Random Examples of Innovation in the Business Community
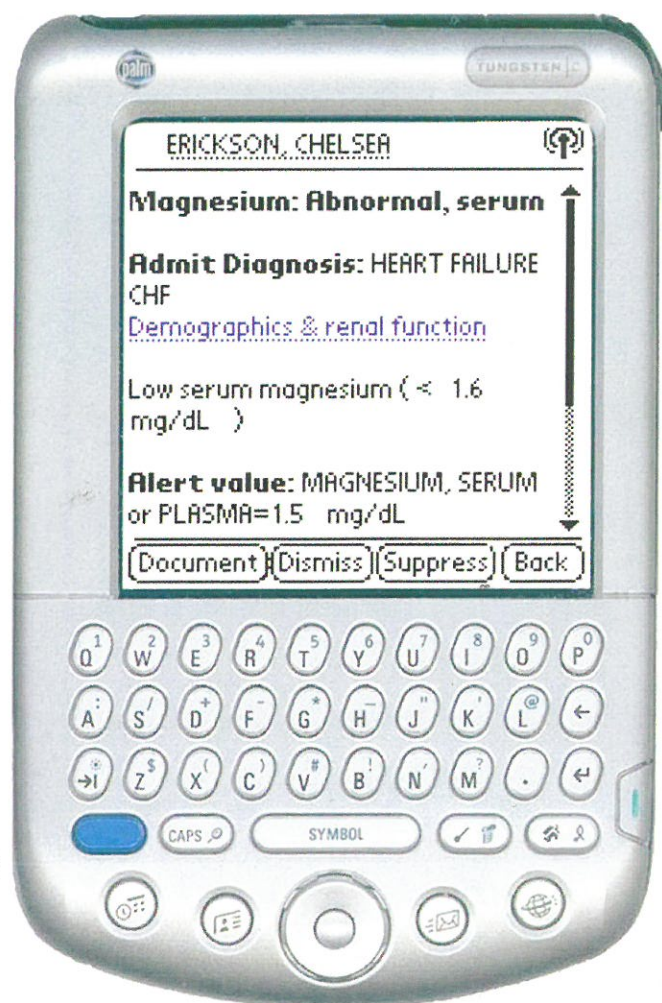
by Zella Rush

TheraDoc

Medical care providers today face many challenges such as time constraints, demands for accountability, and pressure to keep costs low. Fortunately help is available. Salt Lake City-based TheraDoc has the ability to provide clinicians a way to meet all of these demands while allowing them to focus on the most important thing — quality patient care.

TheraDoc's products provide help to healthcare professionals with crucial decisions regarding patient care. These tools enable users to improve the quality of patient care and reduce the number of errors — all while reducing treatment costs. TheraDoc's products help with all sorts of decisions from the best choice of antibiotics, to preventing the spread of infection in hospitals.

Founders

The founders of TheraDoc are Stanley Pestotnik, Mark Skolnick, Dr. Merle Sande, and Dr. John Burke. All have extensive experience in research and clinical practice. Stanley Pestotnik is president and CEO of TheraDoc. In 1986, Pestotnik and Burke, who is chief of infectious diseases at LDS hospital, began their research and development of The Antibiotic Assistant, TheraDoc's marquee product. Dr. Merle Sande, a former chairman of the University of Utah Department of Internal Medicine, became interested in their work and offered support. Mark Skolnick, one of the founders of Myriad Genetics, who also happens to be one of Pestotnik's former grad school professors, offered

his entrepreneurial experience to this group of professionals.

Founded in l999, the company has created product lines offering different clinical applications. Some of these are Antibiotic Assistant, Infection Control Assistant, Adverse Drug Event (ADE) Assistant, Clinical Alerts Assistant, and Public Health Surveillance Assistant.

Antibiotic Assistant

Antibiotic Assistant is TheraDoc's flagship product. It provides healthcare professionals with knowledge-enriched, disease-specific alerts and recommendations for antibiotic treatments, which are based on individual patients. It provides a way for nurses and physicians assistants to be able to

deal with simple types of infections such as sore throats, thus freeing up time for trained infectious disease specialists to focus on more serious infections.

Medical professionals in the state of Mississippi have recognized the value of Antibiotic Assistant. Mississippi has a problem with sexually transmitted diseases and a shortage of infectious disease practitioners. But according to Pestotnik, with this tool, nurses and physicians assistants there can give care comparable to that given by a trained infectious disease specialist.

