



eHealth Strategies with Microsoft and Google in the Game

White Paper

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I. Executive Summary

Consumer Driven Healthcare has emerged as a strategy for having patients and families more actively engage in the management of their healthcare costs and information. This trend has been aided by the increasing availability of numerous health information management tools, including Personal Health Records (PHRs). Initially, PHRs were basic on-line repositories for patients to manually enter their health information. Over time, PHRs began to be linked to provider organizations' clinical and patient management systems, pharmacies, devices, and other technologies, which helped to increase the adoption and value of PHRs.

In late 2007, Microsoft launched HealthVault as a platform on which third parties can build online PHRs. A few months later Google Health – a combined platform and PHR - was unveiled. The entry of these technology giants has moved PHRs into the limelight and many provider organizations are seeking to better understand these online offerings and build strategies and tactics for including them in their eHealth arsenal, along with EHR(s), patient portals, and potentially their own internal PHRs.

In terms of intent and functionality the end-product HealthVault and Google Health PHRs are quite similar. However, GoogleHealth's PHR and platform have been designed in tandem, whereas HealthVault serves as the platform for developers' PHR products and related applications. Both vendors espouse a commitment to data security and privacy and have built their products according to Industry standards – albeit competing ones.

Leading provider and payer organizations, pharmacy chains, and a host of other players in the healthcare industry are moving quickly to establish – and promote – their partnerships with Microsoft, Google and/or other online PHR vendors. They are building linkages between their internal systems (EHRs, portals, claims, drug databases, etc.) to push data out to patient PHRs, and in some cases, enabling their systems to accept data uploads from PHRs. These frontrunners see the partnerships as opportunities to be on the cusp of a major innovation.

While PHRs and the market for them are still very young, provider organizations should begin exploring partnerships with Microsoft, Google, and other online PHR vendors and developing a comprehensive approach to extending the value chain of technology investments from inside the organization to well beyond its walls. A broad look at potential partnerships is advised, as it is too soon to predict a winning approach/vendor partnership. In addition to the vendor's vision, technology and tools for linking with internal EHRs and portals, providers must consider which approach will yield a solid cost/benefit tradeoff, and also how to balance this opportunity with the organization's other major technology, marketing, and consumer relationship initiatives.

II. Introduction and Background

Objectives and Scope of this Report

In the past decade, there has been slow but steady growth in the use of consumer-oriented healthcare information technology (IT) to help individuals manage and take ownership of the data and information pertaining to their health and medical care. Initially, these consumer health IT (“eHealth”) tools were provided by vendors of electronic health record (EHR) systems and niche vendors. However, in recent years, non-healthcare IT vendors, most notably Microsoft and Google, online health information vendors such as WebMD, and other software vendors have established a market presence. Their entry changes market dynamics and may impact the strategy and approach of organizations offering/seeking to offer eHealth solutions.

Today, most organizations are deploying or enhancing their EHRs, and potentially their consumer eHealth products. To further advance in eHealth strategy, providers must consider the impact of Microsoft, Google, and other PHR vendors and carefully construct a go-forward approach to ensure patients are engaged in managing their care and health information in a manner which benefits both patients and the provider organizations.

This Impact Advisors whitepaper provides an overview eHealth tools with a focus on PHRs and explores how the entry of Microsoft and Google changes market dynamics and potentially influences provider organizations’ strategies for planning and deploying technology for patients to manage their medical and health information.

Key Themes in the Consumer-Driven Healthcare (CDH) model

As insurance premiums and healthcare costs have consistently increased year after year, there has been a major shift towards having consumers be more involved in and assume greater responsibility for their healthcare usage and costs. This consumer-driven healthcare (CDH) trend has several components, including new types of health insurance which incent patients for lower utilization/costs, a call for provider organizations to be transparent in sharing cost and quality information, and a push for patients and their families to become stewards of their own healthcare information.

