

The EHR Trailblazers

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These three physicians decided to take the bull by the horns and start their own EHR companies. Why did they do it? Each wanted to create software to fit their own needs, but soon realized that other physicians were struggling with the same challenges and would benefit from this new technology.

THE ADAPTER

Randall Oates, MD Founder, SOAPware, Inc.

www.soapware.com

For Randall Oates, MD, the founder of SOAPware, Inc, the development of a commercial EHR system was incidental. The EHR system that would become SOAPware started during Oates's third year as a family physician in Springdale, AR. "I can vividly remember an evening during the flu season of 1987," says Oates. "It was around 7:00pm, and I had seen around 70 patients during the day. When I sat down at my desk, I had 70 charts waiting for me, and I found myself writing the same sentences over and over and over. I had always been an Apple/Mac enthusiast, so I decided to use my word processing program to copy and paste notes from each patient, then change what was different." Oates spent parts of the next two years "fiddling around with Hypercard; by 1989, I was printing out my prescriptions and doing all my chart work electronically."



Oates showed his ad hoc solution to colleagues at the 1990 AAFP Assembly Scientific Exhibit and observed interest in his adaptable and user-friendly program. "By the end of 1990, there were 30 doctors using my prototype, and I had people calling me constantly with questions." Oates ceased distributing the program himself at that point. However, among the fans of Oates' product was Greg Lose, an Apple sales representative at the University of Arkansas. "He was an enthusiast, and in 1992, I hired him and said, 'If you can turn this into a commercial product, great.' I haven't written a line of code since he joined; he's now the CIO of the company." In 1994, now-CEO David Powell joined to help expand the business, which was incorporated as SOAPware, Inc. the following year.

Throughout the evolution of SOAPware, from the personal tool of one physician to a commercial product, Oates's watchword has remained the same: flexibility. Oates notes that some systems utilize menus and structured entry of information, which produces granular data suitable to drive outcomes research but limits choices; others allow for free-text entry. "Within any part of the SOAPware chart," he says, "any or all of the information entered can be either free text or structured, granular, coded data. Out of the box, you can start with a completely freetext chart—the electronic equivalent of a paper chart, in fact—and then, as your facility with the program increases, gradually switch over to customized, structured entry throughout."

Flexibility extends beyond data entry, as well. "Doctors want an EHR to be as flexible and versatile as a paper chart," says Oates. "When you have a paper chart, you can add a photo, imaging result, or other document to any part of the chart. Similarly, in SOAPware, any kind of document, including audio and video files, can be dragged and dropped into any section of the medical record." Meanwhile, users can enter data with digital "ink" using a tablet computer or via speech recognition, in addition to standard entry using a keyboard.

The visual interface of SOAPware is likewise quite flexible; users can view charts and other records on an iPhone, on multiple large monitors, or any way in between. The interface itself can also be customized by the user. "The product should look different for each user," says Oates, "and it shouldn't force anyone into a linear workflow. It's common for a program to refuse to allow a doctor to enter an examination finding until all vital signs have been entered; we try to avoid that sort of linear approach."

Another priority has been bundling an effective electronic prescribing application. "The problem with e-

prescribing is that it's inefficient, involving lots of duplicate data entries," says Oates. "But starting on January 1 of next year, there will be a 2% bonus from Medicare for doctors that use electronic prescribing. We've put basic e-prescribing into even our low-end product, which has simplified record-keeping, allowing demographics to be transferred from the other parts of the system rather than keyed in separately, for example."

At present, SOAPware is the least expensive CCHIT-certified EHR, starting at \$2000 for a certified system. The system currently has approximately 30,000–40,000 users, spread among 5,000–10,000 sites. "I've gotten so involved in the software, I've been seeing very few patients," notes Oates. "I hope to get back to regular practice once we get through the current product release cycle. For now, we're trying to create a billing application to make SOAPware into a complete turnkey solution." The goal, he says, is to make the system simple, flexible, and well-supported. "We want a new doctor to be able to come in, watch an hour or two of instructional video, and go out and start working."

THE PIONEER

Andrew Ury, MD Chief Medical Officer, Practice Partner
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"When we first started out, the first reaction from most physicians was not 'I like this, I don't like that, let's adjust the system,'" says Andrew Ury, MD, the Chief Medical Officer for Practice Partner. "The first reaction from most physicians was 'you can't create an electronic health record system; it's not possible.'" For Ury, whose interest in computers and computing dates back to high school, the transition to electronic management of patient records was comfortable and natural. For many of his colleagues in the comparatively technophobic early 1980s, the change was nothing short of a complete cultural transformation, a fact that made Ury's ambition—the development of the first-ever commercial EHR—a considerable challenge.

The Stanford-educated Ury completed his residency at the University of Washington in Seattle in 1981. He began work as a doctor, but the increasing popularity of the personal computer (PC) and his own inclination toward adapting his practice to available technology—Ury was typing, rather than handwriting, practice notes long before he developed a formal EHR system—opened up additional possibilities.

