

Prospering in a Pay-for-Performance World

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Introduction

Many medicines work for fewer than 50 percent of the patients who take them,¹ but the pharmaceutical companies that manufacture them nevertheless get paid for every prescription filled. This model is about to change dramatically. We believe that in the future—driven by powerful demographic, sociological, and technology forces—many medicines will be reimbursed on the basis of the performance they deliver to different patient populations.

In this future world, large volumes of health-related data will be aggregated and analyzed to determine differences in how individual patients respond to specific medicines, and to develop patient segment profiles that enable doctors to prescribe medicines more accurately. This data will also give the pharmaceutical industry (pharma) fresh insights with which to develop new treatments for previously unmet medical needs. Furthermore, pharma will be able to price these new products based on the value they deliver to patients—with different prices for different patient segments.

Modern communications technologies and effective collaboration among key stakeholders in the healthcare system will be essential to facilitate this transition. Remote patient monitoring, electronic medical records, and voice and video communications technologies will improve our ability to aggregate and analyze large amounts of data, collaborate, and make better, faster decisions.

The move to “pay for performance” will present pharma with significant challenges, but will also provide many opportunities. We firmly believe

companies that embrace the potential to gain new clinical insights and experiment with innovative commercial models will reap rich rewards.

A New Pricing Model

Powerful demographic, sociological, and technological forces are driving the shift from *pay per script* to *pay for performance*. Demand for good medicines is rising: as the global population ages, new medical needs emerge, and a growing number of people in developing countries fall prey to diseases that plague the developed world. But as healthcare costs everywhere soar, society will find it difficult enough to pay for medicines when they work, let alone when they don't.

Our expectations are also rising. We are less tolerant of product defects than previous generations and now expect the goods we buy to work flawlessly every time. Medicines will soon be no exception. Indeed, as the focus of pharma's research changes to specialty therapies for illnesses that were previously untreatable, our expectations will climb even higher.

These demographic and social pressures—and the ensuing economic challenges—have already begun to shape the provision of healthcare. Various countries have established agencies specifically to evaluate the cost-effectiveness of new therapies, one of the best-known examples being England's National Institute for Health and Clinical Excellence (NICE).

The volume of outcome data such agencies can analyze is still small, but it already has had an impact on the way new medicines are used and

priced. In Britain, for example, reimbursement for a new cancer drug, Velcade, is contingent on clinical proof of a reduction in the size of a patient's tumor.² Similarly, reimbursement of Lucentis, for the treatment of age-related macular degeneration (AMD), is subject to a dose-capping scheme under which the manufacturer bears the costs of treating any patient who requires more than 14 injections.³ In November 2008, the British government took this approach a stage further, with the decision to adopt a flexible scheme under which the prices of new medicines can be raised—if they prove more effective than anticipated.⁴

Several U.S. health insurers are also exploring more flexible approaches to pricing.

UnitedHealthcare has entered into a risk-sharing arrangement with Genomic Health, which has developed a genetic test to identify which women with early-stage breast cancer will benefit from chemotherapy. Meanwhile, CIGNA is trying to strike a deal with several manufacturers of statins, under which manufacturers would pay the medical expenses of any patients who suffer heart attacks despite taking their medicines on a regular basis.⁵

Such experiments still are relatively rare. But the development of sophisticated remote monitoring devices, electronic medical record (EMR) systems, and collaborative technologies that facilitate the safe transmission of confidential information over the Internet will make it much easier to monitor patients in real time outside a clinical setting, aggregate healthcare data from multiple sources, and share the resulting insights.

The United States is currently developing a national health information network, although it probably will not be completed by 2014, as initially planned.⁶ The European Union has likewise called for every member state to create an electronic health infrastructure,⁷ and some countries have already made considerable

progress down the health superhighway.⁸

Leading healthcare providers such as the Mayo Clinic have also digitized the medical records they hold and are starting to crunch significant amounts of outcome data.⁹

Collectively, these trends will transform the way in which medicines are reimbursed. The traditional, fixed-price model will be replaced by one in which medicines are reimbursed according to the outcomes they produce in individual patients. But there is likely to be an intermediate stage in which the prices of new medicines are based on how specific clusters of patients with shared characteristics respond to them, with different reimbursement levels for different patient segments (see Figure 1).

