



A Framework to Guide Health Care System Reform

October 2006

McKinsey Global Institute

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Preface

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This research is the result of extensive collaboration between McKinsey's Health System Interest Group and the McKinsey Global Institute.

To contribute to the debate on health care system reform, we have developed a framework and tested its ability to measure and explain differences and common features among health care systems in four countries: Germany, Japan, the United Kingdom, and the United States.

This work draws on McKinsey's in-depth understanding of health care system reform in both developed and developing countries. Interviews with leading academics and executives provided extensive input to the research, and over the course of this project, we benefited from the unique global outlook and deep industry knowledge that our industry experts bring to bear.

Martha Laboissiere, an MGI Senior Fellow in San Francisco, David Nuzum an Engagement Manager in McKinsey's Chicago office, and Bob Kocher, MD, an Associate Principal in McKinsey's Washington, DC office worked closely with us to provide leadership to this project. The team also included Yair Elbaz from the Geneva office, Kamiar Khajavi, MD, from the New Jersey office, Alison Loat from the Toronto office, Carlos Angrisano from the Sao Paulo office, and Lucia Fiorito from the Buenos Aires office.

We would also like to acknowledge our steering committee who contributed their insights and local market knowledge to this study: Nicolaus Henke, Jürgen Wettke, Axel Baur, Lynn Dorsey-Bleil, Vivian Riefberg, Stephanie Coyles, Mona Mourshed, Marit Vaagen, Ludwig Kanzler, Viktor Hediger and Jean Drouin.

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A Framework to Guide Health Care System Reform

The main function of national health care systems—wherever they are in the world—is to promote health among the country’s citizens. In designing and operating any system, health care leaders aim to satisfy three competing requirements: first, ensuring that all people have adequate access to the benefits of health care; second, making certain that the system delivers care of consistently high quality; and third, achieving all this at a sustainable level of cost.

These three objectives raise a host of complex questions. What constitutes adequate access and quality care? What is sustainable cost? To what extent should market forces be allowed to play a role in managing health care costs, quality, and service? Going back a step, shouldn’t health care systems shift their current focus on caring for the sick to a more holistic effort to maintain citizens’ health?

The answers to all these questions will vary widely, depending on the historical, political, and social context of each national system. But in our experience, sufficient commonality exists between them to allow us to construct a universal analytical framework to help leaders identify reform priorities and design and implement them effectively.

SEVEN PRINCIPLES FOR HEALTH CARE REFORM

The McKinsey Global Institute (MGI), in collaboration with McKinsey’s Health System Interest Group (HSIG), developed a framework to help health care policy makers and stakeholders to identify issues, evaluate drivers, and measure the performance of a particular system; to identify priorities areas for improvement or reform in a systematic way; and to set targets and measure progress towards them.

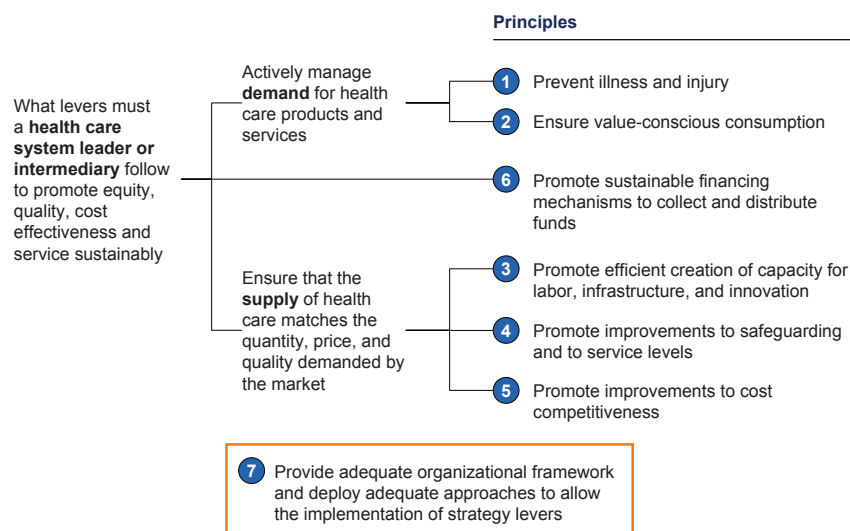
This framework is not a prescribed approach to health care system reform. Rather, it is a tool to help health care leaders to avoid jumping too quickly at reorganization; trying to import a single model from another country; or taking a piecemeal approach when, in fact, the solutions are interdependent.

This paper describes the conceptual background to this framework, seven key principles for use in designing reform programs, as well as its ability to measure and explain differences, as well as common features, among health care systems in four countries—Germany, Japan, the United Kingdom, and the United States.

Of the seven principles that health care intermediaries can use to affect demand and supply of health care goods and services, two relate to demand, three to supply, one to intermediation between supply and demand, and the final principle to the organization and operational framework necessary to allow the implementation of the first six (Exhibit 1).

Exhibit 1

FRAMEWORK TO GUIDE THE REFORM OF HEALTH CARE SYSTEMS



Source: MGI analysis

They are not necessarily new—and some of them have been used to guide health care system reform strategies. However, it is our contention that, applied within the framework described in this paper, they provide a systematic basis for matching supply and demand for health care goods and services and fulfilling the strategic objectives of different health care structures.