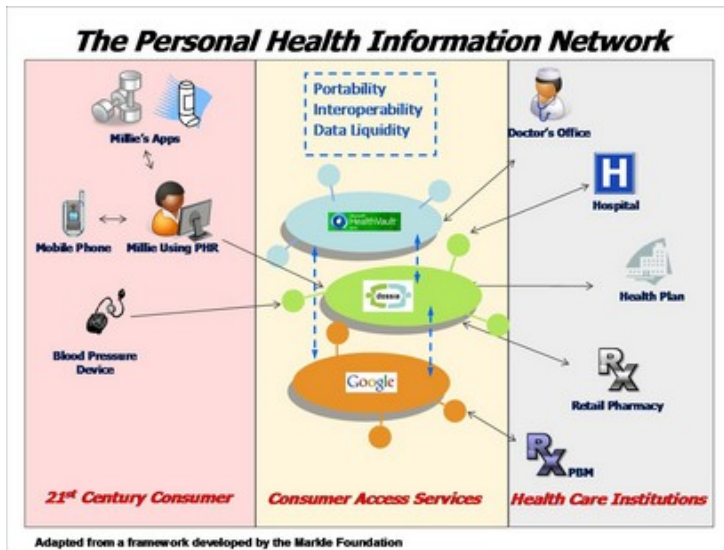
Inherent in this role of patients as healthcare data stewards is a move to have patient-controlled health information supplement and work in tandem with information in provider EHR system(s) to:

- Facilitate information sharing between patients and multiple providers
- Avoid unnecessary expenditures (i.e., duplicative lab test costs)
- Prevent adverse drug events (i.e., drug conflicts)
- Maintain a comprehensive longitudinal record of health and medical events

eHealth Technologies

While the transition to Consumer Driven Healthcare is still in early stages, it has already driven innovation into the healthcare technology market. Provider organizations are leveraging

existing technology infrastructure and systems and the Internet to provide more information to consumers, ranging from comparative cost and quality information, to allowing patients to directly access their EHR data and exchange e-mails with providers, to the provision of on-line consumer-owned medical “diaries.” Industry experts now talk of Personal Health Information Networks as depicted below as the integrated collective of IT systems, devices, and data which help providers, patients, and payers manage individuals’ healthcare.



Key consumer eHealth technologies include:

- Consumer and Patient Portals – a portal is the point of entry to relevant provider organizational and basic health information. Consumer and patient portals are similar in general structure and content (i.e., information about the facilities, services, health information, physicians, and automated bill-pay, etc.). Patient portals provide an additional level of personalization by allowing individuals secure access to their visit, billing, and select medical information. These features can be very useful to patients in helping them manage their care, improving patient loyalty and “stickiness” and in driving operational efficiencies (i.e., decreased calls to patients regarding lab results, less printed materials, etc.) In some cases, patient portals also provide interactive features, including secure messaging, prescription refill requests, and e-visit functionality. Today, almost all hospitals have consumer portals (which may simply be their internet site), but only about 37% of all hospitals have true patient portals.¹
- Personal Health Records (PHRs) – simply put, a PHR is an online repository of health and medical information for an individual that is populated through manual data entry by the patient or the patient’s caretakers, and potentially data downloads from third-party systems. A May 2007 report on PHRs entitled [A New Vision for Personal Health](#)

¹ Solvey, A., Hoppszallern, S., Brown, S. “2008 Most Wired Study Wiring for Consumers, So Far So Slow.” [Hospital and Health Networks](#) 07/2008.

Records² funded by the RWJ Foundation described two categories of first generation PHRs:

- 1) Stand-alone PHRs, which most often require patients to gather and input their own data. Challenges with this type of PHR include lack of patient interest and motivation in manual data entry, and difficulties in collecting and compiling scattered personal health information into standardized formats.
- 2) Tethered PHRs, which are typically sponsored by a health plan, employer, or healthcare delivery system. While some manual data entry may be replaced by auto-population of EHR or claims, the biggest challenge with these PHRs is the data will not transfer across multiple providers, and the patient typically cannot take the PHR with them when they leave the sponsoring organization.

Today, PHRs are on the cusp of moving from first generation “applications” to second generation “application-platforms.” As a platform, the PHR is not just a place to store and access data, but it also becomes a means to support a wide range of new applications and increased portability of data. This evolution is a response to the recognized limitations of first generation PHRs and the growing fervor around PHRs as valuable tools in the new healthcare eco-system. The entry of Microsoft and Google into the PHR arena and the growing prominence established eHealth sources such as WebMD, Revolution Health and others, as discussed later in this paper, are also helping bring innovation and heightened competition to the market.

