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Competing on Outcomes

Winning Strategies for Value-Based Health Care

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Winning Strategies for Value-Based Health Care

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AT A GLANCE

As health systems around the globe focus on value—delivering the best possible health outcomes at a given level of cost—the terms of competition in the health care marketplace are changing fundamentally. We call this development *competing on outcomes.*

Competing on outcomes has the potential to improve the value delivered by the entire health system. But that doesn't mean there won't be winners and losers.

Hospitals, drug companies, and device makers that cannot demonstrate that their procedures, medications, and products genuinely add value will suffer.

Winners, by contrast, will be those that build sustainable competitive advantage through better access to, and analysis of, clinical data; through deeper insight about how to improve outcomes; and through more effective collaborations and partnerships to develop new value-adding innovations.

In the global struggle to manage the cost of health care, practitioners and policymakers are increasingly focusing on value—delivering the best possible health outcomes at a given level of cost.[1] The shift is happening in different ways and at different rates in different markets. But it has progressed to the point where the global trend is clear, and more and more players are starting to focus on providing superior health outcomes as a way to distinguish themselves in the fast-changing health-care marketplace. We call this development *competing on outcomes.*

Competing on outcomes has the potential to improve the value delivered by the entire health system. Considerable competition exists in the health care industry today, but too often it is focused on the wrong things: maximizing the number of procedures, whether they are medically necessary or not; amassing enough market power to dominate pricing in a given regional market; or offering the lowest cost—with no consideration of the impact on the quality of care.

A focus on value is changing the terms of competition in the health care market.

The advantage of competing on outcomes is that it focuses competition on what really matters to patients and what ought to be the raison d'être of any health system: delivering high-quality care in a cost-efficient fashion. Transparency of patient results can align incentives so that payers, providers, suppliers, and patients all work toward the same goal, making it possible for the market to effectively manage the tradeoffs between cost and quality.

This is not to say that there won't be winners and losers in a world of outcomes-based competition. As the health care market continues to evolve toward a focus on value, competition will intensify. Even more important, the terms of competition will change fundamentally.[2] Hospitals, drug companies, and device makers that cannot demonstrate that their procedures, medications, and products genuinely add value will suffer. Winners, by contrast, will be those that build sustainable competitive advantage through better access to, and analysis of, clinical data; through deeper insight about how to improve outcomes; and through more effective collaborations and partnerships to develop new value-adding innovations. The health care value chain will become more integrated and more networked, with different players competing in some situations and collaborating in others. What's more, first movers will benefit from considerable competitive advantages—access to the best data and information, to the best candidates for partnership, and ultimately to faster learning and innovation—that latecomers will be hard-pressed to replicate.

As of yet, no national health system is explicitly designed for competing on outcomes. Nevertheless, the new competitive model is emerging in bits and pieces in

many different health systems around the world—from the most integrated to the most fragmented, and from those that are highly regulated to those where the private sector plays a major role. These emerging signs suggest three levels of outcomes-based competition with increasing degrees of organizational complexity: using outcomes data to improve clinical practice, linking outcomes to reimbursement for specific procedures or episodes of care, and managing the risks of *whole patient health,* or the complete set of health outcomes for a given population of patients.

Using Outcomes Data to Improve Clinical Practice

Transparency of patient outcomes is a prerequisite for outcomes-based competition. The simplest way to compete on outcomes is to use the increasing transparency of outcomes data to identify and encourage the development of clinical best practices, reduce variation in treatment, and improve average health outcomes. Such efforts typically require both a change in mindset among clinicians, who must begin to see the dissemination of outcomes data as an essential public-health obligation, and the active engagement of the appropriate professional societies to ensure that the data collected have clinical integrity.