SHAPING DEMAND FOR HEALTH CARE

Demand for health care is driven by two major factors: the disease mix, extensively influenced by demographics, and the consumption of care, influenced by ongoing evolution in medical practice. Demographic changes, both in population size and in age, enable health care leaders to predict theoretical demand based on historical utilization patterns. Broadly speaking, evidence

shows underlying growth in hospital care has not been as fast as demographic forecasts would have suggested. Changes in the practice of medicine, such as new surgical techniques, have increased demand, while new drugs and devices may reduce demand for certain procedures. For example, cholesterol-lowering medications and stents¹ have reduced demand for cardiac-bypass surgery.

PRINCIPLE ONE: PREVENT ILLNESS AND INJURY

Efforts aimed at **promoting health and reducing the burden of disease and injury** in the population reduce upward pressure on demand for medical services and may produce better overall health outcomes at lower cost.

There are four levers that health care systems intermediaries can pull to help prevent illness and injury: (1) provide an infrastructure to support basic levels of hygiene, (2) reduce environmental hazards that compromise health, (3) establish effective and comprehensive immunization programs, and (4) promote healthy lifestyles. Although some of these levers are not entirely within the scope of a national health care structure, system leaders can influence them through closer collaboration with their counterparts in housing and urban development, energy and environmental management, and education.

Provide health-promoting infrastructure. Living conditions directly affect health. Proper sanitation, clean drinking water, and safe, reliable energy for cooking and heating reduce illness and injury. These are issues we usually associate with developing countries, but even within developed countries, there are significant numbers of people in inner cities or in remote areas whose health would improve if the infrastructure was in place to support basic hygiene. The strong link between basic infrastructure and health suggests that health care leaders should play a prominent role in monitoring and advocating the construction and maintenance of the relevant infrastructure.

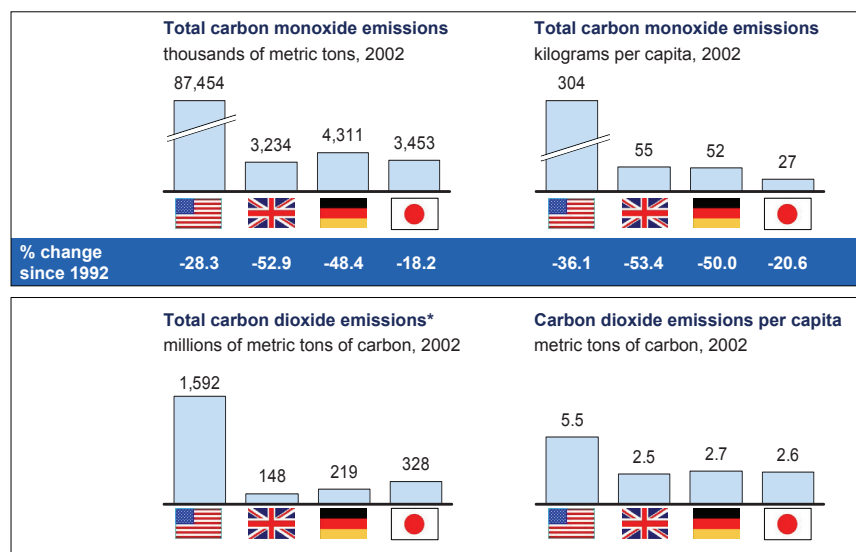
Reduce health-threatening environmental hazards. Most developed countries now accept the force of evidence linking pollution to adverse health effects and are responding to it. For example, since 1992 the United States, the United Kingdom, Germany, and Japan have decreased their carbon monoxide (CO)

¹ A stent is a metal or plastic tube inserted into an abnormally narrowed or closed conduit (such as an artery or duct) in the body. It serves to keep the conduit open and maintain flow.

emissions (Exhibit 2), and have made progress on reducing other environmental pollutants. However, even among these countries, large variations are found in pollution levels and environmental standards. For example, the United States emits nearly five times more carbon monoxide per capita than the United Kingdom, Germany, or Japan. The United States also has an appreciably higher level of carbon dioxide emissions per capita than the other three countries. These data suggest that there is ample scope even in developed countries—and particularly in the United States—to reduce environmental hazards in an explicit bid to promote better health for its citizens.

Exhibit 2

VOLUME AND PER CAPITA RATE OF EMISSIONS



* From fossil-fuel burning, cement production, and gas flaring.
Source: Carbon Dioxide Information Analysis Center (US Department of Energy); OECD Health Data 2005.

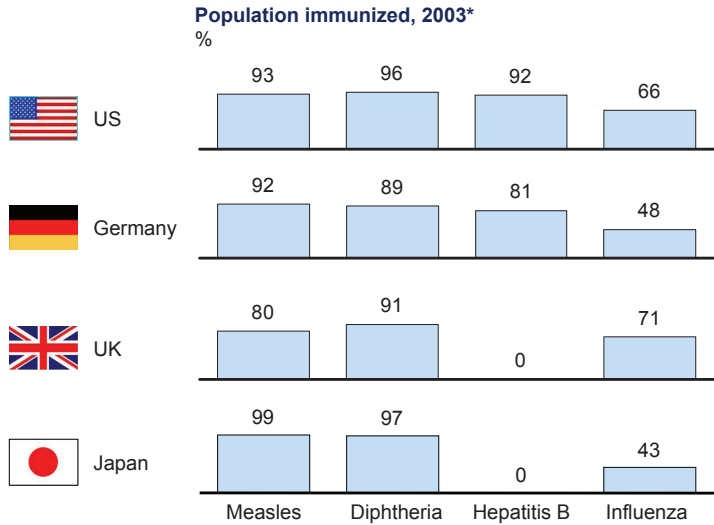
Establish comprehensive immunization programs. It is well known that in some developing countries, immunization against preventable diseases is not provided to all citizens—only 66 percent of African children are immunized against measles and only 35 percent against Hepatitis B.² Putting in place an effective, comprehensive vaccination program in such countries is clearly a priority.