Interestingly, there is mixed data on the prevalence and popularity of PHRs. The 2008 “Most Wired” study reported that 34% of all responding hospitals provide web-based PHRs³. However, surveys of consumers typically show PHR usage rates of 6⁴ - 30%.⁵

- Social Health Networking - with roots in social networking sites like FaceBook and Wikipedia, social health networking is a very different model of eHealth where on-line communities of patients and caregivers converge, typically over a medical condition (i.e., Diabetes, Multiple Sclerosis, etc.), and share medical experiences and information. As “PatientsLikeMe,” a well known social health network states “...our communities bring caregivers, doctors, researchers, and patients like you together to share real-world treatment and symptom experiences.” According to a recent study⁶, the top three reasons people use social health networking are to:
 1. See what others say about a treatment or a medication (36%)
 2. Research other’s knowledge and/or experience (31%)
 3. Learn skills for managing a condition (27%)

Social health networking works due largely to the user group’s collective knowledge – a.k.a “the wisdom of the crowds”, and its self-monitoring nature wherein the networking group polices

² Brennan, Patricia “A New Vision for Personal Health Records” University of Wisconsin, 05/2007.

³ Solvey, A., Hoppszallern, S., Brown, S. “2008 Most Wired Study Wiring for Consumers, So Far So Slow.” Hospital and Health Networks 07/2008.

⁴ “Online Behavior of Consumers Varies Widely with Regards to Health.” National Research Corporation 2007/2008

⁵ “Personal Health Records.” HIMSS Vantage Point. Volume 5; Issue 14, 05/2008

⁶ iHealthbeat, 4/23/2008

for, challenges, and removes inaccurate information on the site. Studies have shown the peer-trust factor in this networking model is immensely powerful and the sharing of information within the network offers great opportunity for research, rapid sharing of best practices, and may radically change the nature of healthcare delivery. As John Glaser, CIO of Partner's Healthcare says "something's different here." Dr. Glaser, like others in the industry, questions if the significant attention and energy on PHRs today may be somewhat misdirected, and if social health networking may be the true agent of change.⁷

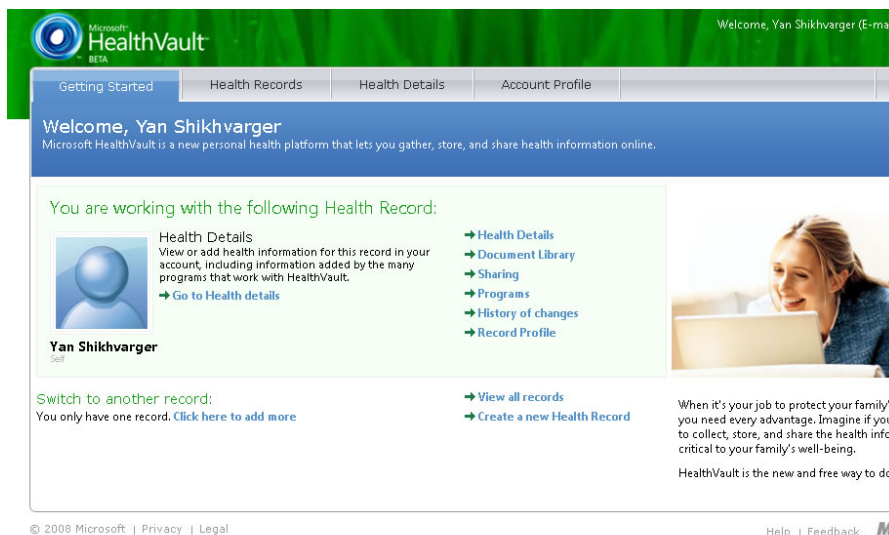
Note the Personal Health Information Network model shown earlier does not specifically reference social health networking. While the model developers may have deliberately left it out, its omission could speak to the industries collective inability to see "the forest through the trees."