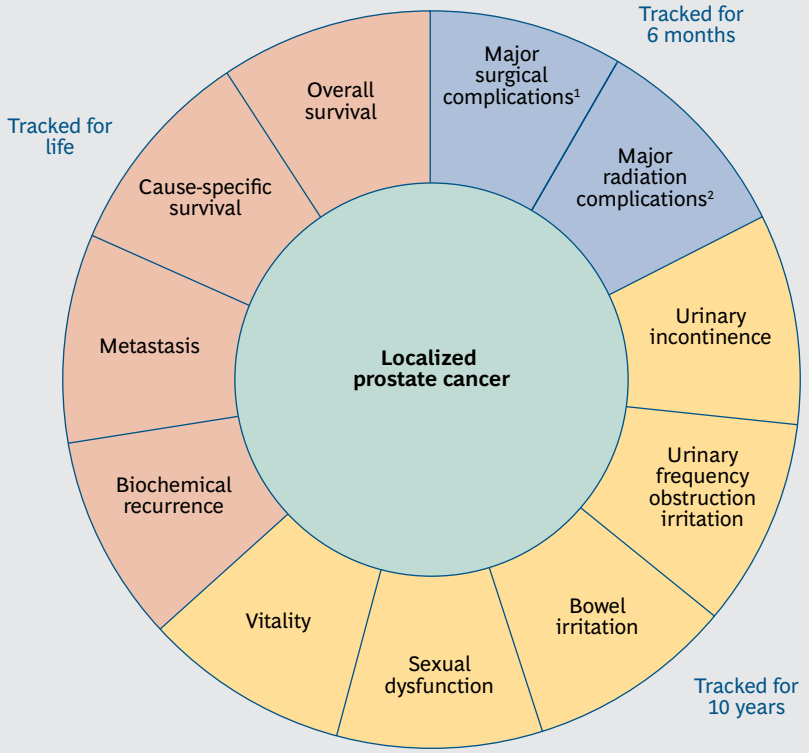
In 2012, BCG described how physicians in Australia, Sweden, the U.S., and other countries are using the comprehensive outcomes data collected in national disease registries to identify outliers and improve average outcomes.[3] Since then, national registry efforts have begun to go global. For instance, the International Society of Arthroplasty Registries is considering creating common outcome metrics for hip- and knee-replacement registries around the world. Pooling data about device choices and related outcomes at the international level would allow for the creation of an early assessment system to evaluate the safety and effectiveness of new artificial joints. Through a global network of arthroplasty registries, clinicians will be able to quickly identify defective or dysfunctional products as well as those with superior outcomes for patients. Such a system will transform the terms of competition in the device market, promoting innovations that result in better outcomes for patients.

Transparency of patient outcomes is a prerequisite for competing on outcomes.

Indeed, such a scenario has already played out in Australia. Although the country's population is only one-tenth that of the U.S., the data collected in its comprehensive national hip-replacement registry allowed Australian researchers to identify problems with DePuy's ASR metal-on-metal implant, warn surgeons not to use the device, and eventually prompt a voluntary recall from the Australian market by the manufacturer in December 2009—a full seven months before the device was recalled by the U.S. Food and Drug Administration.[4]

Another important international effort is the International Consortium for Health Outcomes Measurement (ICHOM), a nonprofit organization with the mission of bringing together registry leaders, patient representatives, and other leading experts to define and publish globally harmonized sets of outcome metrics.[5] In November 2013, ICHOM published its first set of standardized metrics and risk adjustment variables for four major conditions: coronary artery disease, localized prostate cancer, low back pain, and cataract. (See Exhibit 1.) This year, the organization plans to develop standardized outcome measures for an additional 12 conditions. It

Exhibit 1 | ICHOM Has Published Standardized Metrics for Localized Prostate Cancer as Well as Other Conditions



Treatment approaches covered

- Watchful waiting
- Active surveillance
- Prostatectomy
- External beam radiation therapy
- Brachytherapy
- Androgen deprivation therapy
- Focal therapy
- Other

Acute complications of treatment | Patient-reported health status[3] | Survival and disease control

Sources: International Consortium for Health Outcomes Measurement (ICHOM); BCG analysis.
[1] Recorded via the Clavien-Dindo Classification.
[2] Recorded via the Common Terminology Criteria for Adverse Events (CTCAE), version 4.0.
[3] Recommended to track via the Expanded Prostate Cancer Index Composite (EPIC)-26.

plans to cover more than 50 conditions, representing approximately 70 percent of the disease burden in industrialized countries, by 2017.

Creating data transparency around outcomes requires collaboration and data sharing—both inside and across provider organizations. One might ask: What does this have to do with competing on outcomes? Competition comes in when data start to be made public, putting pressure on laggard performers to improve and the best to remain ahead.[6] When Sweden's national heart-attack registry, for example, began publishing patient survival rates at the nation's 74 cardiac hospitals, as well as a quality index that tracks how well each hospital was complying with European clinical guidelines, the rate of improvement in the average quality-index score rose from 13 percent to 22 percent per year. What's more, performers with the highest mortality improved their quality scores by 40 percent, decisively narrowing the gap between the best and worst performers. There are numerous examples from several countries of outcomes data being used to encourage clinical improvement for multiple conditions, including coronary artery disease, cataract surgery, hip arthroplasty, and cystic fibrosis.[7, 8]

Other countries are following Sweden's lead in making outcomes data available to the general public. The Society of Thoracic Surgery in the U.S., for example, has partnered with *Consumer Reports* magazine to develop annual ratings of 363 surgical groups across the country that perform heart-bypass surgery and agreed to make their data public. The ratings allow heart-bypass patients to compare how these groups performed on survival, complications, and other measures of quality care. And in the summer of 2013, the England branch of the UK's National Health Service (NHS) began publishing "league tables" of surgical survival rates and quality of care for ten specialties, including cardiac, vascular, and orthopedic surgery. Individual surgeons are rated against national standards. About 96 percent of physicians across the ten specialties have agreed to the publication of their performance data.[9]

Providers that demonstrate superior outcomes gain increased benefits.