2 WHO/Unicef estimate of vaccine coverage, “WHO vaccine-preventable diseases: monitoring system, 2005 global summary.” Available at <http://www.who.int/vaccines-documents/GlobalSummary/GlobalSummary.pdf>. Accessed on September 10, 2006.

What is perhaps less well recognized is that immunization in developed countries falls far short of the 100 percent mark. While the United States and Germany routinely vaccinate against Hepatitis B, this is not standard practice in either the United Kingdom or Japan; they, however, do vaccinate against measles and diphtheria (Exhibit 3). All four countries might reduce the pressure on medical services by immunizing more elderly people against influenza—at present, flu vaccine is provided to only one-half to two-thirds of the elder population. Health care system leaders should ask themselves why the remainder of the population is not vaccinated—there does not appear to be any clinical reason for this omission. Overall, more extensive immunization may offer a significant opportunity for some developed countries to reduce demand for health care.

Exhibit 3

RATES OF IMMUNIZATION BY COUNTRY AND BY DISEASE



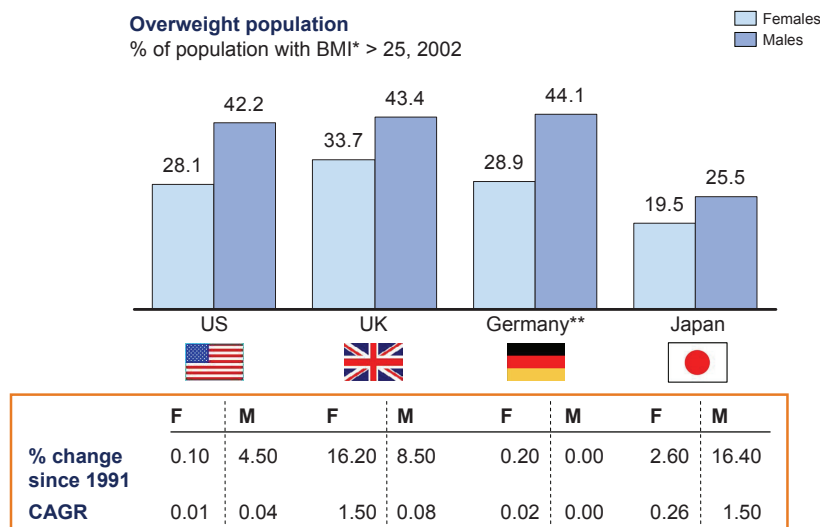
* Population defined as 1 year old for measles, DTP 3, and Hep B3, and 65 years and older for influenza.
Source: WHO; OECD Health Data, 2005.

Promote healthy lifestyles. Regulators of public health and consumer safety have long warned of the increased risks of diabetes, heart disease, and cancer (among other conditions) associated with poor diet, sedentary lifestyles, and smoking. Unhealthy lifestyles are pervasive, to varying degrees, in all countries. In the United States, Germany, and the United Kingdom, for example, more

than 40 percent of men are overweight compared with around 26 percent of men in Japan (Exhibit 4). However, in Japan, despite a general appreciation of the health benefits of good diet and exercise, more than 50 percent of adult men smoke (Exhibit 5).

Exhibit 4

MEASURE OF OVERWEIGHT POPULATION IN DIFFERENT COUNTRIES



* Body mass index; BMI > 25 is obese.

**German data from 2003 and 1999.

Source: OECD Health Data 2005.

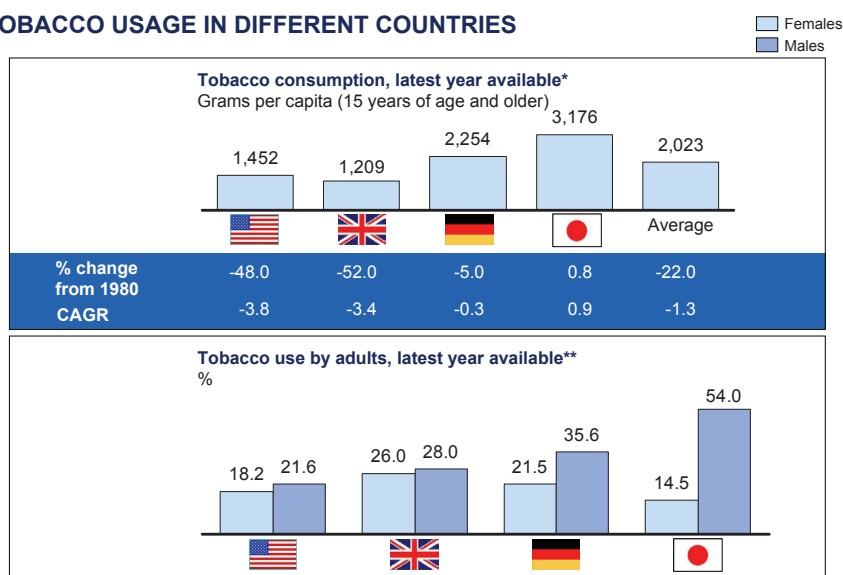
Some behaviors have changed. Since 1980, both the United States and the United Kingdom have reduced tobacco consumption per capita by approximately 50 percent. High-risk populations in many major US cities have also reduced their exposure to HIV and other sexually transmitted diseases by increased use of condoms. These successes in promoting behavioral change may offer a road map for replicating them in other areas.

