

Bridging Technology and Health Care

“EVERYONE WANTS TO BUILD an iPhone app. But to me it’s not about the equipment, it’s about solving a problem,” says Dr. Charles Safran ’69, chief of the Division of Clinical Informatics at Beth Israel Deaconess Medical Center in Boston and a professor of medicine at Harvard Medical School. Safran has spent most of his career devoted to solving one overarching problem: how to integrate rapidly evolving technology into clinical practice to improve patient care and health care in general.

While “clinical informatics” may not yet be a household term, the field has evolved from its infancy (on rudimentary computers) over 40 years ago to now encompass electronic health records, telemedicine, and other communication and information technologies. Technology has made exponential leaps and bounds in sophistication, but Safran’s mission has remained steadfast: “We can produce a lot of data,” he says. “But how does that information get incorporated and integrated into care and into your own health?”

Beth Israel was a trailblazer in this field, being among the first in the world to exploit the use of computers to improve the quality of medical care and teaching, augment the patient-doctor relationship, and facilitate research. Safran humbly says he was “in the right place at the right time,” having come to the hospital in 1983 during the early years of clinical informatics, yet was truly instrumental in the development of the field, and specifically of the electronic health record.

Safran arrived at Beth Israel after a somewhat unplanned “seven-year detour” to Tufts University School of Medicine. Prior to medical school, Safran had been working at MIT, applying artificial intelligence to the field of medical decision-making. With bachelor’s and master’s degrees in mathematical logic from Tufts, his career trajectory was initially not headed toward medicine. He says he decided working alongside doctors might



Dr. Charles Safran '69, at Beth Israel Deaconess Medical Center, works with a software engineer who is developing a next-generation electronic health record.

be a better bet than working for doctors, and followed the medical school path.

While part of medicine’s appeal was working with patients and families, Safran seized a greater challenge. “I thought to myself, There are 500 people in this building, but 300 million on the other side of these walls. I could be helping hundreds of thousands of patients at the same time,” he explains.

Safran was instrumental in developing and deploying clinical computing systems at not only Beth Israel but also Brigham & Women’s Hospital, designing and organizing the interface between clinicians and users. In the mid-1990s, he helped to develop a system to enable parents to see their prematurely born babies in real time in the neonatal unit, something that seems easy nowadays with a smartphone. His leading role in helping to develop these technologies along with the electronic health record earned him the 2014 Morris F. Collen Award for Excellence in Biomedical Informatics, the highest honor given by the American College of Medical Informatics.

The focus of Safran’s recent work is on improving family participation in the care of elders, an area of health care that is rapidly expanding due to the

significant rise in the senior population. But ultimately Safran sees his work in a pragmatic framework: “We have about 200,000 practicing doctors and about 300 million Americans. How can people get all the care they need, when they need it? And how can we use technology to improve how we care for folks?” he posits.

Recognizing the major role that clinical informatics plays in health care today, the American Board of Medical Specialties recently created a medical sub-specialty for the field, under preventive medicine. Safran explains that the field is rapidly growing—medical schools are introducing informatics into the curriculum, upwards of 1,000 people have passed their boards in clinical informatics, and about 20 hospitals nationwide have clinical informatics training.

To Safran, the use of computers in medical decision-making is a powerful tool. That technology can truly change health care, however, is transformative: “It’s about enabling people to be participants in their own care,” he says. “The world has democratized knowledge, and we now have tools to help people that we didn’t have before.” ■

—Phoebe Vaughn Outerbridge '84