

Healthcare IT

HIT Spotlight Issue Number One— Top HIT Trends for 2010-11 - Innovation and Acquisitions

Top Trends

In this first issue of Crosstree Capital Partners Healthcare Information Technology Spotlight we outline the top trends in the Healthcare Information Technology industry.

Chaos AND Opportunity

The macro-trend driving all other trends right now is the distortion in an already eclectic Healthcare IT market wrought by the *promise* of massive government spending on Healthcare IT, and the concomitant reality of new, complex, and still evolving, enormous regulatory changes and economic challenges.

Despite the potential infusion of billions of federal dollars, Healthcare IT vendors are scrambling for market share as the spotlight on Healthcare IT brings in more and more competitors.

No doubt, Healthcare IT will change dramatically over the next couple of years. Advanced information technology, like analytics, real-time data integration, wireless services, etc., common in other industries, will make its way into Healthcare IT.

We expect M&A will play a large part in the market dynamics. Private Equity has already showed its hand and is ready, willing and able to fund good ideas and good companies.

So, while there is a much disagreement as to how this will all work out, embedded in all of our top ten trends is chaos AND opportunity.

#1 Evolution and Revolution in EMR/EHR

Nearly \$20 billion in stimulus money will flow to Healthcare providers, primarily for Electronic Health Records (EHR). By late 2010 many more healthcare providers will evaluate their EHR efforts with mixed reactions. By 2011/2012 new technologies will emerge to support a better physician and patient experience.

The federal stimulus to spend now on EHR vs. waiting for better technology just around the corner is the major factor distorting the EHR market - we identify over 165 separate EHR vendors

with very similar products and nearly identical value propositions, and the number of vendors is growing.

EHRs have two primary functions: 1) digital capture, storage, and retrieval of what used to be the patient's paper records that were typically filed in a patient's individual folder; 2) EHR also serves as the practitioner's de facto workflow engine.

The current crop of EHR products do a pretty good job as a digital substitute for paper records and file folders.

But as a workflow manager EHR products are not particularly well designed. They are mostly clumsy client/server or browser based apps requiring a lot of mousing-around and typing.

The other place EHR comes up short is in data integration and device interfacing. Most of the input into EHR is typed or image scanned when there are much better, more efficient electronic data capture means available.

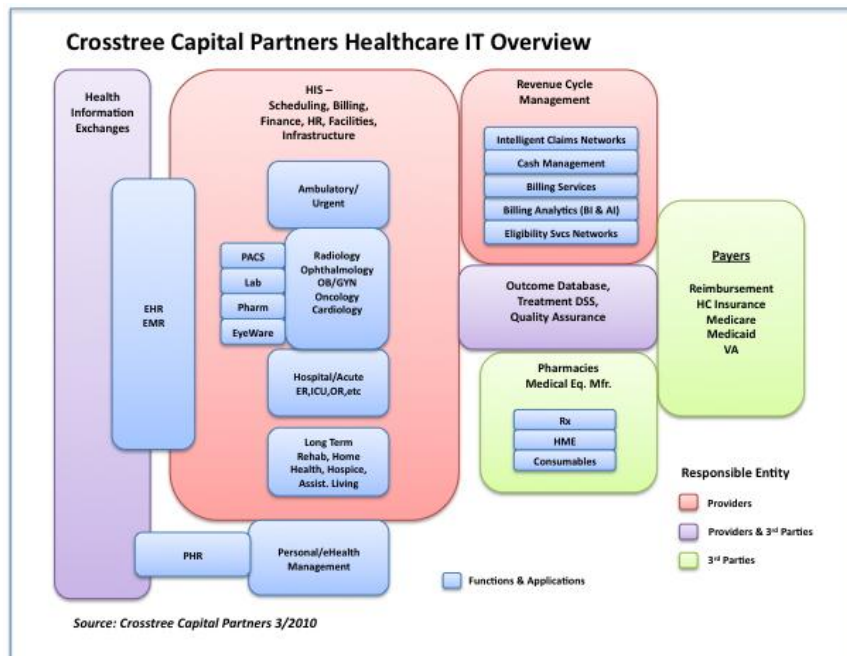
Nonetheless, because of the promise of government subsidies (the carrot) and reimbursement holdbacks (the stick), EHR will default into the core of integrated Healthcare Information Solution (HIS) infrastructures. Unfortunately, with most of the

EHR systems on the market today falling way short in implementing state-of-the-art User Interface or data integration technologies, most of the money spent today will have to be re-spent as the technology catches up with the functional demands.