Why prevention may be underemphasized. Health care systems may underemphasize disease prevention for clinical, organizational, and behavioral reasons. Clinically, relationships between disease and environment or lifestyle are not always understood: even healthy people in healthy environments can get sick, and obese people do not always get heart disease, diabetes, and osteoarthritis. Moreover, the period between preventive interventions and realization of the public health benefit make it difficult to demonstrate the impact of these

programs. In terms of organization, the responsibility for developing and administering programs that improve health are often divided, and are often outside traditional health care functions. Finally, from a behavioral perspective, it is not clear that healthy individuals actually consume less health care. Although this relationship would appear intuitive, the evidence backing it is ambiguous. Nevertheless, we still believe that this should not undermine the case for prevention.

Exhibit 5

TOBACCO USAGE IN DIFFERENT COUNTRIES



* Japan 1975-1995; all other countries 1983-2003.

** Defined as percent of the population 15 years old and over reporting that they smoke every day.

Source: OECD Health Data 2005; OECD Health at a Glance 2005.

PRINCIPLE TWO: PROMOTE VALUE-CONSCIOUS CONSUMPTION

It is in the interests of the quality and efficiency of any health care system that consumers—whether they are patients or payors—**make rational decisions on use of care and choice of providers**, i.e., decide in a value-conscious manner what care is necessary (if any) and obtain that care through providers that are distinctive in cost-efficiency, quality, or, preferably, both. However, to do so, consumers need to (1) have the information necessary to select providers and services that are cost-effective and represent good quality and value and (2) be in a situation where they are able to make choices.

In the health care sector, the consumer or patient is typically insulated from the final cost by multiple administrative layers. Patients with health insurance have little incentive to choose value for money as they pay relatively little in out-of-pocket expenses. However, once consumers are empowered with knowledge to understand treatment options and are offered appropriate incentives, we anticipate they will increasingly demand the right to choose physicians, service providers, and treatments that deliver the highest value to them personally, which will benefit the health system as a whole.

Provide information to support effective cost-benefit judgments. The amount of information that consumers need to make rational judgments about choosing the right health care in the most cost-effective way can be daunting. To select the most appropriate insurer, consumers need comparable information about different insurance offerings; to choose the right care provider, the patient needs data on the quality of provision by individual physicians and hospitals; to secure the best combination of quality and value in any health care treatment or period of care, the patient needs information about what technologies and treatment options are available, their effectiveness, and alternatives; to weigh cost against quality, the patient needs information on prices.

At present, the range of information that health care consumers need in order to choose between providers and treatments is largely unavailable in most countries and insufficient where it is available. Some progress has been made. In the United States, for example, the Center for Medicare and Medicaid Services (CMS) now publishes statistics on hospital mortality and complications rates. More recently, it has started providing a more detailed set of “core measures” of hospital quality, available to Internet users. Moreover, CMS is in the process of releasing hospital prices for selected drugs. Although these metrics may be relevant for comparing overall quality differences and different hospitals, they are less useful to consumers who generally choose physicians or locations within a limited geographic area. Information on physician performance in particular areas is largely unavailable. A recent survey suggested that only 11 percent of US patients have access to at least some quality data to help them manage their health care (Exhibit 6).

Foster consumer choice. Even in cases where patients have access to reliable information, their discretion in choosing providers and treatments is often

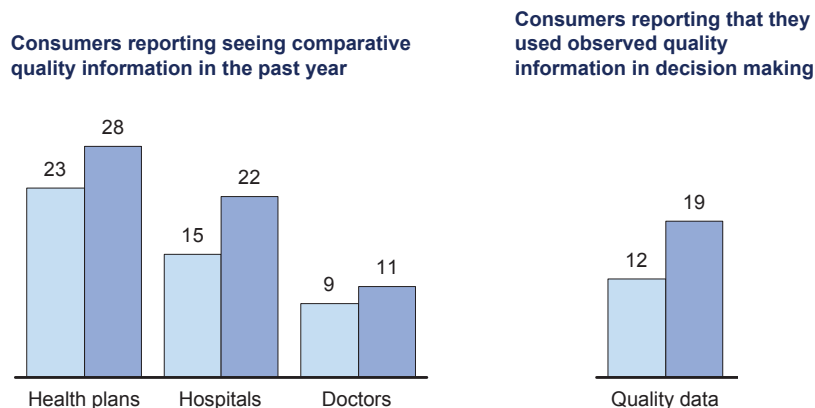
constrained. There are three main reasons: monopolies, particularly in rural areas; requirements by payors that patients restrict their choice to providers within a closed network selected by the payor; and operational barriers arising from vertical integration among providers.

