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Six winning roles for
medtech to thrive in
the future of health

We are living in an era of exponential change in medical technology, with developments so fast and nonlinear that they are at the point of limiting our ability to see over the horizon. Numerous trends, many of them driven by digital transformation (figure 1), are accelerating the pace of disruption and propelling us toward a [future of health](#) that will be significantly different from our current medtech marketplace.

By 2040, we expect that the consumer will be at the center of all things health-related. Health will be defined holistically as an overall state of well-being encompassing mental, social, emotional, physical, and spiritual health. Interoperable, always-on data will promote closer collaboration among industry stakeholders, and innovative combinations of products and services will be offered by incumbents and new entrants. Interventions and treatments are likely to be more precise, more personalized, less complex, less invasive, and less expensive.

What role will medtech companies play in the future of health? Conventional medtechs traditionally have focused their business operations and investments on manufacturing and selling technologically advanced medical products such as diagnostic equipment, implantable devices, monitoring devices, or other medical supplies. However, as evolving consumer health needs and increasing data availability drive development of new solutions that go beyond the device, the implications for these companies' future market viability could be considerable. For example, innovative medical solutions will be enhanced by

nontraditional consumer technology and digital health disruptors, creating data-centric offerings and clinically differentiated devices. Flexible consumption models are emerging in which companies offer services on a per-patient, per-use basis, providing alternatives to traditional capital-intensive models. Health will be monitored on a continuum of care, with providers focusing on devices and equipment that help improve patient outcomes. Decreasing reliance on traditional product-centric solutions will be offset by increasing need for consumer preventive wellness solutions and postprocedure monitoring capabilities.

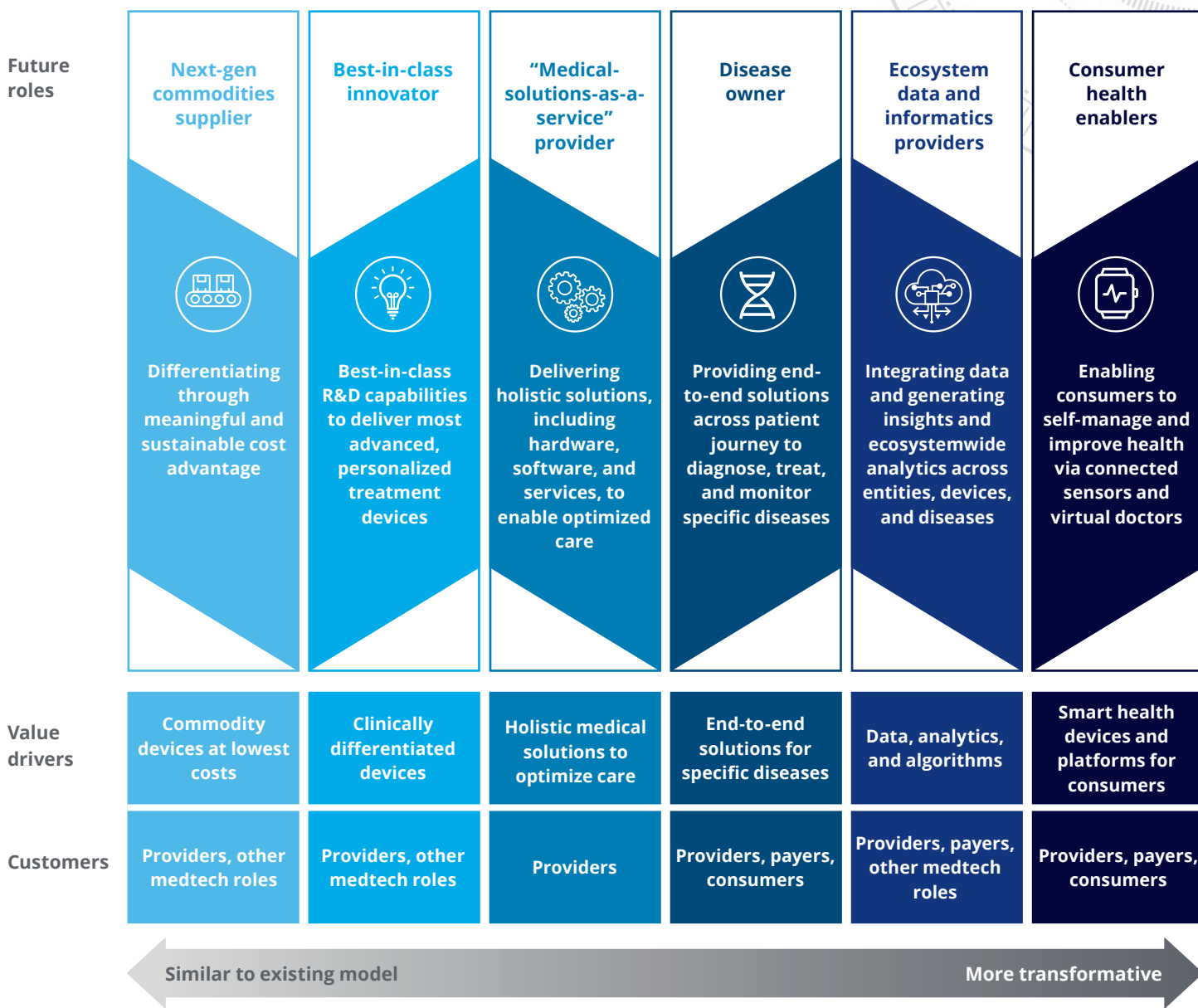
Figure 1. Future of health trends are driving medtech marketplace changes