Providers that remain ahead of the improvement curve and demonstrate superior outcomes can benefit from increased differentiation, higher patient volumes, and institutional growth. Take the example of the Martini-Klinik, a prostate-cancer center that is part of the University Medical Center Hamburg-Eppendorf in Hamburg, Germany. The clinic uses comprehensive data on the health outcomes of its patients, including the documentation of all complications down to the level of individual surgeons, to continuously improve its performance. As a result, the clinic's rates of severe erectile dysfunction one year after surgery are less than half the German average, and instances of urinary incontinence are one-seventh the average. Because of this excellent performance, Martini-Klinik nearly tripled its volume of radical prostatectomies in the eight-year period from its founding in 2005 through 2012. Today, two-thirds of Martini-Klinik's patients come from outside the Hamburg region—some even from outside Germany. The clinic is now the largest prostate-cancer center in the world and is widely recognized as one of the best centers for research on prostate cancer and its treatment. (See Exhibit 2.)

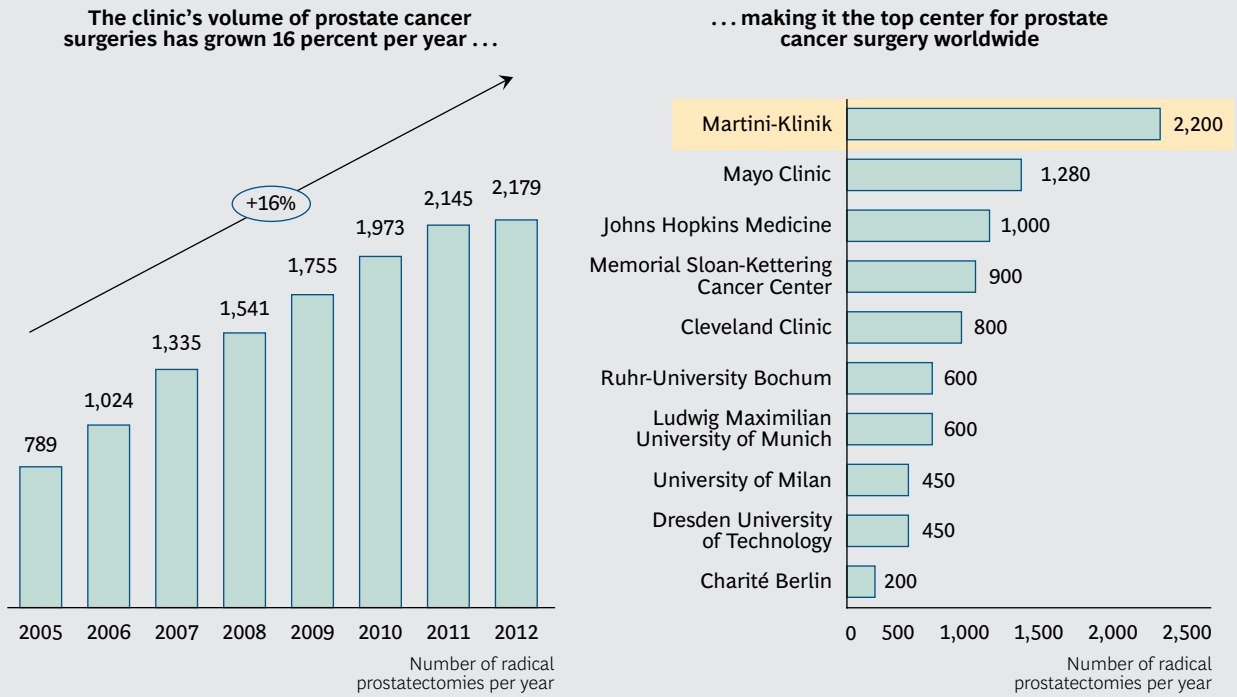
In some cases, payers have started to use outcomes data to actively channel patients to the most effective providers. In Sweden, where regional governments are the primary payers for health services, the Stockholm county council recently announced that it was shifting patients who suffer ST-elevated acute myocardial infarctions (or STEMI, a specific type of heart attack) from the traditionally well-regarded Karolinska Hospital to the neighboring Danderyd Hospital, because the outcomes data showed that STEMI patients at Danderyd had a higher survival rate. And in the U.S., Walmart announced that its company health plan will send all employees in need of transplants or heart or spine surgery to one of six leading U.S. medical centers—on the theory that it will save money by funneling its employees to the very best facilities, where higher volumes generally drive lower costs.[10]

Linking Reimbursement to Specific Outcomes

At the next level of competing on outcomes, payers start linking reimbursement to outcomes in order to reward the providers and suppliers that deliver the best results. Typically, the link to reimbursement happens for specific medications, medical conditions, or discrete episodes of care, where defining positive outcomes is relatively easy.