Exhibit 6

AVAILABILITY OF QUALITY DATA TO CONSUMERS

% of respondents

2000
2004



Note: US data only.

Source: Kaiser Family Foundation, Agency for Healthcare Research & Quality (AHRQ), and the Harvard School of Public Health, "National Survey of Consumers' Experiences with Patient Safety and Quality Information," November 2004; MGI analysis.

Additionally, physicians seldom involve patients in treatment decisions. Of course, in some cases patient involvement may not be possible or desirable—in life-threatening or acute episodes, it is simply not feasible to burden the patient with making decisions, let alone choices.

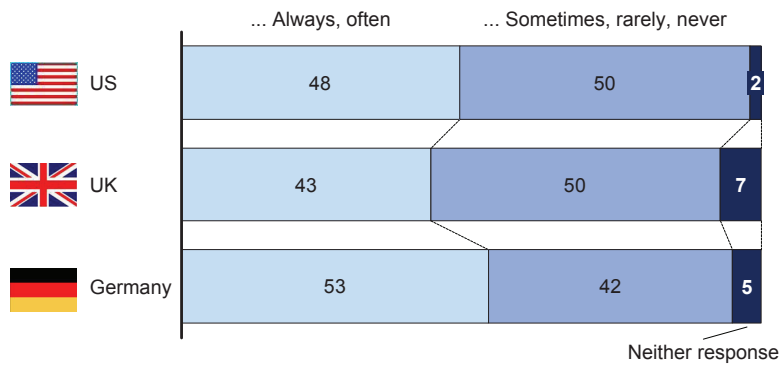
However, it does appear to be the case that a lack of patient input partly reflects social and cultural norms. A survey of patients in Germany found that little more than half of patients played a part in choosing their treatment, and slightly fewer still in the United States and the United Kingdom reported being asked their opinion regarding treatment options (Exhibit 7). Another study showed that Japanese patients were least likely to report a feeling of adequate control over a medical decision (Exhibit 8). In addition, some patients choose to rely on their providers as sole decision makers whether in an emergency or in daily care.

Exhibit 7

PROVISION OF INFORMATION TO OUTPATIENTS DURING THEIR MEDICAL ENCOUNTER

% of respondents, 2005

Statement: "Your regular doctor tells you about care, gives treatment choices, and asks your opinion..."

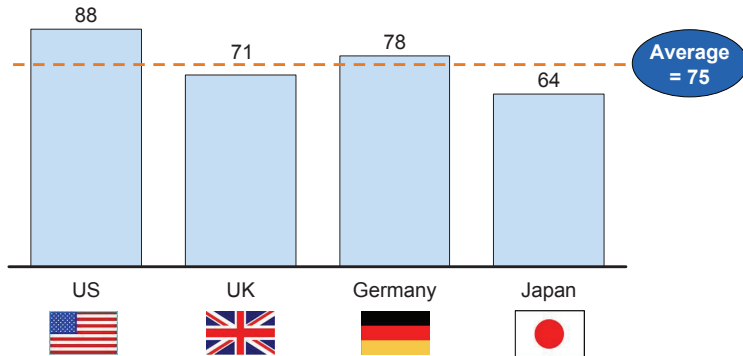


Note: Japan not included in survey.
 Source: Commonwealth Fund, "Taking the Pulse," Health Affairs, 3 November 2005.

Exhibit 8

PATIENTS' CONTROL OVER MEDICAL DECISION MAKING

Patients reporting that they have enough control over decisions affecting their medical care
 % of respondents agreeing, 2000



Source: Survey of 1,000 patients in each country, conducted by L. Harris for Harvard Community Health Plan; cited in McKinsey Global Institute report "Why the Japanese Economy Is Not Growing," July 2000.

However, we believe a subset of health care decisions lend themselves to patient involvement that would be both safe and equitable. There are already instances of elective health care sectors where patients choose between providers on the basis of cost, service, and quality; in the United States, for example, vision care patients routinely make these judgments when they choose between optometrists and ophthalmologists. A degree of patient autonomy also characterizes services such as dental care, chiropractic care, physical therapy, and cosmetic procedures. In some elective outpatient service areas, patients could be empowered without jeopardizing safety. For instance, choosing where to obtain outpatient imaging and diagnostic testing (balancing service level and convenience for price) or receive complementary care like rehabilitation may be good areas for an initial focus. Predictable, elective hospitalizations for childbirth or orthopedic procedures are other areas with the potential for greater patient autonomy.

Why value-conscious consumption is rare. Even with good market information, consumers may still make wasteful decisions at present, largely because of the moral hazard posed by most health insurance mechanisms. These tend to insulate individuals from the true cost of treatment, and this leads consumers to choose higher-cost providers and therapies, compromising the goal of cost containment. In addition, an idea exists in the minds of uninformed consumers that higher cost equals better treatment. Other reasons consumers may not get the least expensive treatment or provider include regulatory restrictions and capacity constraints, as well as limited choice of health plans (Exhibit 9). For example, in the United Kingdom, multiple controls relating to chemotherapy regimens for cancer patients—presumably in the interest of cost containment—make it more difficult to obtain palliative chemotherapy and newer biologic agents.