Many medtech companies are already beginning to incorporate always-on biosensors and software into devices that can generate, gather, and share data. That's an important step forward, but to create sustainable clinical and business value, medtechs will need to evolve from their current product supplier role and define where they want to play and how they want to win in the future of health via these new roles.

In particular, we envision six future roles that will enable medtech companies to deliver meaningful and differentiated value and thrive in tomorrow's consumer-centric, digitally powered health care marketplace (figure 2).

Figure 2. Six future medtech roles



Six winning roles for medtech to thrive in the future of health

As they evolve to these roles, medtechs will need to:

- **Strengthen core capabilities** to specialize either as a low-cost, highly efficient supplier or a premium supplier of innovative and differentiated products;
- **Expand offerings** to create holistic solutions by either combining products, software, and services to help providers achieve clinical and operational excellence

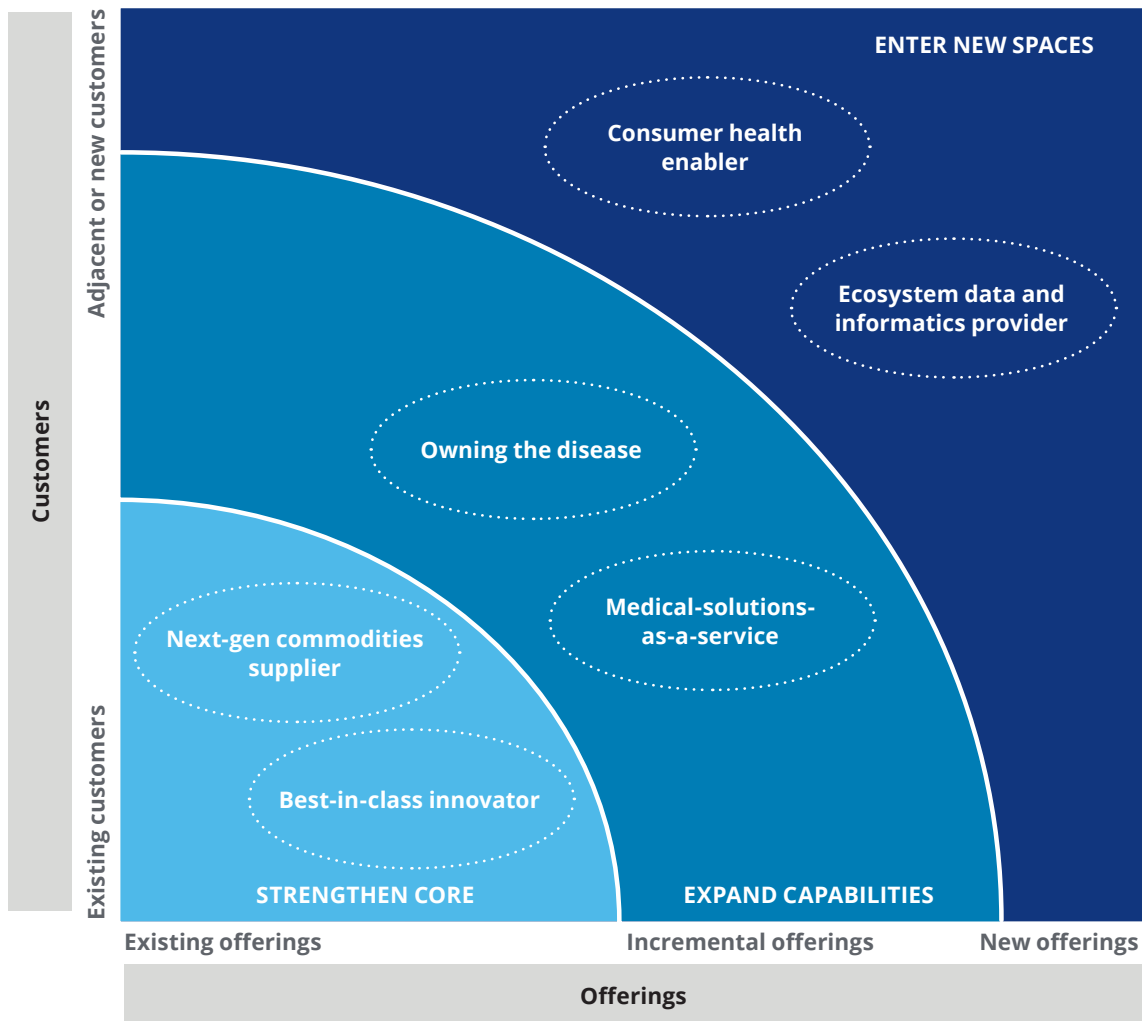
or integrating all products and services required to treat a selected disease via partnerships or acquisitions; and