In a number of European countries, for instance, national health-technology-assessment (HTA) agencies are increasingly evaluating drugs in terms of their

Exhibit 2 | Excellence in Health Outcomes Has Made Martini-Klinik the Leading Center for Prostate Cancer Surgery



Sources: Martini-Klinik; BCG analysis.
Note: The institutions listed in the right-hand chart are for comparison purposes only; they are not meant to show the top ten hospitals by volume of radical prostatectomies worldwide.

clinical impact versus the total cost of treatment. Their assessments as to whether a given medication delivers outcomes that justify its cost have a major influence on market access and prescription behavior and can often determine the economic success or failure of a new drug. Such an approach represents a more realistic understanding of the nature of medical innovation—and the challenges of extrapolating from traditional clinical trials to mixed populations in real life. With greater transparency and a more complete integration of the health-care value chain, the system can evaluate the effect of new products and procedures by the outcomes they achieve.

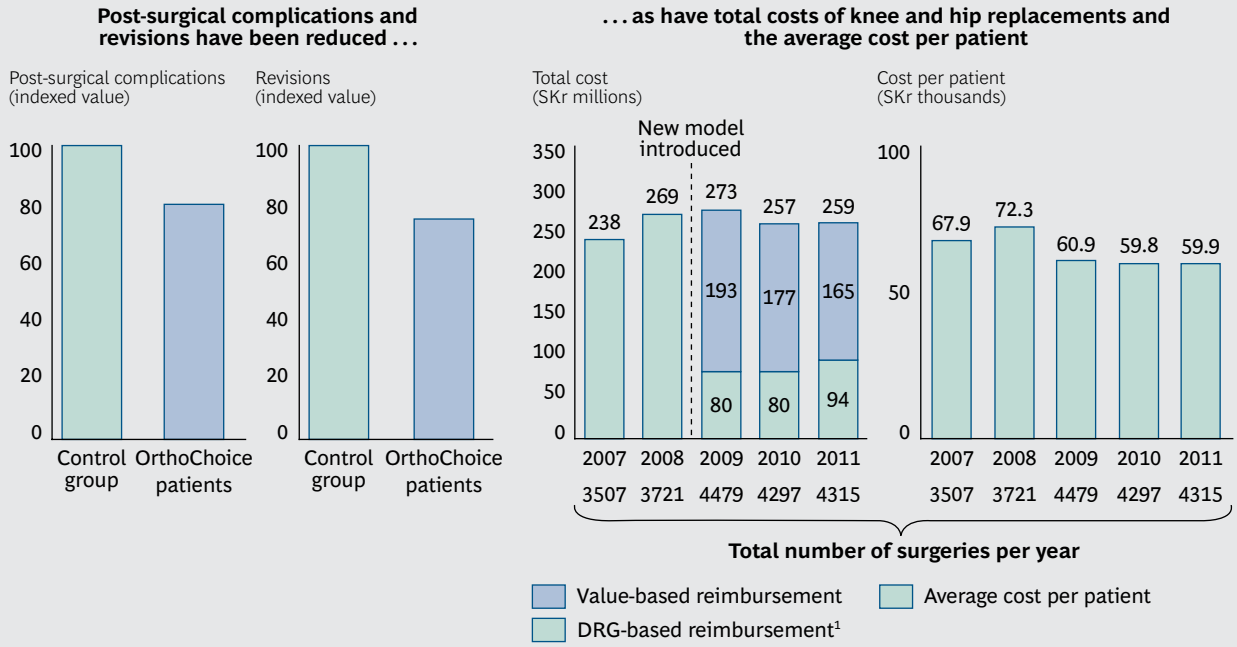
In response to pressure from HTA agencies and payers, some drug companies are developing value data for their products. In the UK, for example, GlaxoSmithKline has partnered with the NHS to test its experimental drug for chronic obstructive pulmonary disease. Relvar, or Breo Ellipta, as the drug is known in the U.S., is currently in Phase III of the drug-development process and is being evaluated in a so-called real-world study. Unlike a traditional clinical trial, the study will provide the manufacturer with data on clinical efficacy in a broad population, as well as effectiveness data on health outcomes that matter to patients and on utilization endpoints. The study will also demonstrate to the NHS and regulators what the actual value of the drug will be when it is taken in real-world treatment settings—before it is approved.

