

Viewpoint

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It's hard to believe Michael Shabot, MD, had no early interest in medicine. But maybe it just had to get in line. "I kind of drifted into medical school after I kept looking for challenging things to do like architecture, computer science and law," says the executive VP and chief clinical officer for Houston-based Memorial Hermann Health System, which includes nine acute care hospitals, a children's hospital, an orthopedic and spine hospital, two rehabilitation hospitals, 20 ambulatory surgical centers and 180 other ambulatory facilities. He is responsible for Memorial Hermann's medical groups with 4,000 physicians, its Accountable Care Organization, a primary care residency, Health Information Management, Case Management, Care Management, Medical Informatics, Quality, Safety, Infection Control and Registry Reporting. Dr. Shabot is an Adjunct Professor at the University of Texas at Houston in the Schools of Biomedical Informatics and Public Health. Under his leadership, in 2013 Memorial Hermann received the John M. Eisenberg Award for Patient Safety and Quality at the National Level, presented by the Joint Commission and National Quality Forum. Dr. Shabot is board certified in General Surgery and Surgery Critical Care, with specialties in general surgery, trauma surgery and critical care. Prior to joining Memorial Hermann, Dr. Shabot served as Medical Director of Enterprise Information Services, Director of Surgical Intensive Care and Associate Director of Surgery at Cedars-Sinai Medical Center in Los Angeles. He has published over 350 papers, chapters, books and abstracts on critical care, trauma, physiologic monitoring and the use of computerized information systems for decision support, quality management and clinical research. Dr. Shabot is married to Linda Ann Shabot and they have three children in California and Texas. Oh, yes, his lifelong hobby is building and flying radio-controlled planes.

What are the strategic initiatives and results at Memorial Hermann that you're most proud to have been involved with?

That's easy: Memorial Hermann's initiative to become a true High-Reliability Organization [HRO] like those in commercial and naval aviation, air traffic control and the nuclear industry. Healthcare has been fraught with harm and errors and we aim to eliminate those—not merely reduce them. It's not just a hope. We've implemented countless new processes to eliminate errors. For example, we administer 1.5 million medications per month in our hospitals, frequently without a serious error. We use RFID tags in sponges in the OR and Labor and Delivery, and our hospitals now go for years without a retained foreign body after surgery, including one hospital at the 5 ½ year mark. Also, our hospitals now go years without a central line-line infection, ventilator infection, deep pressure ulcer, fall or fracture.

We confer a special recognition for hospitals that go a full year without specific reportable harm events, which we call the Memorial Hermann High Reliability Certified Zero



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Award. Since 2011 we have presented 171 Certified Zero Awards to hospitals achieving zero errors in a targeted area for one year or longer. Since 2007 we've administered more than one million units of blood without a hemolytic transfusion reaction. That's better than six sigma reliability. So, I'm proud of that. We're all proud of that.

You have been a national leader in adoption of High Reliability (HR) concepts in healthcare. What's next and what do you recommend to other healthcare organizations in terms of High Reliability strategies?

I believe all healthcare organizations owe it to their patients to become High Reliability Organizations (HROs). This isn't just an aspirational hope. We chose five major High Reliability behaviors that are not specific to healthcare to promulgate throughout the organization, and we've taught them to 20,000-plus employees and most of our physicians. One of the five behaviors is called STAR, for Stop, Think, Act and Review, involving a one-second stop before a treatment is given. This one-second stop has been shown to prevent 90 percent of preventable errors.

We don't teach nurses how to give an injection but how to ensure they're treating the right patient with the right medication at the right time. We teach the same HR behaviors that the Blue Angels are taught. HROs operate all around us, they're just not usually your local hospitals. But they need to be.

How have you as CMO helped shape the accountable care models for the organization?

I served three years as the founding chair of our ACO board starting in July 2012 and continue to serve as a board member. At this time our Medicare Shared Savings and commercial ACO patients total about 240,000. Many individuals were involved in this organizational change—including physicians in the medical group, private practice physicians and the MHMD physician organization.

My greatest challenge has been to help set quality standards for all physicians and hospitals. We strive to deliver the same quality care to every patient. In the early stage of our High Reliability initiative we set goals of 100 percent for quality measures and zero percent for all harm measures. 100 and zero are the two most important numbers in healthcare.

Patient engagement is a hot topic in healthcare. What are some new ways that Memorial Hermann is engaging patients and consumers in their care and health?

We do that in many areas, but a notable example is our "Virtual Care Check" home monitor used for patients with chronic conditions like heart failure. It's a tablet-like device with wireless and cellular connectivity to blood-pressure, pulse-oximetry, weight and temperature measurements performed by patients in their homes. It also offers face-to-face video chats with our care providers. If anything is over or under a prescribed level it alerts nurse case managers. In our first 200 congestive heart failure (CHF) patients, the incidence of hospital and observation admissions was dramatically reduced compared to the same patients' admissions before Virtual Care Check. That's good engagement because these patients do their own measurements and have their families totally engaged in their care.

As healthcare moves from a volume-based model to one based on value and accountable care, defining value is a major challenge. How do you define value?

We define value as the quality of care divided by cost. Quality over cost. Our value is keeping patients healthy and out of the hospital and ED. Our Medicare Shared Savings Program (MSSP) ACO recorded the highest savings of any ACO in the nation, \$57.8 million, in its first year of operation. This represents 1/6 of the savings of all the MSSP ACOs in the country, and Medicare returned \$28 million to

us. And we're on track to do the same or better in the 2nd MSSP year. In year 1 we met all the quality measures and saved Medicare 11 percent compared to these patients' baseline costs. We also did

well with our commercial ACO patients. Our patients stayed healthy and our physicians received meaningful bonuses.

As CMO of a major health system, what are your top concerns about IT for the next decade?

Use of IT is critical to quality, safety and efficiency but faces several challenges. One is interoperability, which is very, very poor. We're addressing that by expanding our EHR to serve as an enterprise EHR and replacing older EHRs in our physician practices. A second major challenge is software that works smoothly with clinicians' workflow. For the analytics required to manage an ACO, most vendors are in catch-up mode. We have employed first and second generation accountable care analytics and this remains an area for future development.

Memorial Hermann recently broke ground on a \$650-million renovation and expansion project of its Texas Medical Center (TMC) campus. What's driving this initiative?

We're building to meet existing demand for two reasons: One, the City of Houston is growing by 125,000 new residents a year and we need to grow to meet their needs, and, two, Memorial Hermann has been increasing market share. We're growing both hospital patients and ACO patients at the same time.

~ Chuck Appleby

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“High Reliability Organizations operate all around us, they're just not usually your local hospitals. But they need to be.”



STANLEY R. NELSON, Founder & Chairman Emeritus (1993–2012)

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