III. Vendor Approaches to eHealth and PHRs

Microsoft HealthVault

Microsoft entered the PHR market in 2007 with HealthVault, which Microsoft says is not a PHR, but rather a platform on which independent PHRs and other health technologies can be built by third party complementors. To help spur complementary innovation, Microsoft has funded a \$4.5M HealthVault development grant program. Microsoft's largess is not completely altruistic – the success of HealthVault will be based on having many useful and innovation applications built on top of it. As of February 2008, Microsoft had over 100 partners, including the Mayo Clinic, Kaiser Permanente, AT&T, Covisint, the AHA and more.⁸

The HealthVault user launch page is shown below:



⁷ Glaser, John, MD PhD. Digital Healthcare Conference, Madison Wisconsin 05/08/2008

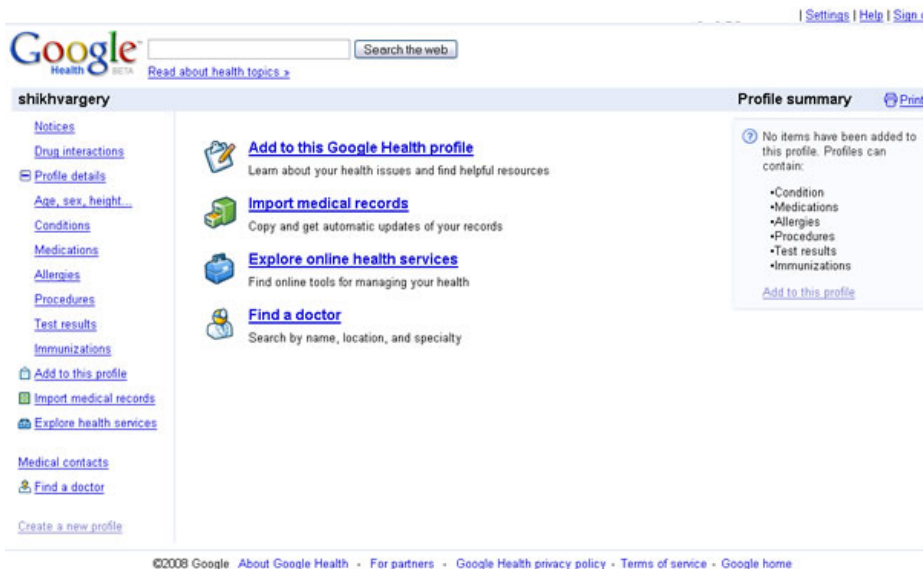
⁸ Holahan, Catherine. "Google's Rx for Health Data" *BusinessWeek* 02/29/2008

Google Health

While entering the PHR market later than Microsoft (February 2008), there has been no lack of fanfare about Google's foray into eHealth. Unlike HealthVault's platform approach, Google Health is a platform and a PHR for consumers. Industry experts often describe Microsoft's strategy as providing a toolbox for software developers to apply to a wide range of opportunities, while Google approach is to provide a complete product.

Like Microsoft, Google Health has established partnerships with healthcare providers, insurance companies, and pharmacies, including the Cleveland Clinic, Beth Israel Deaconess Medical Center, CVS, Walgreens, BCBS of Massachusetts, Quest Diagnostics, and over 30 other health companies. Each of these partnerships is unique and requires the partner to develop the integration code using the Google Health-supplied API documentation.

The Google Health user launch page is shown below:



The screenshot shows the Google Health interface for a user named 'shikhvargery'. At the top, there is a Google search bar and a 'Search the web' button. Below the search bar, there are links for 'Settings', 'Help', and 'Sign out'. The main content area is divided into several sections:

- Profile summary:** A box on the right side of the page indicating that no items have been added to the profile. It lists categories that can be added: Condition, Medications, Allergies, Procedures, Test results, and Immunizations. There is an 'Add to this profile' link below the list.
- Navigation menu (left):** A vertical list of links including 'Notices', 'Drug interactions', 'Profile details', 'Age, sex, height...', 'Conditions', 'Medications', 'Allergies', 'Procedures', 'Test results', 'Immunizations', 'Add to this profile', 'Import medical records', 'Explore health services', 'Medical contacts', 'Find a doctor', and 'Create a new profile'.
- Main content area (center):** A series of cards with icons and text:
 - Add to this Google Health profile:** Learn about your health issues and find helpful resources.
 - Import medical records:** Copy and get automatic updates of your records.
 - Explore online health services:** Find online tools for managing your health.
 - Find a doctor:** Search by name, location, and specialty.

At the bottom of the page, there is a footer with copyright information and links to 'About Google Health', 'For partners', 'Google Health privacy policy', 'Terms of service', and 'Google home'.