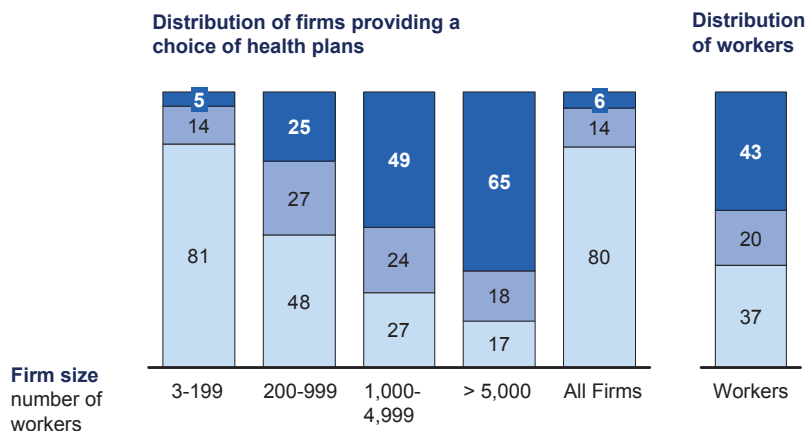
If health care system leaders were to provide consumers with the appropriate information and incentives, consumers would likely seek providers and treatments that are lower cost and/or higher quality. Consumers would also probably cut down on discretionary care of marginal benefit to themselves—and therefore to the health care system. They would also increase their compliance with physicians' recommendations for managing chronic disease, as this would ultimately result in higher value.

Exhibit 9**CHOICE OF HEALTH PLANS – US EMPLOYER-SPONSORED PLANS**

%, 2005

US EXAMPLE

- One plan
- Two plans
- Three or more plans



Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 2005.

SHAPING SUPPLY FOR HEALTH CARE

In theory, suppliers in a competitive market will automatically provide all the services for which there is demand at a given price; if supply falls below demand, prices will rise, stimulating an increase in supply. In health care systems, however, the relationship between supply and demand is less straightforward. In fact, in some cases supply can drive demand. It is argued that the ease of available technology in the US is partially responsible for the high cost of the health care system. On the other hand, undersupply can result in lost lives or lower quality of care. Health care system reforms focused on shaping supply should evaluate capacity, quality, and cost efficiency.

PRINCIPLE THREE: PROMOTE EFFICIENT CAPACITY

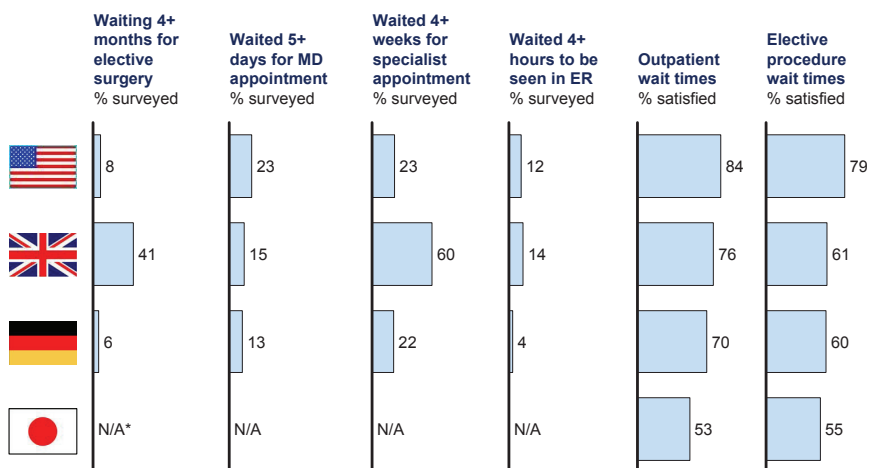
Health care systems should have sufficient capacity to provide the quantity and quality of health care that consumers require, at prices the system can sustain. System leaders should consider three dimensions of capacity: (1) physical resources (for example, buildings and beds); (2) labor; and (3) technology, such as drugs and medical equipment.

Under- and overcapacity are found in different areas of all of the health care systems we have examined. Overcapacity adds unnecessary cost burden to the system. A degree of undercapacity, managed by rationing according to the urgency of patients' medical needs, may help to contain a system's costs. However, excessive undercapacity will clearly have an adverse impact on overall quality and access.

Assure adequate physical resources. Adequate health care coverage depends on adequate supply of hospitals, beds, and related physical resources, as measured by beds per capita or waiting times for surgery. In the British National Health Service (NHS), for example, high waiting times for surgery, indicate undercapacity. Some 41 percent of patients requiring elective surgery wait longer than four months for their operations (Exhibit 10); in the United States and Germany, less than 10 percent of patients wait as long. In addition, 60 percent of patients in England have to wait more than four weeks to see a specialist. Waiting times have long been used as a means of rationing NHS care, but the NHS now recognizes excessive waiting times as a major weakness in the system and is making progress in reducing them.

Exhibit 10

WAITING TIMES FOR APPOINTMENTS AND PROCEDURES



* Data not publicly available.

Source: Schoen Commonwealth Fund, "Taking the Pulse" Health Affairs, 3 November 2005; Survey of 1,000 patients in each country conducted by L. Harris for Harvard Community Health Plan cited in McKinsey Global Institute report "Why the Japanese Economy Is Not Growing," July 2000.