In 2009, the Stockholm county council established a formal system of value-based reimbursement for hip and knee arthroplasty known as OrthoChoice. The county provides a fixed bundled payment that covers all activities and procedures—from the initial patient visit and diagnosis through surgery, rehabilitation, and follow-up. Providers are responsible for any additional treatment because of complications, including revision of the replacement procedure. And a small portion of the bundled payment—approximately 3.2 percent—is withheld and paid retroactively only if the provider meets agreed-upon outcome goals. In the first two years of the program, complications and revisions have declined by about 20 percent, compared with a control group still enrolled in a traditional reimbursement plan. The county's total costs and costs per patient for these arthroplasty surgeries have also declined by an equivalent amount. (See Exhibit 3.) In September 2013, the county council expanded the bundled-payment model to spinal surgery, with a substantially higher outcomes-based payment of 10 percent. Seven of Sweden's 21 counties, covering 65 percent of the population, are considering a plan to roll out the model across eight clinical areas by 2015.

Managing the Risks of Whole Patient Health

As more and more data about health outcomes become transparent, and as payers embrace value-based reimbursement, some stakeholders are taking on more of the risk associated with managing whole patient health. Because of the complexity of

EXHIBIT 3 | In Sweden, Value-Based Reimbursement Has Improved Quality and Reduced Cost



Sources: Holger Stalberg, Stockholm county council; Medical Management Centre, Karolinska Institute; BCG analysis.
Note: The chart on the left portrays the findings of a two-year follow-up; the control group consisted of knee- and-hip-replacement patients who were still enrolled in the Stockholm county council's standard payment scheme. Both groups of patients were matched and controlled for age, multiple socioeconomic factors, and co-morbidities.
[1]DRG = Diagnosis-related group, which forms the basis for the traditional model of reimbursement.

managing the entire health needs of a broad patient population, this is the most advanced version of competing on outcomes. Only players that have reached a high level of data sophistication, and that understand their patient segments well enough to minimize risk and to provide quality outcomes at relatively low cost, will be successful.

Organizations that currently come closest to adopting the whole-patient-health approach are the single-provider integrated-delivery systems in the U.S., such as Kaiser Permanente, Intermountain Healthcare, and the Geisinger Health System. Because these institutions take on the roles of payer and provider simultaneously, they prioritize preventive care—which is generally less costly than acute care—and use only treatments with proven value for patients. In its core West Coast markets, Kaiser has been able to provide employers with health benefits that cost up to 30 percent less than traditional managed-care plans, without sacrificing quality. The National Committee for Quality Assurance (NCQA) annually ranks U.S. health-care plans based on quality and customer satisfaction. Kaiser health plans have taken the top three spots in the NCQA's Medicare plan rankings since 2012, and the company's commercial plans were in the top 10 percent of the NCQA's ranking of national commercial plans. And members are happy: according to a recent J.D. Power and Associates study, Kaiser had the highest member satisfaction in its regions.[11]

Whole patient health is the most advanced version of competing on outcomes.

But a company doesn't have to be a fully integrated payer-provider to create organizational mechanisms for managing whole patient health. Some private U.S. insurers are experimenting with risk-based contracts covering the full range of patient health needs. Blue Cross Blue Shield of Massachusetts, for example, has established an alternative quality contract (AQC), in which 18 health-care-provider organizations are given a global budget to care for patients who use Blue Cross Blue Shield insurance. The providers are eligible for bonuses if they meet certain quality or financial targets; conversely, they share the financial risk for any spending that goes over budget. A Harvard Medical School study found that by the second year of the program, average spending at groups in the AQC grew 3.3 percent less than it did at a control group of providers not in the AQC program. And groups that entered the program from the traditional fee-for-service model achieved even greater savings—6.3 percent in the first year of the program and 9.9 percent in the second.[12] What's more, researchers found that there were significant improvements in the quality of chronic care management, adult preventive care, and pediatric care by the second year of the program as well.

Although the vast majority of U.S. hospitals are still paid on a fee-for-service basis, the Affordable Care Act, which took effect on January 1, 2014, enables the creation of new provider entities. These coordinated groups of health care providers with aligned incentives, known as accountable care organizations (ACOs), can benefit from new risk-sharing arrangements that reward Medicare providers for managing costs and achieving better outcomes. As of October 2013, some 250 such entities had been established, and BCG research suggests that the number of patients managed by ACOs will double or triple over the next four years.[13, 14]

In certain situations, it may be that traditional suppliers are in the best position to manage risk for a given population of patients. For an example of how this might

work, consider the evolution of Germany's Fresenius Medical Care. Originally a provider of dialysis machines, the company has expanded during the past two decades to offer dialysis care, dialysis medications, and disease management of dialysis patients. Today, Fresenius is a global leader among providers of dialysis-related health outcomes. And the company has increasingly been seeking to address the other conditions—such as cardiovascular disease, foot ulcers, and depression—that dialysis patients often develop. As a result, Fresenius has established a leadership position in dialysis care that will be difficult for others to challenge.