Competitors or Collaborators?

Much has been written about if and how Microsoft HealthVault and Google Health are competitive and/or collaborative products. One perspective is the companies are competing for PHR market share. The other end of the spectrum is that, given their approaches differ so greatly, they might serve as complementary products – i.e., Microsoft being a platform and a toolbox, and Google Health as an application.

In actuality, there is significant commonality between the products, as the table below⁹ shows.

⁹ Kuraitis, Vince. "A First Comparison of Google Health and MS HealthVault" e-caremanagement.com.

	<u>Google Health</u>	<u>MS HealthVault</u>
Patient controlled	Yes	Yes
Online repository to store PHI	Yes	Yes
Adoption of broad technical standards facilitating portability and interoperability of PHI	Yes	Yes
Platform model	Yes	Yes
Security and confidentiality policies	Yes, specifics to be detailed	Yes
Value added capabilities and functionality added over time?	Yes -- GH and complementors will add capabilities	Yes -- primarily by complementors, but could change
Automated data mechanisms to gather and store health records from hospitals, health plans, etc.	In the works	Little discussion of this -- apparently left to complementors
Long-term revenue model	Unclear, many options	Unclear, many options
Short-term revenue model	Ads, but not targeted based on PHI	Ads, but not targeted based on PHI
B2B or B2C emphasis?	Both, with apparent focus on direct acquisition of users	B2B -- onus is on complementors to develop apps and sign up users
User Interface	Yes -- it's a PHR; complementors are not precluded from developing unique interfaces	Yes, but VERY thin; designed so that complementors will provide primary interfaces

One key difference between the products is their perspective and approach to aggregating PHI from other entities. Microsoft's platform has no inherent capabilities to do so, and it relies on third party complementary products to provide "pull" mechanisms. In contrast, Google Health is intent on automating the gathering and updating of PHI from other parties internally. In addition, Google Health seems much more consumer-focused, while HealthVault is more focused on developing partnerships with third-parties who are then responsible for developing applications and growing a user base.

There is some industry chatter about the standards being used by Microsoft and Google Health – both currently and in the future – and which, if either is superior. The Continuity of Care Document (CCD) is the recognized federal standard for interoperability of medical summaries and it is currently being used by Microsoft. The Continuity of Care Record (CCR) is a competing standard being used by Google. Some analysts say CCD has more specific requirements for each data segment template and is therefore a more robust standard. Regardless, both vendors purport to have plans to embrace both set of standards.

HealthVault and Google Health face common challenges, which include:



- Gaining and maintaining consumer trust - a security breach or violation of confidentiality of PHI could be fatal to the breacher - and to the larger PHR market
- Using the right blend of “sticks and carrots” in working with third party developers on complementary products - this may be a greater challenge for Microsoft than Google
- Using the right blend of incentives to extract data from health care incumbents
- Growing the overall size of the user network - somewhat of a chicken and egg dilemma
- Adding useful applications, whether themselves, or through complementors

With both products, and the PHR industry as a whole being in embryonic stages, there are additional “known unknown” challenges which are discussed later in this paper.

HealthCare IT Vendors PHRs

Healthcare IT Vendors including Eclipsys, Cerner, Epic and others have taken different positions on PHRs. Most have sought to create (or integrate into their core systems) PHR functionality. Success has not been overnight, nor has it been universal. Eclipsys and Cerner worked on their own PHR products for several years without success. Cerner’s present position is to downplay the role of PHRs and the potential for partnership with PHR vendors. According to the Kansas City Business Journal, there have been preliminary talks between Cerner and Google, but the apparent Google “overture hasn’t led to substantive talks, Cerner President Trace Devanny said, because “Cerner doesn’t see much value in Google Health or HealthVault.”¹⁰

Eclipsys, in fall 2007, became one of the first major EHR vendors to partner with Microsoft when it released its Sunrise Patient Portal on the HealthVault platform. Sunrise Patient Portal lets patients access their information stored within Eclipsys EHRs via their HealthVault PHR and also for healthcare organizations using Sunrise Patient Portal to securely pull information from HealthVault PHRs into the healthcare organization’s EHR, if authorized by the patient.

