

# Great PHRontier: Private Business Stakes a Claim in Personal Health Records

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*by Chris Dimick*

There is a gold rush in personal health records. Or at least on paper.

Over the last two years, a wave of companies not typically associated with health information exchange have rounded up their technological wagons and headed out into the PHR frontier looking for profit and a chance to change the healthcare landscape.

The gold rush has drawn companies like Microsoft (Health Vault) and Google (Google Health). It is the next venture for Steve Case, cofounder of AOL (Revolution Health). Fortune 500 companies including AT&T and BP have joined to create a PHR service called Dossia.

By some estimates there are 200 PHR products on the market. But the deep pockets, technological prowess, and wide reach of these four ventures make them major contenders in the PHR market. Private businesses are stepping in to fill a need in healthcare, putting their money and reputations on the line. Are they trailblazers? Or will they get lost in the wilds of healthcare?

## Microsoft Health Vault

Health IT has exploded in the last few years, but a healthcare consumer wouldn't know it, according to Sean Nolan, chief architect and general manager for Microsoft's PHR product, Health Vault. Since health information systems are so fragmented and isolated, the general patient doesn't usually benefit from technological improvements, Nolan says. Microsoft felt it could help patients become empowered by these advances in healthcare technology by offering them a free connection to electronic data via a PHR product.

"We think we have taken an approach that really resonates, being on the side of the patients and not trying to move the data behind the patient's back," he says.

HealthVault.com, launched in October 2007, consists of two pieces. The first is "Health Vault Search," where users can type in ailments and get medical information. The search option is unique in that it marries the specificity of a WebMD-like search with the broad openness of a Google-like Internet search, Nolan says.

The second piece is the Health Vault PHR and application platform, where the actual health information records are stored. The PHR gives patients control over who has access to their records, which could include providers, spouses, even personal trainers. Health Vault contains a set of interfaces on which third-party companies can build healthcare applications. Users can opt-in to the applications, some of which use their health data to provide healthcare services, such as managing diet or fitness.

The record and the search functions are separate to ensure that the privacy of the information remains intact. Privacy and security of information was a main concern in the design of Health Vault, Nolan says. The patient decides what goes in, what comes out. Health Vault makes its money solely through advertising in the search function, based on each specific query.

Provider information may be submitted to the record in two ways. Each account can have a personal fax number associated with it, where paper-based providers can fax records into the patient's PHR. Though that information is not entered in a structured way, which would increase its accessibility and subsequent usefulness, at least the document is in the record, Nolan says.

Facilities that follow the Continuity of Care Document standard can electronically upload structured information into the record. That ability to electronically exchange information with Health Vault will grow as more facilities use the CCD standard.

Microsoft is best suited to handle all the issues that come with connecting electronically to different healthcare providers and systems, Nolan says. As a technology company, it knows how to find compatibility. This makes Health Vault's PHR better than its competitors, he says.

## **Revolution Health**

Launched in April 2007, Revolution Health's basic services are similar to those of Health Vault's. Users can store their medical records on the site, including images like EKGs. And those with paper records can download a bar-coded cover letter that physicians can use to fax medical records into their PHRs.

However, the service reaches beyond basic PHR functions to offer other health services. Revolution Health is an all-inclusive health stop for consumers, allowing people to partner their health data with a vast database of health information and products, says Brad Jacobs, MD, senior medical director at Revolution Health.

"We are not only a site to go to when you are ill and you are trying to seek advice or find out answers," Jacobs says. "We are also a place you can go to manage and improve your health proactively." The site offers health community discussion groups, sells health and beauty products and over-the-counter drugs, and even allows users to buy health insurance.

Everything is centered around the search function, which provides links to 30,000 professional medical articles and information generated by sources including Harvard and the Mayo Clinic. Revolution offers two options, one for general consumers and one for businesses. The free consumer site is supported by advertisements, though no ads appear in the actual PHR section of the site. Each business site is personalized for the employer and is ad-free, therefore requiring a per-employee charge.