Strategic Implications for Health Care Players

In the new, more integrated and networked health-care landscape, an innovative set of capabilities will be particularly important in order to compete. Access to outcomes and cost data at the patient group level will be critical, not only for driving performance improvement but also for responding appropriately to payers' demands that both providers and suppliers take on more risk. The ability to forge partnerships and close collaborations will also be important. Finally, we will see new business models emerging, so agility and a willingness to experiment will be necessary. Every health care business should be investing in more and better health-economics expertise, deeper epidemiological and statistical knowledge to analyze the growing quantity of outcomes data, improved key account capabilities in order to form partnerships, and the ability to conduct many pilots, learn from them, and develop differentiated value propositions for the new market. The strategic implications for any individual organization, however, will depend on its starting position, its location on the current health-care value chain, and type of health care system in the country or countries where it operates.

Payers. Whether governments or private insurers, for-profit or not-for-profit, payers around the world are driving the shift to competing on outcomes. In reaction to the failure of traditional cost and utilization controls, these companies are increasingly making value a major criterion for reimbursement and pushing financial risk to both providers and suppliers. As a result, payers have a major responsibility to make sure that the health care market is designed so that outcomes-based competition leads to increased innovation, better quality care, and lower costs. There is a huge opportunity for payers to create reimbursement models that deliver better value to patients than do traditional fee-for-service models.

The key issue is *what kind* of a competitive market should health care become?

The key issue for payers to keep in mind is not whether health care is or should be a competitive market. The key issue is *what kind* of a competitive market it should become. We urge both public and private payers to push for the comprehensive collection and publication of comparable health-outcomes data and to partner with providers and professional societies to make sure that the metrics chosen and data collected are broadly recognized as valid.

Leaders of government-funded health systems that are already highly integrated should not allow too narrow a view of market competition to fragment what is already a relatively holistic health-care environment. Some recent reforms in Sweden, for example, designed to secure better access through the establishment of private practices and patient choice, largely replicate the traditional fee-for-service model

that, in other countries, has been shown to deliver less value than the relatively integrated model already existing in Sweden.[15]

In countries where the health care market is much more fragmented, such as the U.S., there will be increased pressure to rationalize the system and to further integrate care along the value chain. This trend will create opportunities for private insurers that are able to improve outcomes by coordinating care and making better use of clinical information. For example, recent BCG research has shown that by establishing a selective network of providers, aligning financial incentives with clinical best practices, and focusing on active care management, private insurers can create the necessary coordination among providers to deliver better health outcomes than traditional fee-for-service medicine.[16]

As they experiment with new models for reimbursement, all payers need to keep in mind that too much reliance on purely financial incentives—especially in the form of pay-for-performance bonuses—can undermine the central principles of patient benefit and data sharing on which competing on outcomes is based. Unless such programs are carefully designed, they can lead to perverse incentives that encourage incomplete or inaccurate reporting or to cherry-picking patients with less complex conditions, where the likelihood of a good outcome is higher. In our experience, innovative organizational designs and norms that make cooperation, transparency, and a clear focus on outcomes winning behaviors for individuals and organizations are as important—if not more—than financial incentives themselves.[17]

Clinicians should embrace increased transparency around outcomes.

Providers. Competing on outcomes could motivate clinicians to develop innovations that improve the health and the lives of their patients. Instead of being wary of increased transparency around outcomes, clinicians should embrace it. They should contribute to the process of defining shared outcome metrics and pressure test those metrics until they are convinced that they are right. If data capture, analysis, and interpretation meet the scientific standards of the profession, clinicians will use the measurements to identify and promote clinical best practices and ultimately drive continuous improvement to secure their competitive position in the market.

For providers, we see two competitive models emerging. The first is kind of a land grab, in which a provider organization moves quickly to become the international leader for treating a specific condition that often requires highly specialized care.[18] In this case, providers will systematically leverage their depth of experience for research and development of clinical practice—and their quality will be hard for others to match. Furthermore, by excelling at systematically driving outcome improvements that matter to patients, such providers will grow volume. Martini-Klinik may be one such specialized provider in prostate cancer.

Yet although such a strategy may be appropriate for some specialized conditions or procedures, such as those having to do with elective surgery, not all providers will be in a position to pursue that approach. For the vast majority of conditions, such as most major chronic conditions and other conditions included in primary care, local presence will be more important than global scale. In large part, health care will remain a national or regional market. Therefore, the second provider model will

consist of integrated provider institutions that are taking responsibility for whole patient health in a given population across primary, secondary, and tertiary care. The integrated providers will manage the population for maximum health-care value and will, to a large extent, manage their own integrated care chains. But they will also act as brokers, helping their patients to navigate to the best independent providers, which align their approaches with the integrated providers' systems and provide unique capabilities. For example, Kaiser Permanente has recently partnered with Fresenius Medical Care to provide its renal-failure patients with comprehensive, high-quality care—an example of the kind of partnerships that we see as a primary characteristic of future provider networks. For providers pursuing this strategy, risk management will be a crucial capability, and access to high-quality data and analytics will be critical.