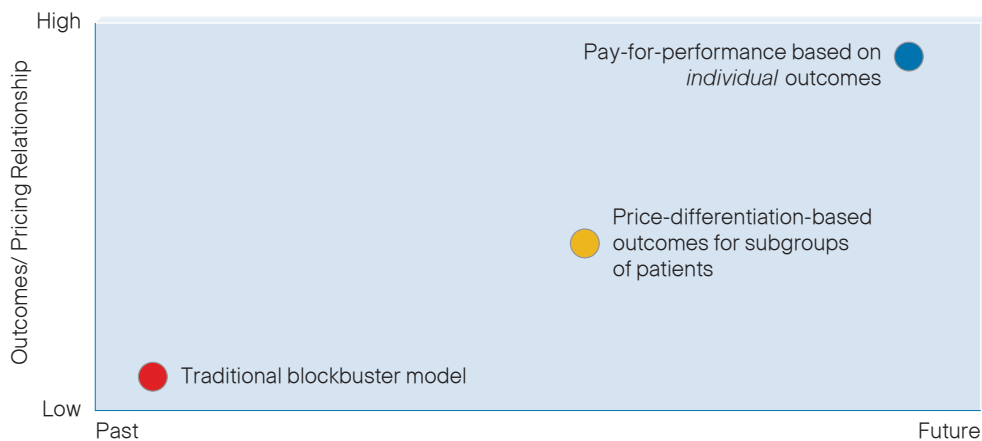
The Promise of Patient Segmentation

At present, it is difficult to know in advance how specific patients will respond to therapy. The accelerated development of biomarkers will help address this problem, but it will be a long time, if ever, before biomarkers are available for all medicines.

Clinical trials establish the safety and efficacy of a given therapy in a well-defined patient population under tightly controlled circumstances. It is not until hundreds of thousands (if not millions) of patients have used a drug for an extended period of time, however, that its effects are fully understood. Pooling clinical trial data across pharma would be a significant improvement on today's practice. To that end, Merck recently proposed creating an industry-wide database to track *all* cancer drugs in clinical trials, making the blinded data available to doctors and researchers.¹⁰

But, given the fundamental differences between clinical trials and everyday practice, we still will need to collect real-life outcome data. In the future, it will be possible to do this on a large scale, thanks to pervasive monitoring, EMRs, and new technologies to facilitate collaboration among different stakeholders in the healthcare universe.

Figure 1. The Transition Path to Pay-for-performance Pricing



Source: Cisco IBSG, 2009

Real-life surveillance of patients taking medicines that are already on the market will enable pharma to develop a much better understanding of the factors that influence safety and efficacy in different patient populations. This will help pharma determine areas of unmet need more accurately, as well as provide vital clues about the characteristics new therapies should offer.

Transparency in Healthcare

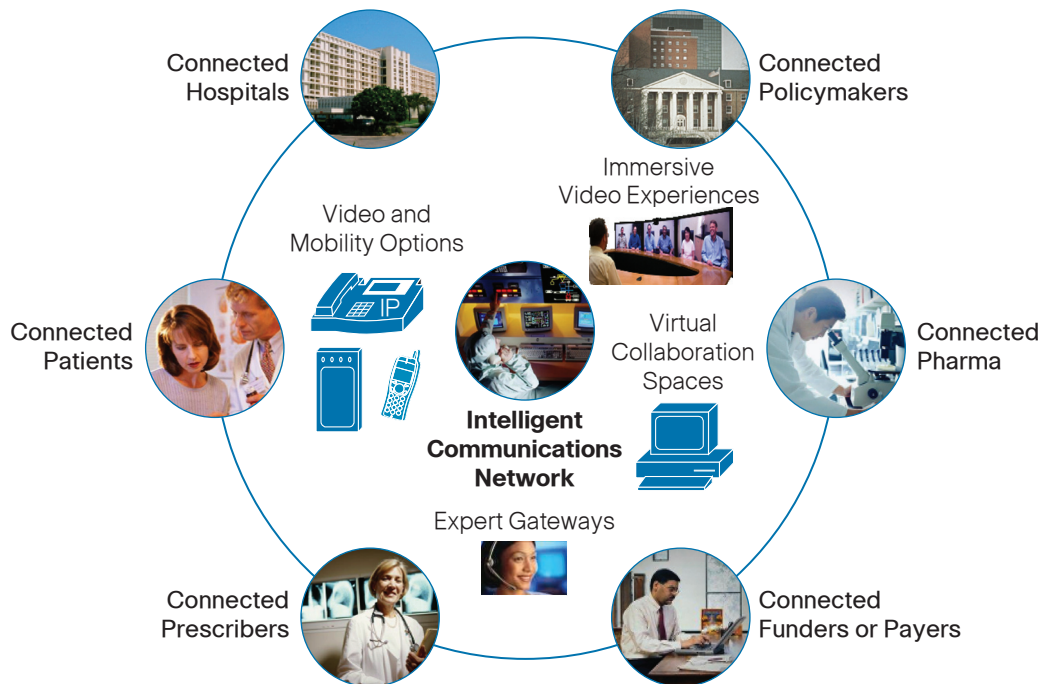
So how might this work? The required capabilities include aggregation of electronic data from a variety of sources, advanced analytics, and remote collaboration. At the core is the virtual aggregation of real-life medical and outcome data from electronic medical records, remote monitoring devices, and other sources, along with the ability to correlate it with genetic, environmental, and behavioral factors. Preserving confidentiality and ensuring independence of analysis will be essential to establishing credibility. Collaboration will include web-based data access and sharing, as well as advanced, remote, person-to-person collaboration capabilities through voice and video.

