THE KEY CHALLENGES FACING MEDICAL DEVICE MANUFACTURERS

(and how to meet them with strategic interoperability)

InterSystems
HEALTHSHARE®

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Executive Overview

Accountable care and value-based reimbursement models are causing a seismic shift in the medical device industry. In the new medical device market, the value of the device and data alone will not drive sales. Instead, it will be solutions that bundle device, data, and real-time analytics that clinicians, health systems, and payers will want to buy. For improved decision-making and outcomes, they need these solutions to deliver actionable information into existing electronic medical record systems and health information exchanges. And they need them to provide the efficacy and results data required in value-based reimbursement models.

In this environment, nearly every manufacturer of medical devices faces two key, interrelated challenges:

■ How to adapt to the shift to value-based payment models

■ How to protect margins with products that elude commoditization

You can meet these challenges by using a strategic interoperability platform to create solutions with leading-edge integration, data aggregation, and analytics capabilities.

Adapting to value-based payment models: A focus on analytics

Today's shift to value-based reimbursement is also causing shifts in to whom devices are marketed and sold, and how the new buyers value what you're offering. From 2005 to 2009, the yearly average number of announced US hospital mergers and acquisitions was 56. In 2012 that number was 94. From 2005 to 2009 the average percentage of physicians in private practice was 33. In 2012 the average was 24 percent. These rates of change show no signs of slowing.

As more physicians become employees of large medical groups, hospitals, and IDNs, and payer and provider organizations merge, the influence of individual physicians on medical device sales is waning. The new influencers, the hospital groups, IDNs, and payers, have the clout to secure large purchases of a device for use across entire healthcare systems and in homes. But their decisions will be based on more than just ease-of-use, or how compatible the device is with other equipment.

"Value in medtech will increasingly be defined by a company's ability to use analytics to prove the effectiveness and efficiency of its products and actions."

Ernst & Young, Pulse of the Industry Medical Technology Report, 2013.

As the excellent Ernst & Young 2013 "Pulse of the Industry, Medical Technology Report" notes, "Companies need to invest significantly in expanding beyond products and in developing new business models for a world of value-driven healthcare." Preferred products will be a combination of devices and services built around delivering solutions for payers, providers, and patients. "These business models will frequently be created in collaboration with a diverse set of players from across the spectrum of health care. ***Many of them will be built around data and analytics*** — capabilities that medtech companies need to expand to demonstrate value to payers and influence the behavior of patients."

Opportunity waits during this time of change for those with the vision to see it and the agility and technology to act on it.

Re-inventing the wheel not required

Where does this ability come from? The long answer is that your organization can build data aggregation, management, and analytics software to complement your devices – if you have the expertise, time, money, and will. The short answer is that you don't have to build it. You can rapidly incorporate proven, powerful, strategic interoperability and analytics capabilities, such as provided by InterSystems, into a solution offering.

With this approach you can provide solutions that:

■ Interface devices quickly with nearly any electronic health record

■ Monitor device performance for proactive maintenance and product improvement

■ Aggregate and analyze data for trending that helps customers manage population health

■ Turn aggregated data into revenue by providing it for other companies' research efforts

■ Deliver actionable information directly into clinician workflows

■ Reduce alert fatigue by applying analytics and rules to the data before clinicians are notified

■ Support multiple industry standards as they evolve and new ones are developed

Innovation in the use of data is a natural path to becoming a solution provider, and not just a device vendor. Using the services of a strategic interoperability platform enables you to focus on your core competency in device innovation, while gaining a ready-made solution for device connectivity, data aggregation and normalization, workflow, and active analytics.

Fine-tuning pacemaker data models, improving population health

A strategic interoperability platform can give makers of implantable devices a new way to gather and analyze data to improve products and processes, and demonstrate efficacy. A maker of pacemakers might use such a platform to aggregate data from all patients using the device over a given time period, including relevant information from the electronic health record. The analysis could look at outcomes from use of the device and help the manufacturer fine-tune its data models. With access to the health record and information such as demographics and medications, the manufacturer could determine who responds best to its device, or if one segment of the population responds better than another to a particular model. The end result for providers, patients, and payers would be better population health, increased patient safety as each person would get the best device for their profile, and lower overall costs.