- **Enter new spaces** by providing transformative offerings that either facilitate data transfer, insight generation, and decision optimization across the health ecosystem or enable consumers to better and more proactively manage their health (figure 3).

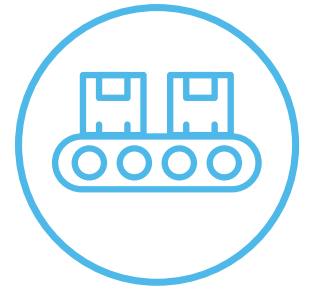
A medtech company may operate in one or multiple roles, depending on what products and services it offers and what markets and customers it serves. For each role, we look at key success factors and capabilities and provide examples of companies that illustrate characteristics of these future-focused roles.

Figure 3. Six future medtech roles

Roles will evolve to help companies strengthen core capabilities, expand offerings, and/or enter new spaces



Strengthen core capabilities to differentiate



Future role 1: Next-gen commodities supplier

Similar to the product supplier role most current medtechs hold, the next-gen commodities supplier provides clinically sound products at a much lower price via superior efficiencies that lead to meaningful and sustainable cost advantages. The role takes advantage of digitally enabled supply chain capabilities, access to low-cost supplies and labor, partnerships that leverage new data, and a global network to achieve an industry-leading cost-of-goods-sold profile. The next-gen commodities supplier role is critical to the health ecosystem because it provides “good enough” products at the lowest prices, similar to generics manufacturers in the pharmaceutical industry. Potential variations of this role include full-spectrum manufacturer with lean R&D and commercial functions; commodity manufacturing company providing medical devices; and vertically integrated manufacturer-distributor.

Examples:

Mindray, founded in Shenzhen, China, in 1991, has become the largest Chinese medical technology company. It develops, manufactures, and supplies high-quality medical products at lower costs, making health care more accessible and affordable around the world in three core businesses: patient monitoring and life support, medical imaging, and in vitro diagnostics.