To adjust physical capacity, health care system leaders can use a variety of measures to make accurate assessments of demand. However traditional metrics can be misleading. For example, in the United States, simply counting the number of beds per capita would suggest the system is below the capacity compared with other OECD (Organisation for Economic Co-operation and Development) countries. However, when actual hospital admissions numbers and the duration of hospital stays are taken into account, the United States has an excess of hospital beds (Exhibit 11). This analysis is supported by the fact that average bed occupancy in US hospitals is around 60 percent.

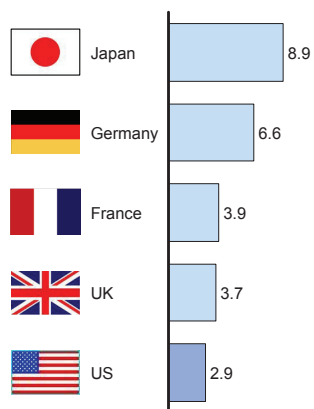
Exhibit 11

HOSPITAL CAPACITY VS EFFICIENCY

2003

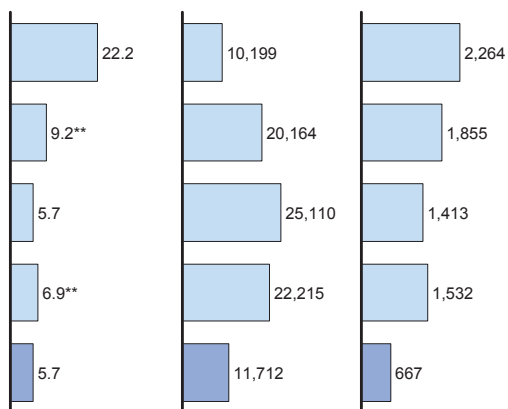
United States has less physical capacity than peer countries...

Acute care beds per 1,000 population, 2002



... but that is explained by higher hospital efficiency and lower utilization

ALOS* days \times Discharges Per 100,000 population $=$ Hospital days/ year Per 1,000 population



* Average length of stay.

** DRG implementation has reduced ALOS.

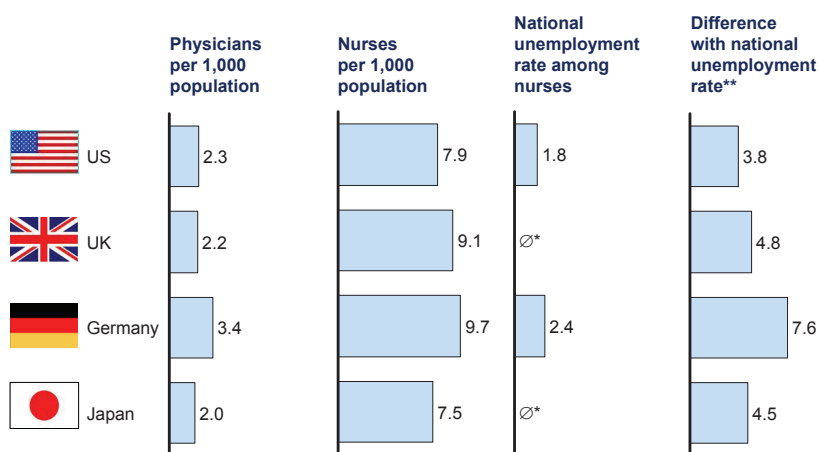
Source: OECD, MGI analysis.

Ensure an adequate supply of labor. In the global health care sector, the failure of labor supply to grow in step with demand is a key factor limiting provision. In Africa, for example, the shortage of properly trained health workers is a severe constraint on the delivery of more efficient health care to its populations.

Three main challenges need to be surmounted to ensure the adequate supply of labor: (1) finding the right number of doctors, nurses, technicians, and other health care workers (Exhibit 12); (2) striking the correct balance between specialists and generalists; and (3) deciding how to adjust capacity for rural areas.

Exhibit 12

INDICATORS OF LABOR CAPACITY



* In the United Kingdom, nursing employment described as "full"; in Japan, as "overdemand"; analysis assumes Ø unemployment.

** National unemployment rates are 5.6 in United States, 4.8 in United Kingdom, 10.0 in Germany, 4.5 in Japan.

Source: OECD Health Data, 2005; International Council of Nurses Workforce Profile, 2005, available at <http://www.icn.ch/SewDatashet05.pdf>. Accessed 14 March 2006.

This task is difficult for a number of reasons. First, a long lead time is required to educate and train doctors and nurses. In addition governments and professional associations in some countries exercise a large degree of control over the number of educational and training positions. Finally, because a greater range and number of jobs are becoming open to women—who have traditionally been the mainstay of the nursing labor force—fewer women are choosing to work in health care. This means that more countries have been forced to be proactive in attracting imported labor to meet demand. There are already models for health care intermediaries—whether policy makers or insurers—to follow. Kaiser, a private health insurance company in the United States, supports nursing education programs in the Philippines to help secure an adequate supply of nurses in the United States, while managed care companies raised the compensation of primary care doctors through the 1990s. Increasingly, women physicians are pursuing part-time roles, further challenging labor supplies.