The Antibiotic Assistant is designed to assist clinicians in diagnosing infections and picking the right antibiotic for the patient. Pestotnik states, "Every physician treats infections and almost every physician will write a prescription for antibiotics, but very few physicians have the specialized training in infectious diseases, microbiology, and pharmacology, which is required to appropriately treat infections." He goes on to say, "It is because of this that we have this problem in the world with antibiotic resistance. In 2000-2001, both the CIA and the World Bank declared antibiotic resistance a national security risk for the United States. I think very few people realize that."

Infection Control Assistant

Infection Control Assistant is a piece of software that can screen the population in the hospital. It can identify antibiotic resistance and epidemics anywhere in the hospital and send alerts to infection control practitioners and hospital epidemiologists. This allows them to catch the problem early and get it resolved.

"If there is an outbreak of staph infections in a Thoracic Surgery ICU, the CDC and others will come in and close the program," Pestotnik explains. "Heart surgery tends to be the most profitable basket of care that hospitals can give so it could wreak financial devastation on a hospital if there was an outbreak of staph infections. This software will identify that early so that the staph infection can be stopped from going its natural course."

Adverse Drug Event (ADE) Assistant
ADE Assistant detects, evaluates, characterizes, documents, reports, and reduces adverse drug events. Harm done

by medications given to patients can not only cost hospitals lots of money, it can cost human lives. Just as the Infection Control Assistant surveys the hospital for infections, ADE Assistant surveys the entire hospital for adverse drug events.

Clinical Alerts Assistant

Clinical Alerts Assistant looks for abnormalities that occur in laboratory tests or in radiology films. If it identifies an issue it sends an alert to a physician or pharmacist, or whomever the hospital wants it to go to. The University of Utah uses Clinical Alerts Assistant in their surgical intensive care unit. Pestotnik states that with this tool, Dr. Ted Kimball has been able to identify critical, life-threatening events, three to four hours earlier in the daytime hours, and up to 12 hours earlier during the night than a physician could without the Clinical Alerts Assistant.

Public Heath Surveillance Assistant

Public Health Surveillance Assistant is a new product that can provide communities around the country a way to quickly identify and control epidemics to assure the safety of their citizens.

"This product is designed to do community-based surveillance for infections and epidemics, whether they be natural or from bio-terrorism types of events," states Pestotnik. TheraDoc is working with the states of Nebraska and Mississippi in utilizing the Public Health Surveillance Assistant to do "real time detection of epidemics and resistant infections and to report it to the state departments of health where they then can analyze it and report it, if necessary, to the centers for disease control."

The Software

TheraDoc's technology was designed from the ground up and uses industry standards like Oracle at its back end. Linux is the operating system they prefer to use, but any operating system works. The software is physically installed in the hospital's IT department and is used by doctors and other medical personnel to better manage care.

What about HIPPA Regulations?

According to Pestotnik, all of the databases are built so that they are very

secure and meet all of the requirements. The data stays in the hospital so that privacy issues are maintained. "We sign a business associate agreement with every one of our hospital clients, so we are very HIPPA-compliant."

Plans for the Future

Over the next five years, TheraDoc plans to offer more to medical professionals in the areas of clinical problems. Some concerns are that clinical care is mismanaged and that it costs a lot of money.

"Next year we'll be rolling out a product in anticoagulation, which will help physicians and other clinicians manage bloodthinners," Pestotnik states. "The management of blood thinners is a big problem in healthcare today. Then we have a product road map that lays out cardiovascular diseases, hypertension, stroke; and then eventually we will get into the cancers."

Outlook

The single largest challenge for TheraDoc up to this point has been having the necessary capital to continue, but Pestotnik states, "I think we were fortunate. The investors who are in TheraDoc — it has all been privately funded — have believed in the vision of the company and have believed in management and in our engineers to do this."

TheraDoc has been able to meet every one of the milestones to which they committed. Its most recent milestone was being awarded vendor status for the Veteran's Administration. Since only official VA vendors can sell to that market, a whole new arena has opened up for them.

TheraDoc is out of the research and development phase and is now focusing on product sales. According to Pestotnik, TheraDoc is getting referrals from its existing client base which includes Johns Hopkins, the Mayo Clinic, UC Davis, and the University of Utah.

"It is pretty refreshing," states Pestotnik, "when Johns Hopkins gets a call from other hospitals wanting to know who the best in clinical decision support is and they say, 'Well it's TheraDoc and that is who we are using.' It's pretty powerful."