Establishing such an advanced infrastructure is not a simple task, but experience from other industries shows that it is possible. The financial

services sector, for example, built a network of interlinked automated teller machines that enables customers to access their money across the globe, regardless of the institution with which they bank. Similarly, in the airline industry, global distribution systems are used to book and sell tickets on multiple airlines. The infrastructure required to improve healthcare is more advanced than either of these, but both examples point to what is possible. Technology alone will not be enough; *willingness to collaborate and change* will be just as important.

Depending on political and cultural considerations in different countries, this could be either a private sector- or government-led effort. For instance, in the United Kingdom, a government entity could assume this role, while in the United States, a private-sector initiative by stakeholders would probably be more palatable. Regardless of how governance and funding issues are resolved, to be credible, this effort should be fully transparent and provide stakeholders (for example, physicians, payers, consumers, life science companies, and government decision makers) unhampered access to both underlying data and the analyses (see Figure 2).

Figure 2. The Transition Path to Pay-for-performance Pricing



Source: Cisco IBSG, 2009

Commercial Implications

Armed with a much better grasp of the ailments, treatment patterns, and drug responses of millions of patients, pharma will be in a much better position to develop diagnostics and therapeutics for specific patient segments. It will then be able to test new medicines only in those patient segments, thereby reducing the number, size, and cost of clinical trials required to prove their safety and efficacy.

The industry will also be able to refine the way in which it prices and markets medicines, with different prices for different patient segments. Where outcome data show that a medicine works well in a given patient segment, the drug may be able to command a premium price. Conversely, for products shown to be less suited to a particular subpopulation, companies may come under pressure to reduce prices or even stop marketing them for use in such subpopulations altogether. Therefore, it may take longer to realize the full

commercial potential of new medicines than it did using the current blockbuster model. But it will be easier to sustain their market position and pricing.

Implementation of such an approach will not be without challenges. One obvious risk, when a product is available at multiple price points, is that some people will try to get the cheapest version, even if they fall within the segments that benefit most. Genentech encountered this difficulty when ophthalmologists started using its cancer drug Avastin for the off-label treatment of AMD because it cost significantly less than Lucentis, the drug Genentech had specifically designed for the disease.¹¹ Parallel trading of identical products between markets with low and high prices is also a major problem in some parts of the world.

Nevertheless, a number of companies in other industries already are exploring how best to make pay for performance work. For instance,

tire maker Bridgestone is experimenting with sensors that monitor tire usage, so that it can offer truck owners a service that is priced on usage, rather than charging them an up-front fee for new tires.¹² Similarly, ICICI Prudential launched a life insurance product in India that is priced according to how customers comply with a recommended health program. It uses remote devices to monitor how well customers are doing and adjusts their insurance premiums biweekly.¹³

Pharmaceutical companies previously have been concerned that diagnostic tests would “rule out” patient populations more often than “rule in” new patients. But this is not necessarily the case. One instance in which the commercial advantage of more accurate patient segmentation has been demonstrated is with the drug Erbitux. Some 40 percent of patients suffering from colorectal cancer have a mutated KRAS gene that prevents them from responding to treatment with Erbitux. A test now has been developed to predict which patients can benefit from using the drug. But far from damaging Erbitux’s revenue-generating potential, the new test has encouraged doctors—previously wary of recommending a therapy that costs thousands of dollars—to prescribe it based on test results.¹⁴

Similarly, recent evidence shows that Crestor benefits two different patient segments. Crestor has traditionally been prescribed as a long-term therapy for patients with high cholesterol levels, but clinical trials have established that it also halves the incidence of major cardiovascular events in people with elevated high-sensitivity C-reactive protein levels who are not suffering from hyperlipidemia.¹⁵ It is too soon to see how this information will affect manufacturer AstraZeneca’s marketing strategy or sales of the drug, but the news was enough to increase the company’s share price by nearly 3 percent on the day it was announced—no mean feat in a time of huge economic turmoil.¹⁶

Conclusion

The transition to pay for performance will present challenges. But it will take place whether pharma likes it or not, because healthcare payers—be they governments, insurers, employers, or patients—have strong financial incentives to ensure that it does.

The companies that thrive in this new world will be those that develop medicines for specific patient segments and price them in line with the value they deliver. This should help pharma overcome the reluctance of payers to add new medications to their formularies while at the same time giving the industry incentives to innovate.

This transformation will be facilitated by new technologies, including remote monitoring, EMRs, and communication and collaboration tools, which will also enable the industry to improve its relations with physicians by giving them ready access to resources that facilitate their prescribing decisions.¹⁷

The age of the blockbuster may be over, but the era of the “progressive blockbuster”—as J.P. Garnier, former chief executive officer of GlaxoSmithKline, dubbed it—is only beginning.¹⁸

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