

The changing surgical landscape

How medical device developers can compete in a value-based system

The shift toward value-based reimbursement in the US (and similar models internationally) affects all aspects of healthcare processes and procedures - medical devices included. In a McKesson Corporation survey, United States healthcare providers reported 36 percent of their business had a value-based payment arrangement. By 2021, they expect that number to reach 60 percent¹.

Tighter regulatory scrutiny coupled with healthcare's emphasis on improved outcomes has put pressure on medtech companies to adjust business models. To stay competitive, medical device developers must reimagine what they bring to market.

↳ What is value-based reimbursement?

Value-based reimbursement programs hinge payment on quality and efficiency of care. With bundled payments, a key pillar of value-based care, instead of receiving payment per use, as with the traditional fee-for-service model, healthcare providers receive one payment covering all aspects of treatment. The care continuum stretches from pre-op, through surgery, to post-operative care and rehabilitation. Hospitals that consistently produce better outcomes, aka high-performing hospitals, keep a larger share of the incentive.

Value-based care turns the traditional 60 or 90 day



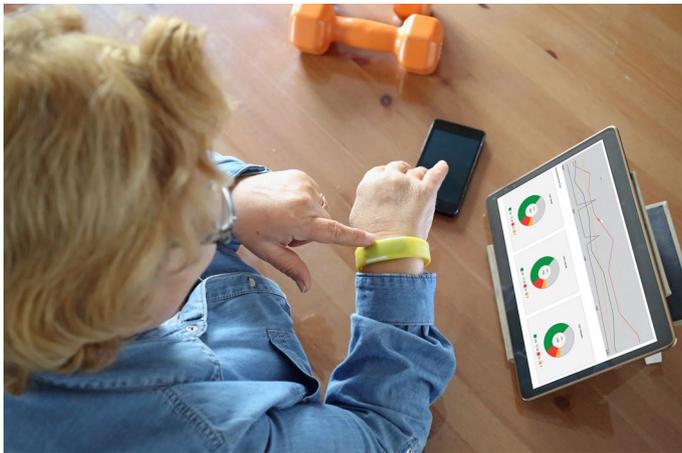
revenue cycle on its head. However, with US healthcare costs comprising 17.8 percent of the 2015 gross domestic product, and rising, the shift to value over volume is necessary to control costs and improve outcomes.

To deliver more value at a lower cost, healthcare organizations are expanding services to offer more urgent care and wellness clinics, telehealth services and outpatient facilities. By keeping patients out of the hospital and reducing recovery time, patients get better health at a lower cost. Healthcare organizations can protect margins if they can promote fewer readmissions and complications and shorter length of stay.

↳ The holistic approach

With the shift to value-based care comes increased use of health apps, remote monitoring and Software as a Medical Device (SaMD). These devices aim to

capture previously inaccessible data, bring patient care to the home and increase patient engagement, all of which can help improve quality of care by personalizing treatment and releasing the patient from the costly confines of the hospital.



Medical device developers and manufacturers are taking note of these trends, developing products and services that focus on the entire care cycle. This holistic approach is key to staying competitive in healthcare's progressively value-driven industry.

"If a manufacturer can prove a premium device delivers better outcomes or gets patients out of the hospital quicker, they have an advantage," says John Foy, medtech strategy and innovation consultant for Sagentia, a research and product development firm with offices in the UK and US. "They have to think beyond surgery to answer more needs along the patient care cycle."

Medical device manufacturers ahead of the curve understand the opportunities available for both new and enhanced devices in a value-based environment. Established companies and startups alike are thinking "beyond the device" and beyond traditional point-of-care settings. According to a PwC Health Research Institute report, seven out of the top 10 medical device companies have undergone organizational changes that reflect a shift toward service-based offerings².

↳ Connectivity is key

In April 2016, Stryker launched JointCOACH, a digital patient engagement and education platform to help

patients undergoing joint replacement surgery. The platform allows patients to communicate with their care team by smartphone or computer from before the time of surgery until at least 90 days after discharge.

JointCOACH delivers pre-op preparation, medication and recovery and rehabilitation information to patients to keep them engaged and help ensure a more successful recovery. The platform also allows healthcare organizations to manage and track payments for patients enrolled in Medicare's Comprehensive Care for Joint Replacement (CJR) program, a bundled payment model launched in 2015.

Zimmer Biomet recently acquired RespondWell®, a telerehabilitation technology that allows patients to receive personalized, clinician-supervised post-surgical physical therapy from home. The acquisition builds on Zimmer Biomet's Signature Solutions offering, which includes a remote rehabilitation platform called Therapy@Home.

