Health IT: Data Analytics and Private Sector Role

Alissa Gulin - The Daily Record - Associated Press

The market for health care information technology is showing enormous growth potential, and plenty of Maryland businesses are crowding in.

Some create proprietary products — such as software for Electronic Health Records or filmless X-ray equipment — while others are service companies, helping health organizations integrate and manage new IT systems. Both sides say business is booming.

"The industry has changed dramatically over the past few years," said Richard Meccarielli, CEO of Gaithersburg-based Microlog Corp., which designs software to make it easier for companies to communicate with their customers, including automated prescription refill and appointment-scheduling systems for health care providers. "Actually, it's changing dramatically every day."

For most of Microlog's 40-year history, the firm operated call centers for clients that included department stores and lottery agencies. Over the past decade, the company unveiled a variety of customer-contact products for the health care industry, which now makes up about 75 percent of its customer base.

Most of those clients are military hospitals, but Meccarielli said he's increasingly eying commercial providers as potential customers and considering partnerships with other firms to offer a greater variety of health IT products.

A few years back, "health care used to be more like 50 percent of our business," Meccarielli said. "Five years from now, it might be 90 percent."

Maryland is particularly fertile ground for the health IT revolution, Meccarielli and others said, with its close ties to government agencies, renowned medical and research institutions, and robust network of companies in fields like biotechnology or security. For about 10 years, some Maryland firms — many of them government contractors — have been shifting their focus from those stronghold areas to health IT, a trend several people said has recently accelerated.

When Greenbelt-based Ingenium Corp. started about 20 years ago, the firm primarily provided telecommunications support to the federal government. Then the market changed, said Chairman and CEO Andre Lynch. The firm began applying its expertise in data security to health care.

"Our employees understood the urgency of protecting classified information," Lynch said. "And then came (the Health Insurance Portability and Accountability Act of 1996), which is critical to health care's evolution. Organizations need patient data privacy protections. So it was a natural fit for us."

Ingenium has worked in health IT for the past 15 years, contracting primarily with medium-sized hospitals to supplement, or even replace, their internal IT departments. The firm charges about $1.5 million to $2 million a year, depending on the IT system's complexity. A large medical system would be closer to $15 million, Lynch said.

"Some hospitals will have as many as 600 cellphones for their employees, and somebody has to manage all of that," Lynch said. "The warranties on their X-ray machines, the desktop computers, pretty much every device and machine in there, we provide the staff to keep it running."

The industry has seen so much growth, in fact, that worker shortages have become a top concern. Several executives said it can be difficult to find enough qualified employees to expand a business. Lynch said qualified candidates sometimes realize they've become a hot commodity and demand higher salaries or greater flexibility to choose their workload.

To encourage the use of health IT, the American Recovery and Reinvestment Act of 2009 established financial incentives for providers who implement costly Electronic Health Records. Technology firms don't receive government assistance for creating the systems, but several business executives said the high demand was enough to lure them in.

Lynch said he would like to see larger incentives for health care organizations. Many are still struggling to afford EHRs, which he said influences how IT companies navigate the market.

"If you want to survive, you have to remember hospitals are struggling with their budgets," Lynch said. "You can't look at them purely as a prospect. In an environment where there are shrinking revenue opportunities for your customer, you have got to ... help them identify not just cost savings, but also new revenue opportunities."

That's where another segment of the private sector comes in.

Data contained in EHRs are a gold mine for bioinformatics and data analytics companies doing public health research, who could contract with health care providers for the right to use those records (minus personal identifying information, due to privacy regulations).

That could supply much-needed revenue to help health care organizations recoup the millions spent on infrastructure, Lynch said.

But if health care providers want to maximize the benefits of IT, the relationship between clinician and data-miner shouldn't end there, said Henry Franey, chief financial officer for the University of Maryland Medical System.

"Just putting some data in a computer probably takes more time than scribbling it down in doctor's handwriting," he said. "And I would argue that doing that by itself

doesn't create value. So the real question is, how do you get some business intelligence wrapped around it?"

The answer, according to Franey, is by creating a culture where clinicians routinely use knowledge gained from data analytics to inform care-delivery decisions. Learning which treatments are most effective for most people, for example, could help doctors avoid trial-and-error treatment plans.

With incentives in place to reward keeping patients healthy rather than running more tests, data-driven efficiencies could save hospitals money, Franey said.

At the same time, working closely with clinicians can be lucrative for the private sector, such as for Bowie-based Inovalon Inc., which uses predictive analytics to help insurance companies identify gaps in care provided to patients on their plans — for example, pinpointing people who tend to miss annual screenings or forget to refill prescriptions.

Jason Rose, Inovalon's senior vice president for business development, declined to share detailed financial information, but said the company has doubled its payroll since 2009, with about 4,000 employees nationwide, a large portion of them in Maryland.

For example, using claims data from insurers on the number of doctors' visits beneficiaries had, the pharmaceuticals they purchased, and the diagnoses they received, Inovalon paints a picture of the beneficiary population. That's valuable to the insurer, Rose said, because identifying dominant issues makes it easier to reduce associated costs.

The Affordable Care Act has created more opportunities for data analytics, such as implementing Health Insurance Exchanges, the marketplaces for individuals and small groups to purchase coverage. Insurance companies can't refuse coverage based on pre-existing conditions, so some insurers might end up responsible for lots of very sick people, which can get very expensive, Rose said.

"So it's very important for the health plan to accurately depict the member profile . ," he said. "Those health plans that end up with larger enrollments have to effectively manage the sick populations, identify their issues and then manage their costs."

Before becoming big business for IT companies, Electronic Health Records were born in academic research centers, said Dr. Kevin Fickenscher, CEO of the American Medical Informatics Association. Fickenscher said he expects a similar evolution for budding "mom-and-pop" companies in the bioinformatics sector, a specialty field that uses the data collected through health IT to conduct research into DNA, genes and other biologic elements and systems.

"Over the next five-plus years, we're going to see bioinformatics activities move from the academic bench to the commercial side," he said. "And as we move nationally toward a population health strategy., you're going to see a very dramatic

increase of businesses coming out with products and services to meet that need."

Companies "are going to embrace a more comprehensive model where they're not just doing analytics, but also helping health organizations change their work flow," Fickenscher added.

For example, he said, most clinicians know foot problems are common among diabetics. Basic analytics help doctors understand the statistics, but a comprehensive approach would also address how they use the information by creating a system to ensure that every diabetic foot is checked at every single visit.

Records from those visits would then be entered into EHRs and other health IT databases and sent for analysis to bioinformatics companies. Researchers could then provide clinicians with updated models to be used in care delivery.

"It sort of becomes this integrated model, which is what population health is all about," Fickenscher said. "It's not just the knowledge. That's a big piece of it, but it's really about the transformation of the way we do our work."

That co-dependence highlights the cyclical, give-and-take nature of the relationship between health care providers and the private sector. How well that model works could determine the economic viability of existing and future health IT investments.

The stakes are high, but both sides say they're confident — they have to be.

"We have to take advantage of technology," Franey said. "It's a hard choice, but it's our only choice, because frankly, we'll become a dinosaur in the next five years if we don't."

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