To be competitive, pharma companies will need to "think beyond the pill."

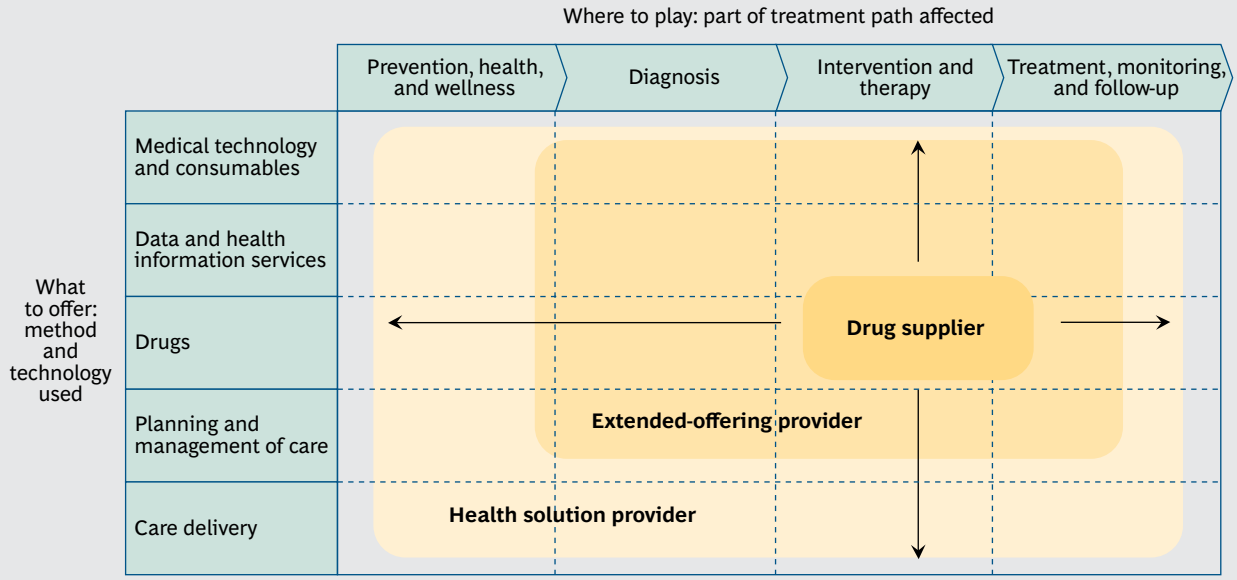
A key open question for the future is: Who will run these integrated provider networks? At first glance, it would seem that providers are well positioned to do so; after all, they control the decision making along the treatment pathway. But if provider organizations don't move fast, they risk playing a subordinate role—akin to being the "dumb pipes" of utility-like telcos or electrical grids—while more dynamic payers, suppliers, and new network integrators take on the system-integration role and overlay their services and products to deliver value to a customer—the patient—whom the provider sees but doesn't actually "own."

Suppliers. For suppliers, the trend of determining the value of medications and medical devices by their contribution to outcomes in real-world populations will accelerate. This approach represents a threat for some product categories, but for others it will provide attractive opportunities to increase the addressable market.

Just as value is having a larger impact on market access, we expect that the greater use of real-world data will have a significant impact on research and development. Recent registry-based trials have demonstrated the ability to assess new products and compare current products in a way that is both faster and cheaper than traditional prospective double-blind trials.[19] Companies should be thinking about how they can use such data to enhance their offerings and inform their portfolio strategies. They should also be working closely with regulatory authorities to develop models for using the data to speed time to market.

In order to be competitive, pharmaceutical companies will need to "think beyond the pill."[20] More precise diagnostics and better treatment compliance are some of the things that may cause a product to rise above its competitors in producing better patient-health outcomes. Pharma companies need to be asking: How far should we expand from our traditional focus on providing therapeutic interventions—whether going upstream into diagnosis and prevention and wellness activities, or downstream into treatment monitoring and follow-up? Should we consider offering data and health-information services in addition to drugs? What about care-management expertise or even care delivery? Where on the spectrum from drug supplier to complete health-solution provider should we operate—and in what specific therapeutic or disease areas? In order to develop such solutions, pharma companies will need to form richer, deeper partnerships with provider organizations than they have in the past. (See Exhibit 4.)

EXHIBIT 4 | Pharma Companies Need to Think Carefully About Where to Play and What to Offer



Source: BCG analysis.