Protect margins, elude commoditization

Success in meeting customer demand for integration of devices and data with their electronic health records (EHRs) – either by writing code or using an open source interface engine to handle connectivity and data formatting – doesn't change how customers value your product. It is still a piece of hardware. It may be the best, but eventually it becomes a commodity that can be replaced by another piece of hardware from another company, perhaps at a lower price. Computer manufacturers have fought this dynamic for years. Those still thriving do so by offering services, support, and hardware wrapped into solutions that address business problems.

Innovation at the device level stays the tide of commoditization only for a short while.

Use data to establish clinical expertise

Innovation at the data and solutions level provides additional long-term value to your organization and customers. Across locations, therapeutic areas, and populations of patients your devices generate and share critical data. With the growing emphasis on population health management and accountable care, having the ability to aggregate, analyze, and understand this data means that you can be positioned as the clinical experts in improving outcomes using your devices. This is a key to avoiding the commoditization trap and thriving during this time of healthcare transformation.

"Clinically interoperable" camera increases accuracy, speeds workflow, improves communication

A major manufacturer of cameras sold to healthcare organizations for use during surgery needed a breakthrough to differentiate its product, increase its value to buyers, and become more strategic to its customers' business. The company understood that in the increasingly interconnected world of health-care, the value of stand-alone devices was declining. A rapid and successful proof of concept project with InterSystems gave this company's business executives the technology, product, and value proposition they needed to ignite sales. They now have a clinically interoperable device that uses InterSystems HealthShare to transform camera image and meta-data into a format that HealthShare can insert automatically into electronic medical record systems. Combined with HealthShare's workflow and analytics capabilities, the company is gaining an edge not only in its camera business, but also in consulting opportunities for information integration and work-flow improvements using its other products throughout the hospital.

Home care device gains advantage for reducing readmissions

A leading manufacturer of home health devices, including blood pressure and heart monitors, uses the strategic interoperability capabilities of InterSystems HealthShare to make its products more compelling to providers and payers, and less likely to be dislodged. When measures taken by a device or devices cross a pre-defined threshold, an "exception report" and message is generated and sent automatically to alert relevant providers, based on rules created and stored in HealthShare. The report includes information on the threshold that was crossed and related health data for that patient. For a patient with congestive heart failure, such a threshold might be too much weight gained over too short a period. The device manufacturer is able to deliver what clinicians want – trustworthy alerting and important information from home care inserted directly into their workflow. Patients appreciate knowing that their care is being monitored and coordinated. Hospitals and payers appreciate improved care, fewer readmissions, and lower costs.

Long-term success: The advantages of strategic interoperability and partnership with InterSystems

Strategic interoperability is the new paradigm for creating solutions to serve customers who are transforming the way they buy medical technology, improve care, and control costs. A strategic interoperability platform like InterSystems HealthShare brings together all the technology needed for medical device solutions in a single, integrated platform that:

- Reduces complexity and risk

- Reduces design, testing, and implementation costs

- Increases maintainability

- Accommodates innovation

- Includes strong security and privacy capabilities

- Is highly scalable in both directions

- Supports a wide array of industry standards covering the gamut of healthcare clinical and business needs

- Helps you bring products to market faster

Supercharged infusion pumps give nurses more time with patients

A global supplier of infusion pumps is supercharging its products with advanced capabilities, independent of core FDA regulated components, using InterSystems technology. The goal is to free nursing staff to spend more time directly with patients. These capabilities include: EHR connectivity; automatic recording of input/output in the medical record when drip rates change frequently; automated monitoring to determine if a device is OK to use, and to alert staff when maintenance is needed; "score cards" to compare device maintenance performance between hospitals as a baseline for improved training; making it easier to positively associate device data with specific patients; and tracking of patient data against outcomes to determine best practices.

InterSystems

InterSystems HealthShare comes with the full support, reliability, and experience of InterSystems, a leader in healthcare information technology and interoperability since 1978, with offices in 25 countries. HealthShare is widely used as a strategic interoperability platform in the US and internationally. In Sweden it is used to provide a national health information exchange with real-time access for the country's clinicians. In the US, it powers statewide exchanges serving more than 60 million Americans, and is widely used by integrated delivery networks for interoperability, data aggregation and normalization, and analytics.

InterSystems data management technology is behind many of the leading healthcare applications worldwide, including those from Epic, GE, 3M, the US Department of Veterans Affairs, Baxter Healthcare, Beckman Coulter, Bio-Rad, Sunquest, Verizon Mobile Health, and many others.

Learn more

To learn more about using HealthShare in medical device solutions, contact us now at 800-753-2571, or visit InterSystems.com/devices

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