Epic’s MyChart is perhaps the best-known vendor-based patient portal, but it does not have the PHR functionality of patients being able to enter information into their record, nor does MyChart accept 3rd party data feeds. Epic is currently working on their PHR, “Lucy” which, like Microsoft HealthVault, is built according to CCD standards. For patients with multiple health care providers using EpicCare, Lucy can pull information from multiple Epic sites into one PHR. In addition, Lucy will include a “health diary” for users to enter health and medical information. Patients can then send updated medical / health information to their providers’ Epic EHRs.¹¹ Lucy’s portability, however, is limited. For patients who change doctors and move to a non-Epic system, PHR data can be only migrated in XML format on a thumb drive and potentially be uploaded into a new PHR. Lucy also, at present, lacks the ability to accept data downloads from / connections with third parties, such as CVS, Walgreens, independent labs, etc.

Epic uses another new product, MyChartCentral, as a portal for patients to connect Lucy with one or more MyChart accounts. MyChartCentral presents icons for each MyChart account and for Lucy on a single web page. The patient can then navigate among separate MyChart accounts and select which information to download to Lucy. Conversely, the patient can selectively choose to upload information to one or more MyChart accounts.

¹⁰ Rob Roberts “Cerner isn’t agog about Google talks” Kansas City Business Journal, 5/08/2008

¹¹ “Microsoft’s HealthVault Not a Threat to Epic, UW-Madison Professor Says”, Wisconsin State Journal, 10/09/2008



For patients who receive the majority of their care at Epic-using providers, especially patients with multiple MyChart accounts, Lucy may fit their PHR needs. However, given it is relatively “tethered” in the Epic environment and it does not allow for data uploads from third party sites, it may not be a robust enough PHR for some consumers, even if the majority of their care record is stored in Epic. In addition, the navigation among multiple MyChart environments and Lucy and the selective data uploading/downloading of data between MyCharts and Lucy may be challenging for where ease of use is a key priority.

Other PHR Options

The other leading PHR initiative is supported and funded by the Dossia Employer Consortium, which includes, BP America, Intel Corp., Cardinal Health, Wal-Mart and several others. This open-source PHR has been slower than expected to market as midway through development, Dossia dropped its original vendor partner, Omnimedix, and moved to Indivo technology, which was developed at Children’s Hospital of Boston¹². A pilot project is currently underway. If the pilot is successful, the Dossia product will be available to roughly five million employees and retirees of consortium members, and may be made available commercially. The initiative has received broad support from the American College of Physicians, American Academy of Family Physicians, National Association of Manufacturers and the National Consumers League¹³. What isn’t yet clear is how this PHR approach is going to be embraced in the provider community, so many organizations are waiting and watching.

In addition, many health information purveyors such as WebMD, Revolution Health, and others offer PHRs. WebMD scored an early win in the PHR market in 2006 when the insurance giant WellPoint began offering the WebMD PHR to its 34 million subscribers. While many other insurance companies offer PHRs, they are typically first generation “tethered” PHRs, The WebMD PHR provides greater portability to its users. Revolution Health, often a darling of the media, offers a PHR which has not yet been widely embraced in the consumer market. Also, recent rumors of Revolution Health exploring sales or merger opportunities calls the question of their long-term viability.

IV. Industry Leading eHealth Strategists

Across the industry, providers are developing strategies and deploying PHRs. Not surprisingly, technology savvy organizations are leading the charge. According to the 2008 Most Wired survey, 79% of the most wired hospitals had PHRs live or in pilot stage, as opposed to an industry average of 34%.¹⁴ A few of the PHR-friendly provider organizations with partnerships with HealthVault and/or Google Health are profiled below:

¹² Employer Consortium Pushes PHRs” [Health Data Management](#) 03/202008

¹³ Ibid

¹⁴ Solvey, A., Hoppszallern, S., Brown, S. “2008 Most Wired Study Wiring for Consumers, So Far So Slow.” [Hospital and Health Networks](#) 07/2008.