Meanwhile, for medical-technology companies facing eroding margins and tougher customer requirements, competing on outcomes could provide the opportunity to reinvent what has become an obsolete commercial model.[21, 22] The measurement of clinical outcomes has increased the commercial risk for medical-technology companies. Studies have demonstrated that some products with large and attractive businesses, such as metal-on-metal artificial hips and thrombectomy devices, either do not improve patient outcomes or actually degrade them.[23, 24]

While most medtech companies still focus mainly on the technical features of their products, some are starting to convey a message about the advantages that those products offer in term of outcomes and efficiency through reduced cost of care, shorter hospital stays, and lower rates of repeat surgeries. For example, Medtronic has conducted a pilot program with the government of Lombardy, the largest region in Italy, to assess the value of remotely monitoring patients who have the company's pacemakers. The program, which is based on Medtronic's remote-patient-monitoring service, CareLink Network, led to a substantial reduction in hospitalization rates and costs. It has been adopted by more than 220 hospitals in Italy and has tracked more than 22,000 patients so far, with 500 new patients entering the program each month.

Finally, some pharma and medtech companies will seek to do what Fresenius has done: integrate downstream and build a fully integrated supplier and care-provision franchise. Free access to patient populations around the globe will provide a strong competitive advantage to supplier competitors that depend on partner contracts, particularly in complex fields with rapid development. Building such a position is not without challenges, as the supplier part of the business will also seek to sell its products to the provider-partner's competitors. Balancing the integration of product

and care provision with integrity as a supplier to other provider customers will be critical in this model.

One company that is pursuing a strategy to broaden its role in the health-care value chain is the Swedish medtech Elekta. Elekta was founded in 1972 to commercialize a device called a gamma knife, which delivers gamma radiation with high spatial precision, allowing for the removal of brain tumors without damaging nearby healthy tissue. In recent decades, however, Elekta has expanded its franchise to include devices such as linear accelerators, used in other forms of cancer, and the information databases necessary for planning, coordinating, and scheduling treatment. Today, the company describes itself as "the global human care company pioneering significant innovations and clinical solutions for treating cancer and brain disorders"—solutions that are used in some 6,000 hospitals globally. In the period from 2008 through 2013, Elekta delivered more shareholder value than any other medtech company in BCG's annual Value Creators rankings.[25]

A New Market Paradigm

Although health care in most developed economies is one of the largest industries, it is also one of the least mature, most regulated, and, consequently, least efficient. The current health-care market, characterized by misaligned incentives that contribute to unsustainable increases in cost, has reached the end of its life cycle. It must be the highest priority, both for policymakers and for responsible industry leaders, to shape a new framework that will transform the health care market so that competitive forces will promote innovations and development that improve health care value. During the evolution of this new market paradigm, BCG sees tremendous commercial opportunities for all segments of the industry to generate more value for patients and for society—and in doing so, to capture a fair share both for the taxpayers and citizens who fund our health systems and for the companies' own shareholders.

NOTES

1. See Michael E. Porter, "What Is Value in Health Care?" *New England Journal of Medicine* 363; 26 (December 2010):2477–2481.

2. See Michael E. Porter and Elizabeth Olmsted Teisberg, *Redefining Health Care: Creating Value-Based Competition on Results* (Boston: Harvard Business School Press, 2006).

3. Stefan Larsson, Peter Lawyer, Göran Garellick, Bertil Lindahl, and Mats Lundström, "Use of 13 Disease Registries in 5 Countries Demonstrates the Potential to Use Outcome Data to Improve Health Care's Value," *Health Affairs* 31 (January 2012):1220-227.

4. See Deborah Cohen, "Out of Joint: The Story of the ASR," *BMJ* 342 (May 2011):d2905.

5. ICHOM was jointly founded in 2012 by Michael E. Porter of the Institute for Strategy and Competitiveness, at Harvard Business School; the Karolinska Institute, in Stockholm; and The Boston Consulting Group. The authors would like to thank their ICHOM partners Michael E. Porter, Martin Ingvar, and Jens Deerberg-Wittram for their contributions to this article.

6. Constance H. Fung, Yee Weiu Lim, Soeren Mattke, Cheryl Damberg, and Paul G. Shekelle, "Sytematic Review: The Evidence That Publishing Patient Care Performance Improves Quality of Care," *Annals of Internal Medicine* 148(2) (January 2008):111-23.

7. Larsson et al., "Use of 13 Disease Registries in 5 Countries Demonstrates the Potential to Use Outcome Data to Improve Health Care's Value."

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10. Aaron K. Chatterji, "The Bad News for Local Job Markets," *New York Times,* October 24, 2013.

11. Martin B. Silverstein, Giri Rao, and Carolyn Noble, "The Accountable Care Organization: If You Build It, Will They Come?" BCG Focus, May 2013.

12. Zirui Song, Dana Gelb Safran, Bruce E. Landon, Mary Beth Landrum, Yulei He, Robert E. Mechanic, Matthew P. Day, and Michael E. Chernow, "The 'Alternative Quality Contract,' Based on a Global Budget, Lowered Medical Spending, and Improved Quality," *Health Affairs* 31 (July 2012):1885–1894.

13. Silverstein et al., "The Accountable Care Organization."

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1/14

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