The site offers health calculators and assessments that enable users to input personal information and track their health. In the future, Revolution hopes to build a direct link between a person's PHR and the other site features, like tool assessments, making it easier for consumers to monitor their health, according to Peter Jacobs, director of new product development for Revolution Health. The site is working toward providing physicians with access to their patients' PHRs. That is being tested on the business site; for now consumers must print out the PHR to give to their physicians.

The community aspect of Revolution is a highlight. Groups form on different topics, such as weight loss, with some groups led by Revolution staff physicians. "I think it has always been a part of health and coping with disease to reach out to others, share your story," Peter Jacobs says. The "Groups and Goals" section allows people to work with others on achieving a shared health goal.

Revolution hopes to make people smarter about their health by personalizing health information and healthcare, Brad Jacobs says. Since Revolution is solely a consumer-oriented health advocate company, it has an edge over Microsoft and Google, who are not solely focused on healthcare, according to Peter Jacobs. "Some people might think it is a little bit scary giving Microsoft or Google their personal health information," he says. "We hope that the individual will look at us and look at our focus on healthcare and attach to us."

## **Google Health**

Google Health is the newest of the four products. Google CEO Eric Schmidt demonstrated it for the first time in February 2008 at the HIMSS Annual Conference. A pilot test of the product was conducted in early 2008 through a collaboration with the Cleveland Clinic. This was all in preparation for a national rollout of Google Health, though a timeframe for when the product will be publically available online was not announced by press time.

Launching Google Health was a natural progression for the company, since so many people research health-related issues on its search engine, according to Missy Krasner, product marketing manager for Google Health. "We think that if users have more access to and control over their medical records and health information, they can make more empowered and informed

health decisions,” she says. “As a technology company, we’re interested in finding ways to leverage the Internet and cloud computing to help solve this problem.”

Users can enter their own information into the record, and providers can both contribute and access information, but only with the patient’s explicit permission. In addition to the PHR record storage area, Google Health offers a “reference pages” section where search queries lead patients to information about diseases and treatments. Users can search for a doctor on the site or use any of the third-party applications that have integrated with Google Health’s platform.

Like Health Vault and Revolution Health, Google is encouraging third-party software developers to create products off the platform. Google has made the site’s code available for free to these companies with hopes their applications will draw more users. One of these companies is expected to offer a service allowing patients to have their paper records scanned or faxed into the PHR, Krasner says. Those providers with EHRs can partner with Google Health to electronically upload patient records to the site.

Google says the site will be free to providers and users and will not be supported by advertisements. The company expects that PHR users logging on to the site to access their records will use the traditional Google.com services in the process, clicking on those ads and generating revenue for the service, Krasner says.

## Google: Better Than a RHIO?

Exchanging health information between nonaffiliated organizations is hard. That’s been amply shown by hard work, slow progress, and some failed attempts of regional health information organizations (RHIOs). However, it has not discouraged private business, which now seems to be taking on the challenge.

To some industry observers, a large mainstream company such as Google has the reach, infrastructure, patience, and—perhaps most importantly—the business model to overcome the problems most HIE upstarts face. At this early stage, it’s possible to speculate that such companies could offer an eventual infrastructure for nationwide data exchange that would supplant the need for RHIOs.

Companies like Google, Microsoft, and Revolution Health are in a better position to create basic health record exchange because they already have the infrastructure to deal with large numbers of consumers and connections, says C. Martin Harris, MD, chief information officer at the Cleveland Clinic, which pilot-tested Google Health earlier this winter. They are not required to spend much time creating the “plumbing” of exchange, so they can spend more time connecting to providers and “making the exchange work.”

“To the extent that they focus on the simple level, I think that they could have a dramatic impact on the exchange practice, across our healthcare industry, in a short period of time,” Harris says.

But a PHR is not a substitute for a RHIO, he continues. While PHRs can exchange important patient information, a RHIO typically attempts to exchange more sophisticated levels of information.

“So now you are down into the really sensitive information of the doctor’s note and documentation, which requires a much more sophisticated level of mapping before you would be able to affect that kind of exchange,” Harris says. “So in my mind, the ultimate solution could be that the RHIOs’ and Google’s infrastructures would be interoperable.”

