

# HealthVault: PHRs Still Growing, But is the Industry Even Ready?

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HealthVault's timing seemed perfect. In 2007 personal health records were a buzzy technology and payers, hospitals and other health care players launched PHRs they hoped would usher in a new era of consumer-facing, consumer controlled health records.

Redwood, Wash.-based Microsoft Corp. got into the game in a big way by unveiling HealthVault, a medical records manager/repository designed to collect and store data from multiple caregivers and let patients control access to their health information.

Fast forward to today. PHRs are definitely making inroads, but not necessarily in the way Microsoft (or competitor Google Inc., which in 2008 launched its own consumer-oriented PHR service) had hoped. A Forrester Research survey of more than 5,200 consumers conducted in late 2009 found that almost a third of respondents had some form of PHR-but the vast majority are getting them from their health insurer.

That's a bit of a strange market twist. The lack of trust in insurers, one may recall, was a primary reason companies like Microsoft and Google saw opportunities in the emerging PHR market, since many industry experts felt that patients would have a hard time accepting the idea that their health insurance companies wouldn't find some nefarious use for their health data.

But payers are holding their own, and HealthVault has shifted gears somewhat. Originally marketed as a direct-to-consumer service, HealthVault is now making inroads into partnerships with hospitals and emerging health information exchanges/health records banks. The company also has aggressively sought partnerships with medical device manufacturers to establish connectivity to a slew of medical devices for home health monitoring, as well as pushing into hospital infrastructures with HealthVault and its Amalga data integration and aggregation software.

David Cerino, general manager for Microsoft's Health Solutions Group, says that there are 135 health care applications written for HealthVault, running the gamut from a consumer app that helps triathletes monitor their training and diet to software for managing chronic diseases. The company also has created interfaces with more than 70 medical devices, he adds. Cerino, citing company policy, declined to provide HealthVault usage numbers, but said the service is growing steadily month over month.

## Testing the Waters

Providers that have been testing the waters with HealthVault say there's a lot to like, but note that a reality check is in order. The concept of linking multiple data streams collectively into one HealthVault record is great in theory, and users say Microsoft has done a lot of the heavy lifting by creating a platform to do so. But the use of industry-standard messaging and data formats is not widespread, so converging disparate data streams from multiple EHRs, monitoring devices and clinical information systems into one personal record is still a ways off in practice.

But that says more about the provider community and the current state of their I.T. capabilities than it does about HealthVault.

Rochester, Minn.-based Mayo Clinic is a case in point. In April 2009 the health system launched the Mayo Clinic Health Manager service. The service uses HealthVault as the storage facility for personal health information, and is designed to run Mayo Clinic's clinical rules engine atop that data to develop health guidelines based on clinical information in the record. For example, a diabetic patient's glucose readings and other information is analyzed by the Mayo Clinic rules, and a customized treatment plan, including alerts and automated outreach to clinicians, is generated based on that data.

But Mayo Clinic has not promoted Health Manager to its patient population, and the online service is still "in the birthing stage," says Sidna Tullledge-Scheitel, M.D., medical director of Mayo Clinic's global products and services group and associate dean of e-health.

"We are waiting until we can get Mayo clinical data flowing directly into HealthVault from our information systems-establishing that connection took to us longer than we anticipated," Tullledge-Scheitel says.

Mayo struggled to come up with a format for data feeds to HealthVault records, and ultimately decided to format the information using the Continuity of Care Record standard developed by ASTM International and its group of partners. Sending CCR data to HealthVault records ensures that the information can be "consumed" by the Mayo Clinic's

clinical algorithms. But the problem is that data from other providers and stakeholders such as e-prescription networks, payers and medical devices is not standardized and may not be readable by the Mayo application.

"HealthVault can accept any type of data, but the industry doesn't use a standard nomenclature, which is a real barrier for us because that's the clinical service we developed Health Manager to provide," Tulledge-Scheitel says. "If we waited for a perfect solution, we would be waiting forever. But we are constantly reaching out to entities that are pouring data into HealthVault patient records to try to come up with strategies to standardize information."