Cleveland Clinic Foundation (CCF)

The Cleveland Clinic rolled out Epic's MyChart in 2004. In spring 2008, it piloted bidirectional exchange of information between 1,600 patients' MyChart information and their Google Health PHR. After the successful pilot, CCF opened up the link to all 135,000 of its MyChart enrollees. C. Martin Harris, MD, Cleveland Clinic's CIO, has been at the forefront promoting the partnership with Google. He views it as a major component of their eClinic strategy and a venue for tightening the relationship with existing patients and attracting new ones. According to Dr. Harris, when patients' MyChart records were linked to a Google PHR, they used their MyChart records more frequently.¹⁵

Despite the success of the Cleveland Clinic's MyChart/Google relationship, the Clinic is exploring opportunities to partner with Microsoft. The Clinic says it anticipates relationships with multiple online services as part of its overall eHealth strategy. In a May 2008 presentation, Harris described an "e-enabled consumer centric healthcare delivery model" where on-line services could help more tightly connect patients – and physician offices - to the Clinic regardless of geography.¹⁶

Beth Israel Deaconess Medical Center

In May of 2008, Beth Israel Deaconess Medical Center (BIDMC) announced it would give its patients the option to export select medical information from the BIDMC EHR to Google Health. This is in addition to BIDMC's existing relationships with Microsoft HealthVault and the Dossia PHR programs. John Halamka, MD, Beth Israel's CIO, is a strong supporter of PHRs and believes in patients as the stewards of their own secure, portable medical data.¹⁷

Kaiser Permanente

In June 2008, Kaiser initiated a pilot program allowing its nearly 160,000 employees to copy their online health records into HealthVault, which is a clear signal of its stance on data portability. Should the pilot prove successful, Kaiser will likely open the link up for all of the nearly 3 million users of its version of Epic's MyChart. Despite strong ties with the Google Health (Anna-Lisa Silvestre, KP VP of Online Services is on the Google Health Advisory Board), Kaiser went with Microsoft in part because both Microsoft and Kaiser Permanente use the CCD standard. However, like other large organizations, KP is not shutting the door on Google. Silvestre was quoted in the NY Times as saying "Google will certainly be a player in this, and we look forward to working with them...We're all for consumer choice."¹⁸

V. Strategies for Microsoft and/or Google Health Partnerships

Key Strategic Questions

With the immense industry buzz about - and potential for - PHRs, hospitals must develop a strategic approach to folding them in their eHealth portfolios in a manner which both capitalizes on the current interest and provides a flexibility to adapt as PHRs evolve. In developing this strategy, the following questions must be considered:

¹⁵ Lohr, Steve. "Google Offers Personal Health Records on the Web" New York Times, 5/20/2008

¹⁶ Harris, C. Martin, MD, Digital Healthcare Conference, Madison Wisconsin, 05/08/2008

¹⁷ "Beth Israel Deaconess Medical Center Joins Forces with Google Health" Medical News Today, 05/20/2008.

¹⁸ Lohr, Steven "Kaiser Backs Microsoft Patient-Data Plan" New York Times 06/10/2008.

- Do we/when do we entertain partnerships with online PHR vendors?
- Which PHR vendor(s) are viable partners?
- What are the anticipated benefits from an online PHR partnership?
- What are the investment requirements?
- What are the long-term implications of this approach?

Do we/when do we entertain partnerships with online PHR vendors?

The opportunity for provider organizations to collaborate with online PHR vendor(s) is symbiotic. For hospitals, it offers the potential for greater market presence and patient “stickiness,” as evidenced by front runners like the Cleveland Clinic. PHR vendors need to establish connections with large provider systems that have much of the data desired for PHRs, in order to grow their market footprint.

PHR products and technology platforms are new and their staying power is untested. Some seasoned industry leaders remain skeptical of the longevity and value of PHRs (and of the vendors which provide them). There are analysts who say the PHR hype is premature, given the lack of penetration core eHealth technology such as EHRs, particularly in the ambulatory environment. Others, like Dr. Glaser, question if the focus on PHRs isn’t misdirected.

Regardless of skepticism, hospitals and provider organizations should further explore opportunities with on-line PHR vendor(s) as part of their overall eHealth strategy. Failing to move quickly may result in losing out to competitors in terms of positive innovation press and public relations and perhaps in terms of patient base. Relatively early entry may allow organizations to develop more favorable partnership relationships with vendor(s) eager to gain access to the hospital’s potential user base.

Which PHR vendor(s) are viable partners?