Mindray's success has been largely driven by its cost advantage. In the Chinese market, Mindray competes with multinationals by offering its devices at a 20% to 30% discount next to those of its international competitors. A low-cost production structure has enabled the company to sustain such price advantage without decimating margins. After its success in the Chinese market, Mindray has been expanding its footprint globally. Its high-quality, low-cost value proposition resonates well in emerging and developed markets under global health care cost containment trends. Today, Mindray is selling its products in more than 190 countries and regions, reaching \$2.3 billion annual revenue in 2019. Only two years after an IPO on the Chinese A-share market in October 2018 at a price of CNY 89, Mindray's

stock grew more than 356% to close at CNY 406 as of November 4, 2020.¹

Cardinal Health's Medical Products & Equipment segment manufactures, sources, and distributes Cardinal Health-branded medical, surgical, and laboratory products globally. The company's products bridge the gap between the constant need for quality and the increasing demand for savings. Its brand portfolio includes a comprehensive offering of clinician-preference, cost-efficient products and physician-preferred items with low clinical differentiation, helping providers improve the bottom line while delivering high-quality care.²

In addition to selling Cardinal Health-branded products, Cardinal also distributes a broad range of medical, surgical, and laboratory products from other manufacturers and provides supply chain services and solutions to hospitals, ambulatory surgery centers, clinical laboratories, and other health care providers. It is one of the few vertically integrated manufacturer-distributor players in the medtech industry that provide cost-effective solutions to help customers improve operational efficiency and financial performance.

¹ https://www.mindray.com/en/presscenter/Manufacturing_Matters_A_smart_approach_to_intelligence.html
² <https://www.cardinalhealth.com/en/product-solutions/medical.html>



Future role 2: Best-in-class innovator

A best-in-class innovator provides products with substantial clinical and economic differentiation, such as devices that can cure specific diseases, significantly slow disease progression, or enable personalized treatment with higher clinical utilization. Best-in-class innovators excel in the idea-to-market process and deliver superior product innovations via customer-centric, data-driven, open innovation capabilities with significant access to world-class medical researchers and clinicians. Success in this role requires an agile ability to evaluate innovative ideas both internally and with external partners. Market development will be another required capability, as many of the products this role introduces will be first-of-their-kind. Investments in comparative effectiveness studies may be needed to support market-shaping and/or penetration efforts. Although this role is still a product supplier, it adds value to the health ecosystem by regularly and consistently designing, developing, and introducing truly value-enhancing, differentiated products. Potential variations of this role include full-spectrum manufacturer with minimum commercial capabilities (process or product technology innovators); R&D and small- or medium-scale manufacturing capabilities only (product technology innovators only); and academic or research institutions.

Examples:

Intuitive Surgical leverages AI and data analytics in its product development process to fuel innovations that can help enable better outcomes.³ Intuitive's well-known robotic surgery platforms, VinciSP System and Ion, continue to make headway in the marketplace with novel capabilities like pre- and intraoperative augmented reality (AR) guidance, delivering 3D images of a patient's anatomy. In addition to platform-based innovations, Intuitive Surgical continues to set new benchmarks in core technologies, like its X and Xi Endoscope Plus imaging technology, which provides fifth-generation resolution. Intuitive's business model innovations, including increasing use of operating leases of its equipment, at 34% of total placements in 2019,⁴ is seen as being equally important in this age of tight hospital budgets.

Stryker uses in-house R&D and manufacturing capabilities and partners with leading academic medical centers to develop and test new digitally enabled care products that deliver better patient outcomes.⁵ Stryker has consistently leveraged customers in leading academic medical centers to improve its products and help those customers improve the metrics they are measured on, including rehospitalizations and cost savings from procedures where Stryker products are used. By going beyond core product benefits and creating better metrics around performance metrics of utmost importance to health systems, Stryker has been able to innovate both on key product and solution dimensions.

³ <https://www.intuitive.com/en-us>

⁴ Intuitive Surgical JPMorgan presentation, January 2020.

⁵ https://www.stryker.com/content/dam/stryker/joint-replacement/sps/knowledge-center/performance-solutions-case-study_mercy-medical-center-destination-center-joint.pdf

Expand offerings



Future role 3: “Medical-solutions-as-a-service” provider

A “medical-solutions-as-a-service” company elevates the transaction-based product supplier role to that of a customer business partner via data-driven delivery of holistic solutions, including hardware, software, and professional services (e.g., clinical workflow consulting, analytics, and management, enabling customers to optimize clinical, operational, and economic outcomes on a per-patient basis. Companies that adopt this role will need to embrace outcome-based and/or subscription-based revenue models, as traditional volume-based models are unlikely to be as effective. These medtechs will be truly integrated into their customers’ operations and eventually assume full responsibility for specific enabling functions and processes (e.g., device data management and analytics). Potential variations of this role include comprehensive solutions provider, including all hardware, software, and service needs; provider operations integrator creating meaningful value clinically and operationally; and medical solutions aggregator from different sources, providing a single solution platform. The high tech industry went through a similar evolution from selling products to delivering solutions a decade ago. Key learnings from that process may be helpful to medtech companies planning to become a service provider.

