

Adding Health Advice to Online Medical Records

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The national health care debate right now is all about giving more people affordable access to doctors and [hospitals](#). Yet the vast majority of health care decisions — 80 percent or more, experts say — are really made by individuals, instead of medical professionals, whether choices are about [diet](#) and exercise or ways of managing chronic conditions like [diabetes](#) and heart disease.



Noah Berger for The New York Times

Adam Bosworth developed the technology for Keas, a system for organizing personalized data on individual health concerns.



Noah Berger for The New York Times

Adam Bosworth is starting Keas to help people make smarter health decisions.

The long-term answer to improving the health of the nation's population and curbing costs, experts agree, is to help people make smarter decisions day in and day out about their own health. And the most powerful potential tool in the march toward intelligent consumerism in health care may be the Web.

That is why on Tuesday, a start-up company led by Adam Bosworth, former head of the [Google](#) Health team, plans to become the newest entrant to the online consumer health business.

Already, surveys show that a majority of adults in America routinely scour the Internet for health information. Doctors joke that the standard second opinion of diagnosis and treatment has become a patient's Google search, with the results printed out and brought to the doctor's office.

But the Web is still mainly a vast trove of generalized health information. The ideal, health experts say, would be to combine personal data with health information to deliver tailored health plans for individuals. That is what Mr. Bosworth and his San Francisco-based company, [Keas](#) (pronounced KEE-ahs) Inc., mean to do.

Using the Keas system, for example, a person with [Type 2 diabetes](#) might receive reminders, advice on diet and exercise, questions and prompts presented on the Web site or delivered by e-mail or [text messages](#) — all personalized for the person's age, gender, weight and other health conditions.

Although success is far from certain, Keas has some big partners, including Google Health and [Microsoft HealthVault](#).

Health technology experts say Keas is at the forefront of the effort to combine advanced Web and database technologies so it can personalize health education. The promise, they say, is a big step forward for online health tools, and could help accelerate their adoption — much as the spreadsheet program helped kick-start the personal computer industry back in the early 1980s.

“This is the next generation of applications for online health care,” said Dr. David C. Kibbe, a health technology expert and senior adviser to the American Academy of Family Physicians, who is also a member of the Keas advisory board.

The Obama administration has drafted its guidelines for producing electronic health records — patient records held by doctors and hospitals — with applications like Keas in mind. To qualify for government subsidies, the electronic records must be able to generate patient education materials that help guide care, and eventually share information with personally controlled health records of the sort offered by Google Health and Microsoft Health Vault.

“The goal is not just health care information, but knowledge about what that means and what action to take,” said Dr. John D. Halamka, chief information officer at the Harvard Medical School, and a member of a federal advisory group on electronic health records. “And that is what Keas, and others in different ways, are really starting to think through.”

Other initial partners of Keas are impressed with its technology. Healthwise, a nonprofit supplier of online health information, has created 15 care plans for Keas so far, including ones on [high blood pressure](#), [cholesterol](#), diabetes, [weight management](#) and [stress management](#).

Healthwise provides health content to major managed care companies, insurers and Web portals, including Kaiser Permanente, [Aetna](#), WebMD, Revolution Health, [Yahoo](#), MSN and [AOL](#).

But Keas, said Jim Giuffre, president of Healthwise, has a feature that is distinct from other health services online. “They have developed the technology to make decisions from personalized data,” Mr. Giuffre said. “We think it’s going to help consumers make better health care choices.”

Dr. Alan R. Greene, a clinical professor of [pediatrics](#) at the [Stanford University](#) School of Medicine, has two children’s care plans on Keas, for ear infections and [asthma](#), and is working on others. Dr. Greene has done projects with WebMD and Yahoo in the past. “But this little start-up has an extremely powerful tool, both personalized and interactive,” he said.

For medical experts, Keas is currently helping them with technical assistance. But the company intends to keep simplifying the tools so that individual physicians or health experts can build their own care plans.

The technical game plan at Keas bears the imprint of Mr. Bosworth’s career. As a senior engineer at Microsoft in the 1990s, he led the design team that created Access, a personal computer database program, introduced in 1992, which enabled nonprogrammers to build databases. Later, Mr. Bosworth focused on Internet software, working on Microsoft’s Internet Explorer browser and then XML, an open technology for tagging text documents on the Web and data sharing between programs.

Database expertise, easy-to-use tools for nonexperts and automated data sharing among Web documents are all essential ingredients in the personalized care plans.

At Google, which he joined in 2004, Mr. Bosworth worked on Gmail, Blogger, online spreadsheets and other products. But the company’s leaders knew he was interested in using Internet technology to improve health care. Having studied history at [Harvard](#), Mr. Bosworth is a voracious and eclectic reader and a globe-trotting traveler. (The name “kea” refers to a species of alpine parrot, which he spotted on the South Island of New Zealand).

“I spent 25 years of my life building Lego blocks for computing,” said Mr. Bosworth, 54, adding that the time had come to pursue wider horizons.

His years at Google, Mr. Bosworth said, were good ones, and the work the health team was doing with personal health records was important. Moving people's data online, where individuals can control it, he said, would be vital to using Internet technology to improve health care — and only big companies like Google and Microsoft can do that.

“But I decided my focus should be on the other side of the equation — what to do with the data,” he said.

So Mr. Bosworth left Google, founded Keas and started hiring people in March 2008. The company has 24 employees, and last December it received [venture capital](#) backing from Atlas Ventures and Ignition Partners.

The Keas site requires a user to sign in and fill out a questionnaire. Personal health records from Google Health and Microsoft Health Vault can be automatically fed into the Keas care plans.

Another early partner is [Quest Diagnostics](#), the nation's largest clinical laboratory company, and, with permission, an individual's lab data can influence the Keas plans. Users can put in as much or as little personal information as they want. Because Keas works with care providers, like doctors, it is required by law to adhere to all federal rules under the Health Insurance Portability and Accountability Act, or HIPAA, for encrypting and handling information to safeguard the privacy of personal information, Mr. Bosworth said.

The care plans present personalized status reports, as individualized dashboards, showing a person to be in the red, yellow or green bands. Green is good, and care plans make recommendations on how to get there.

Initially, the care plans will be free, but eventually Keas will include subscriptions for plans, probably at a few dollars a month. Keas will take a slice, and pass the rest on to the plan creator — the model used by the [Apple's iPhone](#) applications store.

“We're still learning, so we're in no rush to charge,” Mr. Bosworth said. “But the idea is that people will get paid for doing things that are really engaging and useful.”

In the long term, Mr. Bosworth hopes Keas will evolve into a marketplace, where health experts are the sellers, and consumers who want the best personalized advice are the buyers. “I think that's a pretty big idea,” he said. “If it works, it helps drive consumerism into health care.”