally, existing HIT providers likely do not have the capacity to perform all of the installations and service upkeep functions that will be required by the expected wave of new investment.

Industry analysts expect much of this demand to be met by existing it consultants, such as Accenture, or smaller health care consultancies. However, regardless of who meets the need, this is market is expected to be a boat lifted by the rising tide of HIT investment.

[20] "Healthcare IT Overview." The Wall Street Transcript. 10 Aug 2009
[21] "Change, Innovation, and Investment in the 'New Health Economy.'" Psilos Group. 28 Jan 2009