Examples:

Siemens Healthineer is a leading global medical solution company that offers a variety of products in its portfolio that support clinical experts in diagnostic and therapeutic decision-making. Siemens also provides a range of services and solutions to enhance health care providers’ ability to provide high-quality, efficient care to patients. To transform its product-focused business model to a solution-centered business model, Siemens has successfully established many multiyear value partnership contracts with health systems globally to advance and support customers’ strategic priorities related to continually improving care for their patients and communities. Under the value partnerships, Siemens provides customers access to its latest health innovations and medical equipment, as well as educational resources, professional services, and on-site staff to support clinical decision-making, optimize workflows, transform care delivery, and improve patient experience. Many of these value partnerships also include innovative contract models such as unitary, pay-per-use, subscriptions, and performance-sharing.⁶

Medtronic has operations in 150+ countries worldwide⁷ and offers a diverse product portfolio treating more than 70 health conditions. With the market evolving and moving toward value-based health care, Medtronic formed its Integrated Health Solutions business to deliver value and work with providers in new ways. Integrated Health Solutions builds on Medtronic’s unique combination of capital resources, process optimization expertise, and therapy knowledge and offers hospitals and health care systems long-term, all-inclusive managed services to improve clinical, operational, and financial outcomes. In 2014, to expand its service delivery capabilities, Medtronic acquired NGC Medical in 2014, an Italian company with more than 30 years of experience in building and managing operating rooms (ORs), catheterization laboratories (cath labs), and intensive care units (ICUs). Today, Medtronic has established more than 60 managed services contracts, with 250+ ORs, 600+ ICU beds, and 50+ cath labs.⁸

⁶ <https://www.siemens-healthineers.com/services/value-partnerships>.

⁷ <https://www.medtronic.com/us-en/about/locations.html>.

⁸ <https://www.medtronic.com/uk-en/healthcare-professionals/integrated-health-solutions/four-pillars.html>.



Future role 4: Disease owner

A medtech company that “owns” a disease provides superior care coordination and a one-stop shop portfolio of devices, digital tools, services, and, potentially, drugs to treat or manage a specific disease across the patient journey, from diagnosis and treatment to ongoing monitoring. We expect to see this role be effective in managing chronic diseases (e.g., diabetes, renal, cardiovascular, and respiratory care) by offering solutions that go across the care continuum and therapy lines, from patient diagnosis through monitoring. The disease owner role aligns with population health goals rather than specific procedures or episodes, and it will be critical in the care model transition from fee-for-service to fee-for-value. A capitated payment model could be structured so that payers, providers, and manufacturers have aligned incentives to optimize patient care with minimized costs. Potential variations of this role include full-spectrum manufacturer for specific disease states and vertically integrated manufacturer-provider.

Examples:

Fresenius Medical Care provides a complete solution for people with chronic kidney failure—from research and development, to manufacturing dialysis products, to providing care options within its own clinics. With the acquisition of NxStage, Fresenius enhanced its home hemodialysis systems and services to include 24/7 on-call nurses, monthly check-ins, regular meetings with care teams, and medication.⁹ With home dialysis care currently underpenetrated in the United States (when compared with other OECD markets), Fresenius has enhanced its ability to shift some current clinic-based patients to the home to lessen costs and enhance the customer experience. Alongside this shift has come the need to think about the management of comorbidities associated with renal failure, including diabetes and heart disease. Fresenius’s recent announcement of an innovative partnership with Livongo¹⁰ to provide remote monitoring and personalized coaching for late-stage CKD patients who also suffer from diabetes points to the type of holistic patient care management that leading medtech companies are undertaking.

