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Voices of Disruption: Lynn K. Feldman

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Lynn K. Feldman is CEO of SimulConsult, Inc. Previously, Feldman co-founded StrictlyPersonal, Inc. which specializes in one-to-one fundraising software, worked as a senior vice president at Digitas, managing interactive marketing relationships and strategy development across a range of industries, and the Boston Consulting Group as a member of the Health Care practice focusing on payors and hospitals. She spoke to Strategy & Innovation *editor Renee Hopkins Callahan about disruptive innovation in healthcare.*

Q: What does SimulConsult do, and how did it get started?

A: The concept behind SimulConsult began with Michael Segal, M.D., Ph.D., a pediatric neurologist, who as a resident observed how hard it was to remember the hundreds of overlapping diseases in his specialty. Today, our company helps doctors to make difficult diagnoses – diagnoses where there is some unusual pattern of findings. “Findings” include symptoms, test results, and observations the doctor makes when you are in the office, like reflexes or peering in your eyes. The SimulConsult software enables doctors to enter their patient’s unusual pattern of findings and get back what they’re seeking – a differential diagnosis, which is a probability-weighted list of diseases. The software then prompts the doctor to add additional useful findings so that the differential continues to be refined to the point where the diagnosis is either conclusive or there’s clearly one lab test that would clinch it.

Q: Oh, like on House MD*?*

A: Right! To use the language of Clay Christensen, Dr. House is the eccentric and dramatic but nonetheless brilliant, memory-driven, intuitive physician. And what we are doing is collecting the brilliance and wisdom of the medical community in the form of evidence-based medicine, and making that ***precision*** available to doctors through pattern-matching software to combine with their intuitive skills in working with patients.

Back in the days of the Norman Rockwell doctor, medicine had a few hundred known common diseases and a few hundred known uncommon diseases that didn’t overlap very much. Moreover, only about half of the diseases were treatable. Memory-driven intuitive medicine worked pretty well. Since then, the number of known separate diagnoses has doubled every decade so today there are about 8,000 known diagnoses, and we are heading rapidly to 16,000. Dealing with the resulting diagnostic complexity is like running up a down escalator.

The ideal is to have the generalist – a pediatrician or family practitioner who knows the whole integrated picture of your health – diagnose and where necessary refer for specialized treatment. These days many diseases are so overlapping in symptom and expression that generalists have mostly given up on diagnosing all but the common diseases. Instead they refer.

But each disease will typically have 15 or so findings, each with its own time course and possibly inheritance pattern. And those findings in diseases rarely fit neatly into just one specialty. Does the poor generalist make five referrals and order $15,000 worth of tests? This happens with great regularity. This has resulted in diagnosis being the fastest growing category of medical costs, already equal to 10 percent of the cost of U.S. healthcare – $250 billion. Worse, it’s believed that there’s a 15 percent error rate in diagnosis.

SimulConsult deals with these problems and enables physicians to do more as they face off against greater complexity. It basically allows doctors to remain intuitive experts at observing and getting the patient to tell them what’s actually going on, where generalists are often advantaged because they know the whole person. We can help with the pattern recognition.

Q: Where does data come from?

Our content is collected from academic physicians citing the literature and giving time-course information and inheritance information for each and every finding in the disease and then it's peer-reviewed before it gets posted to the Web. We typically update the software database several times each week.

In the past, doctors have relied on textbooks (now online), which are excellent for treatment because they are organized by disease, but their text search does a poor job of differentiating among diseases with overlapping findings by time course or inheritance – which turns out to be essential for differentiation – whether it is inherited where the time course is about time from birth, or it's an infectious disease where the time course is about time from exposure.

Q: How do you make money?

A: Our business model has three sources of revenue: 1) physician subscriptions; 2) highly specialized, contextually relevant advertising; 3) licenses from payors to manage diagnostic costs. SimulConsult is a very fast, very high-quality system that lowers the cost of delivering care. With that promise we become a very important component of the core technology for the new category of benefit manager that is emerging around diagnosis. If we can promise that people will have fewer tests, fewer referrals and faster and more accurate diagnoses, that's a big deal.

The benefit managers represent one category of nonconsumption. With the benefit managers, it could be implemented in one of several ways. For instance, if a doctor wished to order an expensive genetic test for patients insured by any one of the four major insurers in Massachusetts, the doctor could use the SimulConsult software to document his patient's case, and then with one click of a button, automatically send a test for authorization as long as the test is recommended among the top few useful tests in narrowing the differential.

Now, that's not telling the doctor what to do, and it's not even telling them which of the top tests to order, or from where. It's merely saying we will authorize it if the doctor has proven the case this way. So for situations with unusual findings, this makes it straightforward.

Interestingly, there is also some nonconsumption among doctors. As MinuteClinic eats the generalist physician revenues from below, those physicians need to move up. SimulConsult enables them to move up. There are many unusual diseases that an internist or a generalist is perfectly competent to treat – if they knew what it was. Once they know the diagnosis, they too can find the up-to-date treatment protocol for a person of this age and size.

Q: What has the competitive response been?

A: We're in use in 60 countries. In order to be effective we have to compete in what you might call a "vertical" or specialized disease. For example, there are more than 1,800 neurological symptoms. A bunch of our competitors have focused on being broad rather than deep, trying to drive frequency of use. But the average doctor doesn't need help diagnosing diabetes or the flu. A few have specialized databases, such as Visual DX, with 900 pictures of dermatological diseases and findings. They have had success in adoption in their fields.

There are definitely other companies out there that offer diagnosis information, there are a bunch of them that are really like textbooks online – Medlink, UpToDate, Dynalink – and they have content about diagnosis. But if you have more than one finding, it is difficult for the text search of these resources to tie to the time course of multiple findings.

Then there are a couple of players who have tried to do something more like what we've done with mixed success, mainly because they didn't solve the scientific problems inherent in pattern-matching.

Q: What is your strategy going forward?

A: We have a significant number of users within child neurology and various pediatricians and geneticists. Internists and family practitioners have found us. We have done zero marketing up to now. Eventually that will change, but up to now we've worked with professional societies like the Child Neurology Society who have helped inform doctors about our software, and even used it as part of educational programs such as medical education, resident education and invited talks. There are three components to our growth. The first is building physician subscriptions, the second working with all the relevant players in hospital quality management, and the third to work with the emerging category of diagnostic benefit managers and with self-insured employers to try and figure out how to think about this.

To continue to increase our relevance we're in the process of significantly expanding the verticals we cover, in an orderly fashion. We already cover about 20 percent of medicine, and we're incredibly deep. We've also been in discussion with a variety of the companies that provide Electronic Medical Records (EMRs) and they continue to have some interest.