Practice Fusion Bids for Dominance in the Doctor's Office with a Free, Ad-Supported Electronic Health Record System

Wade Roush 11/10/11

"Healthcare is broken. Insurance companies are innovatively bankrupt. There are huge hurdles to entry. The biggest companies in the world can't solve this problem; even Google can't build a good personal health record system. Doctors are frugal. Patients are lazy and don't care about their health. You guys are choosing a very hard path."

Such was the litany from Ryan Howard, the CEO of San Francisco-based Practice Fusion, who was trying to give some frank advice to a group of budding healthcare entrepreneurs at an event in Mountain View this September.

So, given those harsh realities, what possessed Howard to spend the last six years building a free electronic health record system for small physician practices?

"If I die tomorrow I don't want my headstone to say 'Made more money for Wal-Mart,'" Howard says. "I want to have someone, somewhere benefiting from my work, and healthcare felt very powerful for me."

The idea of digitizing patient records—and, ultimately, connecting them with lab data, prescription systems, and insurance and reimbursement records—is indeed a powerful one. In fact, it's been beckoning innovators for nearly half a century. One of the oldest multi-user database-driven computer languages in the world is MUMPS, written at Massachusetts General Hospital in 1966 to store health records. It's still in use today—which tells you something about the power of tradition in this field.

Practice Fusion CEO Ryan Howard

But the pace of change is finally picking up, thanks in part to a system of carrots and sticks built into the 2009 federal stimulus package to spur adoption of electronic health records (EHRs). Doctors who implement EHRs in their practices before 2015 are eligible for up to $44,000 in extra payments from Medicare; if they don't convert by then, the reimbursements they get from Medicare will be docked by 1 to 3 percent. Dozens of companies, from giants like General Electric to tiny startups like Y Combinator-backed DrChrono, are jumping into the market created by the incentive scheme.

But Practice Fusion may be the fastest-growing of the whole bunch. The company says its Web-based EHR has more than 100,000 users, with a cumulative 25 million patients under their care. The 110-employee company has raised roughly $34 million in venture support—most of it in a big April round led by Peter Thiel's Founders Fund—and it has nearly doubled its head count in the last six months. In anticipation of further growth, it's about to move into a huge, 46,000-square-foot space in San Francisco's Union Square.

The technology so many practices are snapping up isn't simply a database for patient records—that would be like repurposing Salesforce.com for doctor's offices, Howard says. The much harder thing to build, and one of the main benefits emphasized by Practice Fusion in its marketing pitches, is its system's behind-the-scenes connections to pharmacies, labs, and billing services, meaning doctors can get more done directly from the system's Web-based interface.

But the biggest selling point for Practice Fusion—and the factor explaining its rocket-like growth—is that it's completely free to doctors. The startup makes money not in the usual ways for enterprise software companies—subscriptions, consulting, training, support—but by showing ads in the browser alongside patient data.

Most of the ads are from pharmaceutical companies, as you might expect, and doctors who don't like them can pay $100 per month for an ad-free version. But few bother. It turns out that the right price for an EHR system is no price.

Howard says it took some doing to convince his board and investors that the company should make the service free—but that it turned out to be the best decision the company has ever made. "Everything WebMD does is free, and they're doing $500 million a year in revenue," he points out. "When we finally went to free, it was counterintuitive. But look where we're at now. We are the largest, fastest-growing community [of EHR users]. We are bringing on more users daily, I would be so bold as to say, than all of our competitors put together."

You can ascribe much of Practice Fusion's success so far to Howard's stubbornness. Back in 2008, the startup came perilously close to running out of money. Howard had already sold his house and his car to keep the company afloat, and a second house was in foreclosure. "I'd gotten into a motorcycle accident a few years earlier, and when the settlement check came, I used that check to make payroll," he told the entrepreneurs in Mountain View. "When we got funded, I was four years behind on my taxes and I needed two root canals." The moral of the story, in his eyes: "Whatever you are willing to do to pursue your dream, you will most likely have to go beyond that."

Howard grew up in a blue-collar family in New Hampshire, fathered a son while still in high school, and dropped out. "I have never thrived in the academic environment," he says. "I've learned in a different way." He eventually got his GED and attended community college, then went on to the University of New Hampshire, St. Mary's College of California, and the Haas School of Business at UC Berkeley.

But along the way, he worked on manufacturing lines and shipping docks for companies like New Hampshire-based Cabletron Systems—experiences, he says, that gave him a first-hand understanding of sourcing and supply chains. He sharpened that understanding as a product manager at InterTrade Systems, which specializes in electronic data interchange (EDI) between businesses. And his EDI expertise eventually landed him in the IT department at Brown & Toland, the huge San Francisco-based physician group.

That was his first exposure to healthcare—and he says he quickly saw parallels with manufacturing and other industries. "You have a patient and he goes to the doctor, and the doctor sends a claim to an insurance payer, and it comes back as an EOB, an explanation of benefits," he says. "This is totally synonymous with purchase orders and invoices and advance ship notices. The process is the same."

But while Howard worked to help Brown & Toland's physicians computerize their billing systems, he noticed that only about 10 percent of them stored their patients' health records in digital form. "The problem fascinated me. For a year or two while I was at B&T, I was pondering things like 'Where are the records? Who owns them? How you access them? How do you synchronize them?' The billing problem is simple. EHRs were infinitely more complex."

The final piece of the founding concept for Practice Fusion came while Howard was at GrandCentral, a startup created by Internet entrepreneur and CNET founder Halsey Minor. Most people remember GrandCentral for its voice-over-Internet telephony service, which later became the core of Google Voice. But Howard says the company started out as an "integration on demand" provider. "Halsey wanted to create a platform where you could build an app in your enterprise, and have that connect to any other app; it was like Force.com at **Salesforce**, but he was way ahead of the curve," Howard says.