Smith&Nephew’s Advanced Wound Management (AWM) division is a leading global wound care product supplier. As the market continues to face significant pricing pressure and products become more commoditized, S&N expanded its offering portfolio from treatment products solely to cover the entire wound care continuum. Through innovations and acquisitions, S&N’s current AWM portfolio includes wound prevention, wound detection and diagnosis, a wide range of wound treatment products, and care coordination and monitoring solutions. As it expands the AWM portfolio, S&N is also applying a disease lens to create end-to-end solutions for specific acute and chronic wound conditions, including leg, diabetic, and pressure ulcers; burns; and postoperative wounds.¹¹

⁹ <https://www.freseniusmedicalcare.com/en/patients-families/services-from-fresenius-medical-care>

¹⁰ <https://fmcna.com/company/news-releases/partnership-livongo-empowers-people-ckd>

¹¹ <https://www.smith-nephew.com/education/categories/wound-management>

Enter new spaces



Future role 5: Ecosystem data and informatics provider

Many hospitals and health systems make minimal use of analytics due to data availability and interoperability challenges. Data is the new gold in the increasingly digitized health care space, given its vital role in improving clinical decision-making and care quality. We expect an ecosystem data and informatics provider role will emerge to collect, aggregate, curate, analyze, and interpret data from various sources—and enable data interoperability—to generate superior insights and recommend actionable next steps so that providers can deliver superior care. Potential variations of this role include data conveners and artificial intelligence (AI) algorithm developers for improved products and treatments; application developers and insight generators; and advisory services for hospital systems. Because big health IT companies may already have a competitive edge to win in this role and consumer tech giants are also investing heavily in health care, medtech companies interested in this role will need to dramatically transform their capabilities or leverage these same consumer tech leaders via partnerships.

Examples:

Verily (Google's health care company) uses big data and the Internet of Things (IoT) to improve health care outcomes.¹² Verily develops computational tools that help create a stronger feedback loop; support learning health systems in which better data continuously improves interventions and care; and increase accessibility to research and care.¹³ With Alphabet's recent acquisition of Fitbit, Verily now can leverage a number of wearable devices as it looks to collect measurements and data about a patient's health so that it can be combined with other information that Google has about that patient.

Cerner offers analytics, population health management, clinical solutions, revenue cycle management, and other services and technology that enable health care providers to make informed decisions to better manage operations and provide smarter patient care.¹⁴ As an electronic medical record (EMR) leader, Cerner can leverage a number of data sources as it looks to offer enhanced data analytics and longitudinal records to those analyses. Cerner's HealthAnalyticsSM and HealthEDWSM analytic content packages¹⁵ are just two ways the company is operationalizing this vast trove of data to glean more precise clinical insights. Cerner's partnerships with AWS and others point to additional ways in which it is teaming with other companies to offer researchers access to de-identified data.¹⁶

¹² <https://internetofbusiness.com/verily-googles-iot-and-big-data-play-for-healthcare>.

¹³ <https://verily.com/our-story/about-us>.

¹⁴ <https://www.cerner.com/about>.

¹⁵ <https://www.cerner.com/solutions/population-health-management/analytics>.

¹⁶ <https://www.healthcareitnews.com/news/cerner-aws-partner-make-covid-19-data-available-researchers>.



Future role 6: Consumer health enabler

Health care is transitioning to a prevention- and wellness-oriented model, with more care delivery happening in consumers' homes instead of the traditional physician office or hospital. The consumer health enabler role empowers consumers to proactively and continuously manage their own health by collecting and analyzing data from various diagnostic devices (e.g., implantable, wearable, and environmental sensors) to generate superior, consumer-friendly insights and care recommendations delivered via telehealth and virtual physician tools. This role supports early disease detection and behavioral nudging by integrating consumer health data with core determinants of health, such as an annual physical (including blood pressure, pulse rate, RBC and WBC count, and psychological testing) and social determinants of health data. Variations of this role include consumer-friendly, non-medical-grade device manufacturers and applications and platforms for virtual preventive and wellness services and care management. To succeed as a consumer health enabler, medtech companies will need to shift from a provider-centric to a consumer-centric business model with efficient and effective capabilities to reach and engage a broad consumer customer base.