Consequently, over the next 2-3 years radical improvements in User Interfaces (touch, natural language, proximity, etc.), and new wireless enabled diagnostic and treatment devices will revolutionize EHR products in a painful and costly conversion process pretty much industry wide.

#2 Revenue Cycle Management Gains Prominence

In 2010, Revenue Cycle Management (RCM) technology will emerge as the most important IT purchase for most Healthcare providers. Over the next 3-5 years RCM products will continue to improve by incorporating Business Intelligence (BI) and Analytic technology already widely adopted in other industries - pri-



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marily retailing and financial services. Running and maintaining a financially secure medical practice these days is very challenging. Costs are up. Fees and reimbursement rates are down. Computer generated and “proofed” coding is necessary for accurate billing. Intelligent electronic provider/payer communications are required to cut down reimbursement delays and claims rejections.

Practice management must include quantitative analysis of patient cohort profitability. High tech cash management is becoming a common requirement for the successful practice.

Over the next two years RCM products will continue to expand and increase functionality, and will evolve into comprehensive payment, collection, and cash management applications.

RCM applications will be offered in a variety of formats including: integrated into practice management systems and EHR; as standalone on premises software packages; increasingly as SaaS; and in many cases turnkey service provider offerings.

The good news is that the core technology necessary for RCM applications is widely available but needs to be incorporated into practice management suites. Applied analytic technology (BI) and state of the art data integration software are necessary components of successful RCM implementations. The big step forward in RCM will be integrating cash management, coding, analysis, claim submission, and claim tracking and repair into a single automated software process.

#3 The Dawn of the Age of the Interlopers

For the last twenty years, Healthcare Information Technology (particularly Healthcare application software) was primarily created, sold and supported by technology vendors exclusively focused on the Healthcare IT sector, or by Independent Business Units (IBUs) of big companies like 3M, GE, etc. But now all IT vendors recognize Healthcare as a one of the few growth industries, so they are all beginning to pile in with M&A, R&D, and repositioning of existing technology. This revitalized competitive environment will catalyze additional consolidation. A big driver will be the emergence of Private Equity as a funding source for Healthcare IT, which will focus on “roll-up” strategies.

Healthcare IT purchasing decisions and deployment options are becoming much more complex. New vendors, new technology, more pressure from regulators, increasing costs, and lower reimbursement fees will make the Healthcare IT evaluation and selection process very difficult.

Facing all of these challenges, Healthcare providers are looking for more soup-to-nuts solutions as they realize tying together multiple products from several vendors is expensive and prone to failure. However, few vendors have the internal resources to de-

velop comprehensive one-stop solutions and successfully bring them to market and support them.

The only practical way for Healthcare IT vendors to address the technology gap is through acquisitions.

The second consolidation driver will be the challenge of competing in a market with so many vendors offering identical or similar functionality. Sales costs rise in this environment and R&D dollars become stretched thin. Users begin to rank vendors based on viability and this becomes a zero sum game.

Third, and the biggest change coming to existing Healthcare IT vendors, is the entrance of the larger established systems vendors (e.g. IBM, Oracle, Microsoft, HP, EMC, Intuit, SAP, etc) at all tiers of the market from sole proprietors to large healthcare providers. These vendors have tremendous resources and the desire to compete. They will acquire Healthcare IT specific products.

#4 Wireless Proliferation

While there are a few, mostly generic, applications used by doctors on their iPhones and Blackberries the devices are still pretty much used as cell phones, text messaging devices, and for email. In the next 2-3 years this will change dramatically as wireless communications and devices will proliferate throughout all aspects of Healthcare delivery.