The only problem with GrandCentral was that it didn't have a killer app for its platform, Howard says. But Salesforce.com did, with its low-cost customer relationship management system. "That was when I had the epiphany," Howard says. "Doctors can't afford EHR technology. The average family physician in California makes $120,000 a year." But if somebody were to come along with a GrandCentral-like platform to handle data interchange between doctors' offices, labs, pharmacies, and payers, and equip it with a simple Salesforce-style management interface, it could get very big, Howard reasoned.

Getting from there to here, however, has been enormously complex. "Innovating in this space is twice as hard, costs twice as much, and takes twice as long as you think it will," Howard says.

On the technology side, Practice Fusion had to build a system that would allow doctors to get started almost instantly, that would talk to dozens of outside computer systems, and would be utterly secure and reliable. To accomplish all that, Howard brought in Matthew Douglass, a software engineer with experience in the energy and financial industries, as vice president of engineering. Douglass chose to build the Practice Fusion system on Adobe's Flex framework, which is compatible with mobile devices as

well as desktop Web browsers, and assembled a team of more than 25 engineers and product developers to build out its features.

On the business side, the company had to build relationships with scores of entities across the healthcare landscape before it could start sharing data. "You can't just go build an e-prescribing system," Howard says. With each pharmacy chain, lab, or other benefit provider, he says, "It's a six-month engagement just to get the contract, then another year to get it integrated."

Practice Fusion's patient scheduling screen

And on the investment side, Howard had to line up backers gutsy (or rash) enough to believe in the possibility of serious advances in practice management. Early seed investors included the Silicon Valley-based investing group Band of Angels and former Intuit executives David Wu and Mark Goines. Morgenthaler Ventures, Aydin Senkut's Felicis Ventures, and Salesforce.com joined in for the startup's $5 million Series A round in January 2010.

Rebecca Lynn, a partner at Morgenthaler, says Practice Fusion fit a personal vision she'd long been nurturing for a revolution in "consumer-driven healthcare." "I'd talked to hundreds of companies ,and most of them weren't quite ready," she says. "But when I found [Practice Fusion] they already had pretty significant traction, with 1,400 active users. They were just taking off, and I thought they had the right vision and the right team."

Lynn says she was an early believer that Practice Fusion should lower its price to zero. "It has to be free because they are targeting doctors in small practices, who are the most financially constrained," she says. Goines, who happened to be visiting Practice Fusion when I was there interviewing Howard, says he agreed. And he points out a further advantage of the company's advertising-driven model: the ability to show doctors ads related to their patients' conditions. Such targeted ads are typically more lucrative than standard-issue Web banners.

Imagine that a physician is reviewing the records of a patient with high cholesterol. By analyzing anonymized, "de-identified" patient data, Practice Fusion can learn about the condition, and can put an ad for a statin drug on the same page. "The reason I was so excited about the product is that it just makes the physician's job easier, and part of that is delivering new information about drugs they may not have heard about before," says Goines. "That's something they need to do anyway, and if it's done in the context of their practice, that's better than a drug rep walking into their office on a Tuesday afternoon."

Howard says future versions of Practice Fusion's software will apply data analytics in a deeper way, offering what's known in the field as "clinical decision support." Already, the built-in e-prescribing system can alert doctors if they're about to write a prescription that could cause bad drug-drug or drug-allergy interactions. In the near future, the system will also monitor patients' lab data and alert doctors if values go outside an acceptable range.

And in the longer term, the system might even be able to recommend the best drugs or other treatments based on patients' unique genomes, or identify lifestyle changes that would help patients improve their health. Just this month, Howard co-founded a new health data analytics company called 100Plus with backing from Founders Fund. The startup says it plans to use de-identified clinical records from Practice Fusion's growing database to "build predictive models of future health and the impact of personal behavior trends," and will release a health-oriented consumer app in mid-2012. It's not clear whether such an app would directly benefit patients whose doctors use Practice Fusion, but it's an indication of the interesting possibilities that crop up once so much data is gathered in one place.

Word about Practice Fusion is spreading fast in the physician community. The company's first user conference in 2010 attracted about 90 doctors from small practices; it's putting on another conference this Friday that's expected to attract more than 1,300. Douglass, the engineering head, says that a surprising number of those physicians don't know about the Medicare bonuses available to practices that adopt EHRs, so basic education is still part of the company's job. (Practice Fusion's system earned full certification from the Department of Health and Human Services this June, meaning users are eligible for the full $44,000 in payments per practice.)

And while Practice Fusion has a long way to go before it has reached a majority of small physician practices, Howard is already thinking about what's next. "One way the company could grow—the five- to 10-year plan—would be to go up-market [to larger practices and perhaps hospitals] or go more horizontal. The product would work very well, in theory, in the dental, chiropractic, and veterinary markets, which are all very large."

But Howard says the real "silver bullet," once Practice Fusion has data for 100 million human patients or more, would be direct engagement with consumers—-that is, analyzing medical records to offer people personalized health information and advice. "WebMD has been successful, but they don't own the market," he says. "If better content came out tomorrow, people would go search on that content."

Smarter patients would, in theory, be healthier patients. And that ought to please doctors, because as healthcare reform rolls forward, it's likely that more of the reimbursement dollars they earn will be based on the quality of the care they provide and the health outcomes their patients enjoy.

But the system that enables all this has to start with patient records—not with Google Health-style personal profiles, Howard says. "In today's market, the doctor controls the flow of data," he says. "That's why we think we will be at the epicenter of all this innovation over the next few years."