Examples:

Zimmer Biomet partnered with **Apple** to create a consumer-friendly way for patients to track their recovery from knee or hip replacement surgery. The Zimmer Biomet mymobility app uses Apple Watch to facilitate a new level of connection between patients and their surgical care teams.¹⁷ With this enhanced patient engagement, Zimmer Biomet is demonstrating how medtech companies can embark on a digital transformation of the patient care journey, including pre-op education and activity monitoring linking step count and heart rate variability. By using the Apple iPhone to score people on the way they walk, detected even before a procedure is needed, Zimmer Biomet is hoping to be "the first to develop predictive analytics that connects pre-, intra-, and post-operative data," thereby enhancing prevention and wellness functionality.

Johnson & Johnson Health and Wellness Solutions

collaborates with health plans, health systems, and retailers to deliver behavior change solutions at scale to deliver better health outcomes, business performance, and patient experience.¹⁸ J&J's solutions offer a way for devices to integrate key behavioral science concepts and approaches as these become critical to helping clinicians and patients change their behavior on the use of those devices. By focusing around "last mile," medtech leaders like J&J hope to improve clinical outcomes beyond just product-based capabilities.

¹⁷ <https://investor.zimmerbiomet.com/news-and-events/news/2018/10-15-2018>.

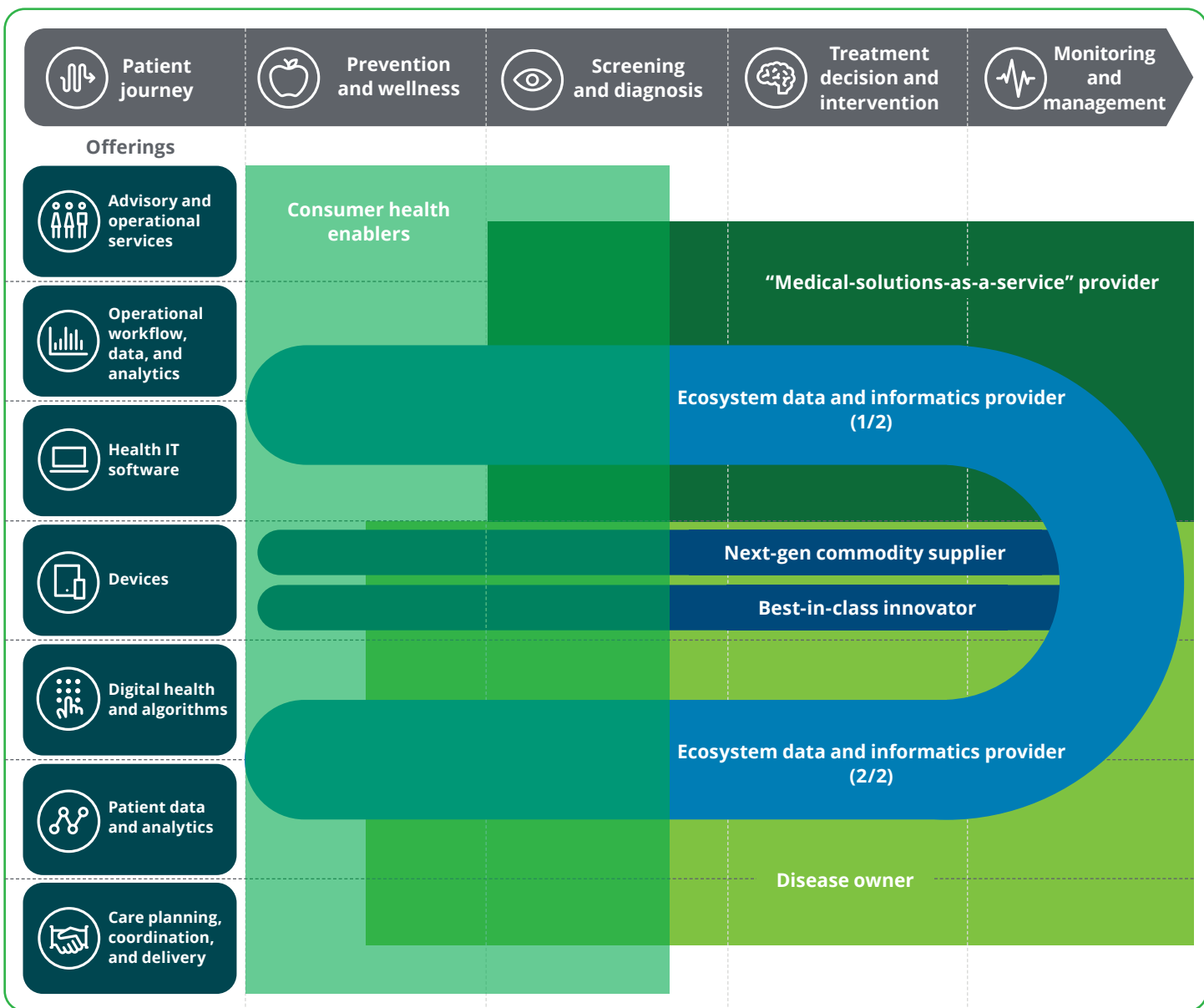
¹⁸ <https://www.jnj.com/jhws>.