Dossia, for one, is not trying to solve the same HIE issues as a RHIO, nor does it want to, according to Evans. “I am not trying to build an interoperable system, and I am not trying to solve the many-to-many interoperable health record system in a way that is acceptable to doctors,” he says. “What we are trying to do is solve 20 percent of the technical problem, which is merely getting the data from lots of places to one place.”

Even accomplishing this, Evans says, will vastly improve the healthcare system by just putting health information into the hands of patients. Dossia is “not trying to solve the doctor’s problem, we are trying to solve the consumer’s problem,” Evans says.

## Dossia

Dossia is different from Google, Microsoft, and Revolution Health because its PHR is currently closed to general public use. Dossia is a nonprofit organization set up by a consortium of eight large employers for the purpose of creating a national PHR system for their employees, families, and retirees. Dossia founders include AT&T, Intel, BP, and Wal-Mart.

Hoping to lower “out of control” healthcare costs to their businesses, the founding companies created Dossia to establish a lifelong, portable PHR that employees could use to improve their healthcare, according to Colin Evans, president and CEO of Dossia Consortium. Transforming healthcare requires empowering patients, and Evans says the fastest way to do that is by providing patients with health information through a lifelong PHR they own and control.

The Dossia framework is different from many PHRs because it does not rely on users to assemble information. Instead, Dossia gathers electronic health information on behalf of the individual from various sources and stores it within secured databases. The employee has complete control over what is included in the record and who sees it.

The nonprofit began its early adopter phase in December 2007, working with a small pilot group of employees by gathering their health information from places like health plans, physician offices, and pharmacies. Once fully implemented, up to seven million people are eligible to use Dossia as employees, retirees, and employee dependents of founding and partner companies. Assembling those records is a huge task, Evans says, and Dossia is going slow to ensure the work is done accurately, confidentially, and securely.

Like the others, Dossia’s open architecture will support third-party applications, allowing users to organize and summarize their information in the ways that are most useful to them. Even “household name” PHR systems could connect with Dossia, Evans says.

The business model for Dossia is unlike nearly all of its PHR counterparts. It is not funded by advertisements or search functions. Employers who partner with Dossia are charged a per-user fee, which Dossia feels will create a sustainable business model that will ensure users have access to their records for life. Once the site is fully operational, Evans expects new businesses to join Dossia as well. Talks have also occurred with state and federal organizations interested in using Dossia for the general public, he says.

## Privacy Concerns

Each of the four ventures has been greeted with public reservations over trusting personal health information to an Internet-accessible database run by a private company. Though there are recommendations to expand HIPAA beyond its current reach, companies like Google and Microsoft currently are not covered by HIPAA privacy rules.

The four companies are fully aware of the reservations, and each offers a motto of strict user control over the data. “The first thing we established is, it is the consumers’ data, it is not anybody else’s data,” Schmidt, of Google, said during a presentation at the February HIMSS conference.

The actual privacy policies differ between the four companies, but all highlight the goal of protecting unauthorized access to sensitive information. Revolution Health, for example, is HIPAA-compliant and gives users several levels of privacy to choose from, Peter Jacobs says. Privacy is one of the highest priorities at Revolution Health, he says, and with good reason. Any breach of privacy would spell the end of consumer confidence in the company’s PHR.

With Dossia, which is paid for by employers, some employees may worry that their employer might access their health information and use it against them. But that fear is unfounded, Evans says, for several reasons.

First, he says, Dossia is a separate, nonprofit that partners with businesses, and it vows to never make information available to employers. Second, its success depends on employees trusting that they have control over who views their information. “If for any reason or under any circumstances an employer did something that broke that trust, [Dossia] would be finished—people wouldn’t use it,” Evans says.

Third, firing the 10 most expensive employees in an employer’s health network wouldn’t begin to compare to the costs saved if 50,000 employees used Dossia to make incrementally smarter decisions about their health, Evans says.

But people have reason to be cautious. “We understand this is a big choice for people,” Nolan, of Microsoft, says. “This is some of the most sensitive data they have.”

Interoperability, privacy, security, consumer adoption, and provider acceptance are the rivers, mountains, and bears of the PHRontier. Success for Google, Microsoft, Revolution Health, and Dossia lies far down the trail. Only time will tell how far they travel and who survives.

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