Assuming PHRs stay intact as an eHealth medium, there is remaining uncertainty about vendors’ staying power and who will win in the race to establish market dominance. Kaiser Permanente’s Executive Director of Enterprise Architecture, Jukka Valkonen, summed up the nay-sayers’ perspective in stating:

“Google’s presence in healthcare is nascent. The HealthVault idea is not novel. When it was discussed after [Hurricane] Katrina...the concept was not limited to Google and Microsoft. There was a more profound model discussed...The Google/MS service offering is incomplete and thus should it fail, could taint other initiatives that have been well thought out and in motion for some time.”¹⁹

Some question Microsoft’s commitment to healthcare, given it has entered and left the market numerous times with various products. Likewise, Google Health may face unforeseen challenges as it enters the relatively schizophrenic healthcare technology market. All vendors face the risk of a data security and/or privacy breach, which could be catastrophic to them and potentially the industry.

¹⁹ “Would you post your records on Google Health?” [Healthcare IT News](#), 07/18/2008.



In addition, PHRs themselves are undergoing rapid evolution in terms of design, functionality and usage. During 2007-2008, a Robert Wood Johnson-funded program, Project Health Design, sponsored the work of nine research teams from prestigious universities across the US in their efforts to design the Next Generation PHRs. These teams focused on making the design and functionality of PHRs user friendly (not oriented to the providers or the systems), making them “smarter” and more dynamic in terms of monitoring key indicators and promoting patient behavioral change. As these research results are published, design and functionality changes will be made in leading PHRs. These adoption of these enhancements will help drive market advantages for Microsoft, Google, or other PHRs.

Regardless of these unknowns, today’s leading provider organizations are not in wait and see mode. Both Microsoft and Google are both announcing new partnerships on a near-weekly basis. The Dossia consortium’s approach also continues to gain fans. In many cases, rather than putting all of their eggs in one basket provider organizations are linking – or exploring linkages - with multiple PHR environments.

At present, there is no perfect online PHR vendor or partnership. Considerations such as standards, security, platform and resources to build and maintain the links must factor into the decision. Providers may be able to leverage their size and market presence in exploring possible relationships with Microsoft and Google Health, much like the Cleveland Clinic and Kaiser Permanent are doing. Providers should also investigate opportunities with Dossia, and perhaps with established first generation PHR products. They should also closely track the emergence of second generation PHRs and be willing and agile to change course.

What are the anticipated benefits from an online PHR Partnership?

Today’s PHR advocates tout the potential of online PHRs as mechanisms to:

- Help patients more fully engage in their medical care
- Reduce patient care redundancy and risks and improve outcomes
- Improve data sharing, communications, and longitudinal record keeping
- Build consumer satisfaction and stickiness
- Help providers gain and leverage “innovation PR”

With a properly built and marketed PHR/PHR linkage, these benefits can accrue to organizations. In addition, given many other organizations are currently piloting these partnerships, offering a PHR link to its systems will help organizations maintain or gain in their competitive position.

What are the investment requirements?

It is widely known Google, Microsoft and many other vendors of on-line PHRs offer their products to consumers for free and some vendors charge a minimal monthly fee. However, there is little information available on provider costs in building and maintaining the links. In addition to the technical resources required to build the linkages, those considering partnerships must also factor in significant marketing and communications costs, as well as ongoing maintenance and enhancements. To understand the financial investment and help in developing their entry strategies, organizations should develop total cost of ownership models as part of the due diligence.



What are the long-term implications of this approach?

As with any new venture, there are always benefits (some of which are discussed above) and risks. Additional long-term benefits of being a front-runner in the PHR movement include, but are not limited to:

- A larger, more experienced PHR user network for future contract (re)negotiations with PHR vendors
- A deep and broad set of patient and provider populated data for research

Conversely, while many hopes are pegged on PHRs, there is the risk that PHRs or certain vendors of them may never deliver on the promise and that investments will not provide the envisioned return. Organizations may also find the strategy of seeking multiple PHR linkages in the early days of the market results in a dilution of focus and/or missed opportunities. For example, having many large-scale strategic initiatives underway at once may lessen the transformative effectiveness of an EHR implementation. Or the organization may lack the capacity to capitalize on the potential on social health networking or other nascent eHealth trends. Regardless, in order to maintain the leading edge position, organizations must continue to explore PHR partnership options, and then move forward with those opportunities which provide organizational and patient value.