Therapy@Home features a care team-designed rehabilitation plan using video-game style exercises. With the Signature Solutions suite, Zimmer Biomet addresses the patient's need for convenient rehabilitation options and the provider's need to streamline post-surgical care.



St. Jude Medical (now part of Abbott), introduced CardioMEMS™ HF, the first FDA-approved heart failure monitoring system. CardioMEM's wireless sensor, implanted in the pulmonary artery, uploads blood pressure readings, including those that provide early warning of heart failure. The system promises a

33 percent reduction in heart failure admissions, as well as an improvement in exercise capacity and quality of life.

↳ Medical device ecosystems

To deliver the improved outcomes healthcare organizations want and need, device manufacturers are increasingly interested in services and therapies that may reduce healing time and complications. They may bundle medical devices with other devices, new services, new procedures or expanded training to provide more value to their customers. Surgical companies are no longer just thinking about the surgical piece of the process they are now motivated to think about the whole episode of care from end-to-end.

“Companies stop being purely a surgery company and own the patient through the process,” says Alistair Fleming, Sagentia’s managing director of medical advisory. “Device manufacturers think about a service that revolves around a patient’s needs rather than a product.”



Consideration of devices as part of a system has prompted mergers and acquisitions in addition to expanded product lines and product enhancements. Medtronic plc acquired Covidien in 2014 in a \$42.9 billion merger. The acquisition brought together two noncompeting but complementary companies—one with a dominance in surgical solutions and another a leader in cardiovascular, spinal and other therapies outside of the OR. Taking an end-to-end approach where cost-effectiveness is measured over the entire process it is possible to make investments at one point of the treatment pathway to secure benefits elsewhere. Because cost-effectiveness is now measured over the

whole process, extra functionality – meaning extra cost – can be justified because the return on the investment can be measured more holistically. “In the example of the Medtronic and Covidien merger for example, together, the two companies can potentially start thinking about ways to put extra capabilities into surgical products that would bring benefits months later,” says Fleming.



Johnson & Johnson Medical Device Companies announced this year its Orthopaedic Episode of Care Approach designed to help reduce average episodic hip and knee implant patient costs. The approach also supports bundled payment arrangements launched by the U.S. Centers for Medicare and Medicaid Services. The program includes digital offerings to guide patients through surgery and recovery, as well as services to help hospital staff with orthopedic bundle payment support, infection risk management and standards of care.

Smith and Nephew, a London-based medical equipment manufacturing company, reshaped its orthopedic product offerings with Syncera, which leverages technology to reportedly eliminate the need for the manufacturer’s rep in the operating room, reduce training, waste and processing cost. With Syncera, Smith & Nephew can offer two of its hip and knee replacement products at a lower price.

“Medtech companies can find value in products that provide and measure data post-surgery,” says Foy. By feeding this data back into the system, he goes on to

suggest “The more information the surgeon has to prevent complications down the road, the better the value.”

→ How in innovate in a value-based world

Reimagining a product or suite of products to complement value-based care starts with Voice of Customer Research. VOC techniques and methods help device manufacturers gain the insight needed when developing new technology, as well as when developing complementary services and connected solutions.



In addition to standard VOC methods such as surveys and focus groups, Rob Morgan, vice president, medical, at Sagentia, recommends an observational approach that includes ethnography in surgical

settings. “Watch the surgeon and his team during surgery,” says Morgan. “You’ll know, objectively and independently, what his or her needs are and what to improve.”

VOC research also includes studying the patient, the purchasing group, the technicians and the entire perioperative team involved with the episode of care. “At Sagentia, we track a day in the life of those stakeholders,” says Foy. “We then track the product through that lifecycle. Which step is most critical? We look for specific insights and analysis points that we see as opportunities to make stakeholders’ lives better.” To respond to a value-based model, you also need to be continually thinking about the entire clinical pathway. With this broader perspective, such research can uncover needs beyond the immediate use-context.

Medical device developers must research, innovate and consider the full care cycle when creating products for current and future healthcare organizations. “Products traditionally had a discrete purpose,” says Fleming. “That’s changed. There are a wealth of opportunities for products to evolve as a result of broader thinking.”

→ Resources

1. “Journey to Value: The State of Value-Based Reimbursement in 2016,” McKesson Health Solutions, 2016. Accessed September 8, 2017.
2. “PwC Health Research Institute Spotlight: Beyond the device: From producer to problem solver.” PwC, August 2016. Accessed September 20, 2017.