A dramatic increase in the use of handheld and wireless devices will make things better for the doctors. Physicians will progress from the BlackBerry to the iPad and other even more advanced personal wireless devices.

Applications developers will be stressed to keep up. This is particularly true for application developers that self-identify as Microsoft developers and tend to look to Microsoft for guidance on User Interface designs and standards – say good bye to mouses, keyboards and navigating drop down menus.

Besides the huge productivity improvements from new UIs and mobility for doctors and other providers, we expect a new wave of wireless connectivity between and amongst diagnostic devices, and with the widely deployed EHR systems.

We have some prototypical implementations of this type of gear, and there are a few available commercial products, but providers are still underserved compared to other industries that have fully embraced wireless smart devices.

The big beneficiaries will be consumers. A lot of the wireless consumer products we have seen are comparable with professional devices but much lower costs and obviously portable. These new healthcare devices allow consumers to take more direct control over their health and make better choices as to care and treatment.

Healthcare IT

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#5 Decision Support and Clinical Analytics

In many other industries strategic and tactical decisions are supported, and in some cases made, by software analysis of transaction databases.

In retail it is impossible to compete without a strong commitment to decision support software. Financial services are replete with applications that support risk management, dynamic credit analysis, trading decisions (program trading), etc. No manufacturer on earth today would consider making a product without advanced supply chain management software. The transportation industry would be lost without advanced geo-location and routing software. But the use of even modestly modern analytics is rare in Healthcare.

However, slowly but surely, we will see better use of information technology for decision support. Clinical decision support based on data mining of historical treatment and outcome databases will emerge although there remain significant challenges integrating data – both technically and legally.

Much like we see in Revenue Cycle Management, the technology to implement clinical decision support is widely available and only needs to be adapted to Healthcare.

There is some resistance from practitioners unfamiliar with the technology, but the benefits are so strong that over the next 3-5 years there will be a proliferation of database oriented treatment/outcome decision support - not to say that cultural barriers will fall easily.

#6 Consumers

Providers will have to cope with a dramatic increase in consumer involvement in their own healthcare. Some of this will be driven by costs, some by advances in communication technology, and some by the availability of other technology – particularly consumer diagnostic products.

Probably the ultimate expression of consumer healthcare is when they eventually take over management of their own electronic health records. The evolution from provider controlled and managed EHR, to Healthcare Information Exchanges (HIEs), to Personal Health Record (PHRs) is inevitable.

The debate as to who actually owns ones healthcare information and who controls access is not yet settled. News stories of break-ins, security breaches and lost data grow with the expansion of EHR and HIE. Consumers are beginning to recognize that no organization, business or government entity can secure their personal health information.

So far the response has been more stringent enforcement of HIPAA by increasing penalties for offending. This will be about as effective as threatening Nigerian email scammers with a nickel at

Rikers Island - when technology and advanced security architectures are available to better secure data.

We hear in Florida, for example, that a legislatively designed “consent” form should be adequate to protect privacy and define sharing (albeit with scant granularity). This will not satisfy consumers.

This will drive new service providers (e.g. HealthLock – similar to LifeLock) and new devices where users “own” the information and share it with the providers, payers, and agencies they choose.

The EHR / HIE train is leaving the station without the public involved and the tracks are not laid. The legal and ethical challenges are daunting and the technology is nascent to say the least. Consumers will have the final word.

#7 Staffing Opportunities Improve

IT staffing is one bright spot for Healthcare providers. Hiring slowdowns and redundancies in other sectors of the economy will allow Healthcare IT to hire experienced IT people.

However, because healthcare technology is changing so fast, training budgets will have to be generously provisioned. The government is starting to deal with the skills gap by awarding over \$100 million dollars to universities and colleges to establish Healthcare IT training programs, but this will only help several years down the road.