"PCs created a significant technological opportunity," says Ury. "Most medical advances affect only a small percentage of your patients, even if you're a specialist and especially if you're a family physician. I felt that EHRs could be a transforming tool, to increase the quality of care we provide to all patients." Ury founded Physician Microsystems, the company that would become Practice Partner, out of his home in 1983; the company's roster initially included just Ury and one parttime employee, but that expanded to four by 1984. "I was working as a doctor full-time, and then on Wednesdays I'd come home and work for Physician Microsystems," he says. "In the middle of 1984, my wife came home one day and found programmers in the basement; she said it was time to move out. So we moved out."

Ury released his first products, billing/scheduling applications, in 1985; medical records went beta in 1986 and live in 1987. The initial record was designed to be very dictationfriendly, and was able to build a patient chart from a loaded transcription. Over time, voice and handwriting recognition were added to the system. "Although I always intended Practice Partner to be a commercial system first and foremost," says Ury, "I did use it in my own practice. I found from the beginning that it helped me and my staff increase efficiency and save time while also improving quality of care. It's one of the very few products that can accomplish both of these things."

By 2006, thousands of practices were using Practice Partner to maintain records and accomplish related tasks. About 18 months ago, the company was sold to [McKesson Information Systems](#), a move that accelerated the system's growth and visibility.

Today, 25 years removed from the founding of Practice Partner, Ury continues to ask how technology can be leveraged to increase efficiency and improve quality of care. "We founded the Practice Partner Research Network about 10 years ago; today, around 130–140 individual practices are members," says Ury. The Network utilizes periodic extracts of data from member practices—all of whom employ Practice Partner EHR software—to analyze the cost and return on investment associated with the EHR, and to explore ways that systems like Practice Partner can produce ever-more desirable outcomes. Visit www.musc.edu/PPRNet for more information.

THE MAVERICK

Jonathan Bertman, MD, FAACP President, Amazing Charts Clinical Asst. Professor of Family Medicine, Brown

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Jonathan Bertman, MD, is not your everyday interviewee. This is clear from his first answer to the first question: "I realized how technology could improve life the first time I picked up a television clicker," he says. "I thought, 'I don't have to get off the couch! This is brilliant!'" He brings to the EHR industry the perspective of a relative newcomer—Bertman only started his own family practice in 2001—and he is characteristically direct about the problems he sees in the industry (and the solutions he proposes).

"Before I started my own practice," Bertman says, "I was in another practice that used an EHR. The system we used there had all sorts of bells and whistles, but because of those bells and whistles—and because of a design that required many clicks to document every finding—all seven docs in the practice were just entering every finding in a miscellaneous text window. It kind of defeated the purpose of the system."

When Bertman struck out on his own and began shopping around for an EHR system, he found that this problem, along with several others, was endemic to most available systems. "Let's say you want to document an ear infection," he explains. "So with a typical EHR system, you open the chart. Then you open the physical exam window. Then you click on a button that says 'Head/ENT,' then you click on 'Ear,' then 'right side,' and then you click on your diagnosis." The process, Bertman maintains, makes it tedious and difficult to document even the briefest finding. "These systems are so focused on getting granular data that they're actually extending the patient encounter. This might be reasonable if you see four or five patients a day, but when we're being forced to see more and more patients to make the same money, it just doesn't work."

In his search to find a workable EHR system for his own practice, Bertman identified other problems with the status quo, as well. "EHRs were uniformly very difficult to learn, and atrociously priced," he says. What's more, most systems offered no way to test out a program before it was purchased, making any potential purchase a tremendous risk.

Faced with a host of EHRs that wouldn't work for him, Bertman hit upon a simple solution: he built his own.

"I figured, this isn't that hard," says Bertman of the origins of Amazing Charts. "I essentially wanted to use templates to document the things I write over and over again, save them to a database, and retrieve them when I see the same patient again." Bertman learned how to use [Visual Basic](#), and developed within six months a very simple record-keeping application that worked well for his practice. "My practice worked like every other practice," he says, "so I thought, 'I'll put it online; if people like it, they can pay me a little bit of money.'"

So he did. At first, there was no response. Bertman continued to improve the system, to make it more functional for his own purposes, and put improved versions online. He allowed users to download a free trial. "Finally," he says, "a couple of people downloaded it and tried it out and liked it. In 2001, one of those people did an interview with AMA News, and enough people read that, and things went from there."

Amazing Charts, the product of Bertman's refinements, is a fairly simple product designed to be efficient. "To document an ear infection, you open the entire chart in one window," he says. "You right click in the window for the physical exam, delete the text that says 'TMs normal,' and put your diagnosis in its place. You can then save it as a new template."

Today, Bertman considers Amazing Charts to be about 75% complete; it currently features scheduling and messaging applications, but practice management and billing functionality is still incomplete. But physicians seem to be responding; approximately 70 new practices a month buy the system, which costs only about \$1,000 following a free three-month trial. Meanwhile, Bertman continues to tailor Amazing Charts to the needs of the user: "Feedback comes directly to me, and I adjust it. That concept—the ability to reach me personally and tell me what they want—really resonates with people," Bertman says. "Once we become like a big business, we lose our edge."

Frank Ferrara is a freelance healthcare writer and former MDNG editor.