Medtech roles of the future will evolve along with the products and services they offer and what customers they serve (figure 4). Of the six future roles, the first two (next-gen commodities supplier and best-in-class

innovator) are embedded in many leading medtechs' current operations. We expect these roles to continue in the future. Examples of the other four roles ("medical-solutions-as-a-service" provider, disease

owner, ecosystem data and informatics provider, and consumer health enabler) are emerging; we expect these roles to grow in importance and influence as time goes on.

Figure 4. Roles of the future will evolve along with what they offer and where they serve
 The future roles will evolve to either strengthen core capabilities, expand offerings, or enter new spaces



Act today to transform tomorrow

How do conventional medtech companies begin or advance their journey to the future of health? What immediate steps should they take? We suggest that companies first assess each business and product portfolio's capabilities and value proposition and map that to each role's capabilities and value proposition (a business and product portfolio may operate in one or more roles). They should then identify capability gaps that may prevent them from realizing the benefits in the appropriate role(s) and, finally, create a build, buy, and partner strategy to close those gaps.

Ultimately, what may help [enable medtech companies to transform care delivery and set them apart from competitors](#) (both market incumbents and disruptive entrants) will be their ability to harness data gathered by their devices and use it to improve well-being, anticipate health issues, and help patients change the day-to-day behaviors that affect their health.¹⁹ [Our view is that medtechs likely will be better able to do this by partnering with consumer technology leaders and specialized digital health companies rather than going it alone.](#) Consumer tech companies typically have access to large caches of consumer-generated data (nonhealth data that leads to health insights), a massive R&D budget, efficient distribution channels, an embedded culture of innovation, and sophisticated data analytics capabilities that can buttress a medtech's remote diagnostic and monitoring platforms.

The time to act is now. The medtech company of the future will likely operate in a dramatically altered health care landscape. We expect the revenue pool for the traditional medtech role to continue

shrinking as the value it delivers decreases over time and new roles evolve. As company leaders plan their migration strategy, some may decide to focus on excelling in a single role, while others may choose to leverage investments in new technologies to take on several. In either case, they should quickly assess their current offerings, customers, and unique capabilities (and identify gaps and ways to fill them) or risk being outmaneuvered by competitors.

What to do on Monday morning will depend on how far behind a company is in its role migration strategy. To that end, a robust "zoom out, zoom in" strategic planning effort can incorporate these roles and frame them more in terms of a decision tree than a linear plan. By combining a long-term, scenario-driven strategic planning exercise with a short-term action plan, medtech leaders can operationalize this future role evolution assessment and ground it in concrete steps that flow into specific businesses, product portfolios, and solutions.

By zooming out, medtech companies can determine what their relevant market or industry will look like 10 to 20 years from now and what kind of roles they will need to have in that time frame to be successful in that market or industry. By zooming in, firms can determine the two or three initiatives they could pursue in the next six to 12 months that would have the greatest impact in accelerating their movement toward that longer-term destination. It would also help them assess whether those initiatives have a critical mass of resources to ensure high impact and whether they have the right metrics in place to best determine whether they achieved the intended impact at the end of that shorter time period.



19 Deloitte Insights, "Winning in the future of medtech," Deloitte Center for Health Solutions, 2019, <https://www2.deloitte.com/us/en/insights/industry/health-care/future-of-medtech.html>.

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