Healthcare IT salaries, typically lower than many other sectors, are rising - but not rising as fast as some other sectors. As the demand for Healthcare IT professionals grow, salary differentials between the better paying sectors and Healthcare should close. Budgets will have to reflect modestly higher labor costs. In 2010 typical salaries for IT in general were flat; Healthcare IT was up 1-2%. We would not be surprised to see salaries creep up to 5% or so to match fast rising industries, but at least personnel with reasonable technical skills are available.

We also expect continuing trends to outsource many IT jobs, including help desk and infrastructure support. However, we still see mind bending staffing stories. For example, a 300-bed hospital, as part of an EHR rollout, is hiring an additional 49 IT people. That is over one freshly minted IT person per 10 beds – amazing.

#8 Software as a Service

Software as a Service (SaaS), vs. on premises applications, will increase from less than 2% of budgets to about 5% this year alone. This new delivery platform for healthcare applications will require more secure, faster, and robust networking.

For most providers the complexity of new applications and support costs will drive them to SaaS. Running a data center is just

Healthcare IT

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too expensive and to inefficient for most providers – even if the datacenter is a closet with a stack of Dell or HP servers. There is no single ubiquitous SaaS model, but in most cases SaaS applications will be designed to run as a service but we are also seeing some cases of “hosting” applications designed to run on premise. Users will pay a monthly access fee and annual or bi-annual contracts. This is a much different economic model for the providers and the vendors. It will take some time to adapt.

Application developers will also have to make the transition. Citrix type access is only a short-term bridge.

#9 Hardware and Communications Costs Down

Hardware and communications costs will continue to tumble. Software will represent the largest budget item and the most potential bang for the buck.

#10 Open Source & Open Standards vs. Microsoft

Open source software and standards will pressure proprietary offerings.

There has always been a battle in software between proprietary technology and software built on open standards. Over the long term open standards typically win. But the transition, migration, and conversion from proprietary software to openness is painful and expensive.

Healthcare IT is pretty much a “closed shop.” Most developers are completely in the Microsoft camp. Their products require Windows – de facto. As we indicate above this tends to limit innovation particularly in areas where Microsoft is weak (i.e. wireless, User Interface, scalability, analytics, etc.).

Interoperability and data integration is another place where Healthcare lags other industries.

Former Health and Human Services Secretary Leavitt made integration a prime objective by pushing open health data interchange standards. The result is a pretty thorough set of standardized transactions and in some cases they have been widely adopted (i.e. Medicare claims), but there still are glaring gaps in making Healthcare applications work together inside and across the various entities (e.g. providers, payers, consumers, government, etc.).

HIMSS has gone a long way to address these issues with its demonstration interoperability showcase, but clearly there is much more work to be done.

Summary and Conclusions

Stimulus money is not a panacea for what ails Healthcare IT. What is missing is a long history of technology innovation that we have seen in other industries.

Over the next 2-3 years we will see a scramble to catch up.

The big driver for change in Healthcare IT is economics – micro-economics, supply and demand, and price elasticity - classic stuff that has not been part of the equation heretofore.

Most of the “new” Healthcare IT will come in from other industries. These vendors will switch markets. This means a lot of M&A and a target rich environment for Private Equity.

The only place we see completely new inventions is in the wireless device space. This should be the area where Venture Capital money makes the most sense.

Over the years, Healthcare has treated the consumer as a subject, object really, not as a customer with a brain. No longer. The ARRA of 2010, HR 3950, HR 4872, and other legislation, and the ongoing debate has changed that forever. The people are engaged, technically savvy, and demanding results.

Bottom line: Prices and costs have to come down. Productivity has to go up. The market, such as it is, has to be more efficient. Better technology will play a huge roll.

About Crosstree Capital Partners, Inc.

Crosstree Capital Partners, Inc. is a knowledge-based investment bank headquartered in Tampa, Florida. Crosstree offers turnkey solutions for middle-market and aggressive-growth businesses, including venture stage, private and public companies. The firm’s concentration in niche sectors of the life sciences industry, including Healthcare IT, diagnostic products and services and pharmaceutical outsourcing, is aimed at assisting clients with capital raising, mergers and acquisitions and financial advisory services. To learn more about Crosstree, please visit our website at www.CrosstreeCapital.com

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