### Seeing Progress

While Mayo's Health Manager initiative is moving slower than anticipated, Tulledge-Scheitel says HealthVault is making the right moves. "Microsoft really is a master at interoperability, and the fact that they have focused on interoperability with medical devices is very smart. We are approached by medical device manufacturers all the time, but we don't have the resources to establish connections one device at a time. It's really powerful that HealthVault is agnostic in terms of devices."

In addition, it's encouraging that Microsoft is focusing HealthVault on the nitty-gritty side of health care-linking with EHRs and other hospital information systems and working with providers to create patient population services.

When HealthVault was launched in 2007, some of the first concerns voiced by industry stakeholders and consumer groups were over data security and privacy. Not everyone was convinced that Microsoft, which frequently has to deal with reports of security flaws in its consumer products, could be trusted to safeguard extremely sensitive health information.

But I.T. leaders who have kicked the tires say that HealthVault provides extremely good security. "We are very discerning with whom we partner with," remarks Tulledge-Scheitel, "and our team didn't unearth any security issues with HealthVault."

Jesus Hernandez does have some security concerns, but there of a different nature than you'd expect. Hernandez is the executive director of the Community Choice Healthcare Network, Cashmere, Wash. The network is one of three pilot health record bank projects funded by \$1.7 million from the Washington State Health Care Authority to test the feasibility of a statewide health record bank network.

Hernandez says HealthVault is extremely secure. In fact, the security hoops the network has set up for patients to jump through are creating roadblocks to expanding the network, which has more than 500 patients enrolled.

"We are trying to streamline the enrollment process because the way we have it set up right now, it's not very user friendly-patients have to be visually identified, sign medical release forms and complete other forms of authorizations. Even a few days delay between enrollment and their account activation decreases their interest," Hernandez says.

In addition, establishing patient data feeds also has required some extra security steps. The Community Choice Healthcare Network connects with three North Central Washington clinics as well as the state immunization registry via links developed by CitiusTech, a Sarasota, Fla.-based provider of health care consulting and technology services.

Many patients in the pilot are treated by two, and sometimes all three, of the participating clinics. So after a patient is enrolled and has set up a HealthVault account, the network has to establish a security code that authorizes data from those different EHRs, as well as immunization information, into that patient account. Ensuring that security codes of the record and those three facilities and the registry match, and provisioning that data into a patient record, can be a headache.

"The provisioning piece is cumbersome, and we keep searching for the balance between user friendliness and the maintaining the chain of trust for data," Hernandez says. "In addition, we've had a lot of resistance from providers over sharing data. But the root cause of all of this is that the federal government is bi-polar on data security. They tell us we have to exchange data and make it accessible to patients, while at the same time they continue to tighten data and privacy regulations and make it harder to do so. We have to constantly try to do accomplish both."

Community Choice Healthcare Network had to create interfaces for three different EHR applications and the immunization registry to provide standardized feeds for medications, allergies, problem lists and immunization records into the HealthVault patient records. It also had to establish a comfort level among providers-and health I.T. vendors-for passing on data to HealthVault and in a sense turning over ownership to patients. "It's hard for providers to change their mind-sets and release that data, and it's also hard to convince EHR vendors to create HealthVault interfaces-they want that data to stay within their records and would rather have it used for a facility-specific patient portal."

The network also is trying to devise a way to aggregate data for disease management services. Nurse managers, for example, might be assigned to track the condition of 20 diabetes patients, but there's no easy way for them to compile aggregate information on that group. For now, they have to access the data on a patient-by-patient basis (after the patient provides them access privileges to their HealthVault record).

"All in all, we have some good days and not so good days, but we are trying to work through the issues we encounter," Hernandez says. "We are an early adopter, and creating a health records bank entails a lot of culture change and dealing with technological issues that have never been faced."

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