

**Executive Profile: Building a billion-dollar business to take on health care's biggest killer**

March 25, 2016

Don Seiffert



CEO of T2 Biosystems in Lexington, is an alum of medical device firm Cytyc, where he was instrumental in its eventual acquisition.

John McDonough spent more than two decades in the high-tech industry before he followed in his mother's footsteps and switched to health care.

McDonough says the fact that his mom was a nurse — an Irish native who worked in England during World War II — had a lot to do with how he ended up at a Marlborough-based women's health firm, Cytyc Corp.

"She would take care of people when she wasn't being paid for it," said McDonough. Of his decision in 2003 to leave the high-tech world for Cytyc, he said, "I made the conscious decision to go full bore into health care for all the right reasons. I wanted to do something that would help people."

Today the 56-year-old Sudbury resident is still going strong in the health field, with the goal of building the Bay State's next multibillion-dollar unicorn. And he's doing so at the helm of a Lexington firm that helps doctors diagnose the most common cause of death in U.S. hospitals: sepsis.

T2 Biosystems received FDA clearance in late 2014 to sell its T2Candida Panel, which along with the company's tabletop diagnostics device, called T2Dx, can tell within five hours if a patient has sepsis caused by a fungal infection. Current diagnostic tests for the infection take between three and six days, during which time a patient will get sicker with each passing hour.

The company cites studies that claim a diagnosis of sepsis within 12 hours, followed by the appropriate targeted therapy, reduces the chances of death by as much as 75 percent.

Sepsis itself is among the biggest unmet needs in the U.S. health care system, costing \$20.3 billion to treat more than 1.6 million patients every year. Half of all deaths in U.S. hospitals are directly caused by sepsis, McDonough said.

"When people die of cancer in hospitals, 25 percent of the time, they died of sepsis," he said.

McDonough says the prevalence and high death rates of sepsis are due to the ubiquitousness of the disease, not to mention the problems with diagnosing it. All of which prompted his 9-year-old company to apply its proprietary technology to sepsis. The company's product uses magnetic resonance to detect chemical or biological changes in liquids such as blood, an application that has enabled T2 to expand into research for bacterial forms of sepsis as well as one for Lyme disease.

Before McDonough was named CEO at T2 in 2007, he got his first taste of the health care business at one of the fastest-growing medical device companies at the time, Cytyc. McDonough headed that company's business development efforts from 2003 until its acquisition by Bedford-based Hologic in 2007 for \$6 billion. When he joined Cytyc, the company had about \$300 million in annual revenue, and by the time he left, it had grown to around \$800 million. Almost all of that growth stemmed from acquisitions which McDonough oversaw.

It was not a big surprise, then, that McDonough was chosen as one of the key people in charge of integrating the two companies in the months leading up to the merger. As he said, "We had the formula. We'd done so many acquisitions," he said.

Jack Cumming, Hologic's former CEO and a current T2 board member, called McDonough "absolutely integral" to Cytyc's acquisition, adding his former colleague "never really got the credit he deserved" for his work on the deal. He says that McDonough's strengths include his ability to manage all the different personalities involved in a merger.

“He’s one of the better people I’ve met in my career, and I’m not saying that as a paid advertisement,” he said. He said T2 is the first public company for which he has served as a director, and it’s largely because McDonough is running the show.

McDonough, who has one son with his wife, Lori, a preschool teacher in Sudbury, is driven by a love of the local professional sports teams outside work, as well as an interest in history books and distance running. But as for the future of the 165-employee company, which generated \$2.8 million in revenue and a \$45.3 million loss in 2015, he says he looks forward to leading it for years to come.

“I really believe we can build a multibillion dollar company and become one of the next great Massachusetts companies,” he said.