Promote the best use of medical technology. The right quantity and quality of medical technology is needed to ensure an adequate supply of the most efficacious drugs and the most effective equipment and devices. Ensuring that technology continually improves requires the active promotion of innovation. However,

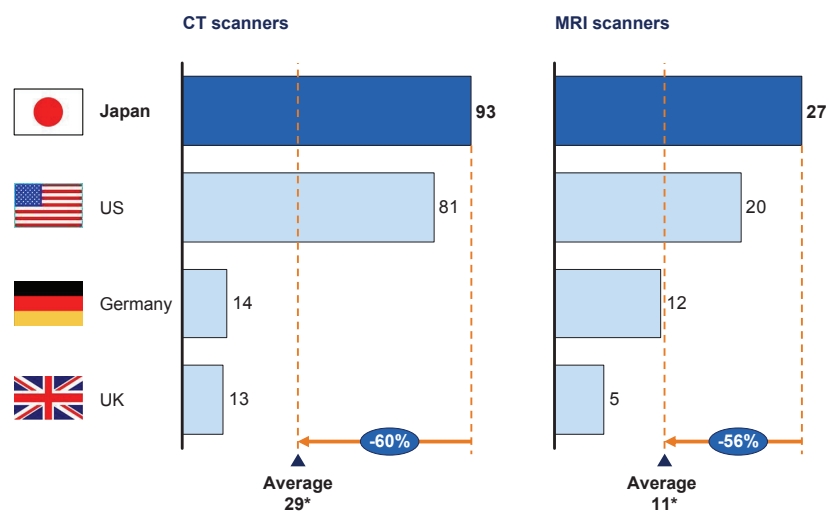
this needs to be targeted to meet the health needs of the population in question. The newest and most expensive technology is not always the most appropriate; technology, like physical resources and labor, may be in under- or oversupply.

The most glaring cases of undersupply are in African nations where almost no national health care system has access to adequate drugs, equipment, and devices. An example of overcapacity, in contrast, is the large number of MRI scanners per capita in Japan—more than six times as many as in the United Kingdom or Germany (Exhibit 13).

Exhibit 13

SCANNER CAPACITY IN RANGE OF OECD COUNTRIES

Scanners per million population, 2002



* Average calculation excludes United States.

Source: OECD; Frost and Sullivan; MGI analysis.

Limits to intervention. Intermediaries intervene on capacity management because, unlike in other markets, undercapacity can put lives at risk. Particularly in systems with high private presence, the natural market forces and the distribution of investments may not always be aligned with the goals established for the health care system (be they cost, life expectancy, waiting times, etc.).

On the other hand, while overcapacity usually results in higher costs to the system, its impact cannot be weighted only monetarily because extra capacity can also positively impact quality. Common examples are higher service levels

(such as more nurses per patient in hospitals) and shorter waiting times for tests and procedures.

Geography can make it difficult to get the right balance. Ensuring an adequate supply of specialty practices such as trauma-level emergency care in sparsely populated areas is particularly challenging given that some rural markets may not have sufficient concentration of consumer demand to support such services. This kind of undersupply is caused by public and private suppliers acting in an economically rational way by avoiding investments in services likely to achieve a low risk-adjusted return. System leaders may need to stimulate investment by introducing capital subsidies or income guarantees, thus ensuring equitable access to essential services, even at the cost of some economic efficiency.

PRINCIPLE FOUR: ENSURE QUALITY AMONG SUPPLIERS

Ensuring quality of health care—outcomes for patients, how safely care is administered, and overall service levels—is a defining goal of any health care system. Attaining higher quality rests on two main levers: (1) safeguarding and (2) providing adequate service levels and access. Yet, two major challenges arise in the quest to improve health care quality. First, the lack of reliable data on quality, safety, and service can make it difficult to develop and then monitor the most effective treatments. Second, quality and service problems often stem from system-level issues such as lack of adequate funding. Clearly, measures to improve quality must be coordinated with other principles to prevent unintended consequences.

Safeguard to raise the quality of health outcomes. Although it is difficult to identify precisely why the quality of systems varies so much, growing evidence indicates safeguarding plays an important role in better and less-variable care outcomes. *Safeguarding* is defined as the adherence to standards not only in screening and treatment but also in the education and accreditation of the labor pool, as well as the accreditation of facilities and other aspects of the system.

A well-known example of a safeguard mechanism is evidence-based standards in the screening and treatment of diseases. Treatment protocols are as old as medicine itself. However, new technologies, drugs, screening methods, and devices, as well as more knowledge and use of Eastern medicine, have led to a proliferation of new protocols, and this has undermined the concept of a single standard of best practice for the diagnosis and treatment of a given disease.

At the same time, the medical literature provides a growing base of evidence for the efficacy of particular diagnostic and therapeutic protocols that lead to reduced morbidity and mortality. Creating integrated treatment plans that link the best evidence together into a protocol ensures up-to-date treatment, low variability, and better outcomes. Hospitals that follow proven protocols consistently define higher-quality outcomes. For example, hospitals with the highest adherence to evidence-based protocols for the treatment of pneumonia have experienced 20 percent fewer complications and 25 percent fewer readmissions than hospitals with the lowest adherence³.

Despite this, health care providers in the countries we studied routinely fail to consistently use set protocols. As physicians and patients explore the treatment options available today, they can easily waste time and resources while ignoring potentially lifesaving screenings or treatments. In Germany, 35 percent of diabetes patients in one survey reported that their annual checkup did not include an examination of their feet for ulcers, part of the typical management of chronic diabetes (Exhibit 14).

Our comparisons demonstrated that established protocols for the detection and screening of diseases as well as for treatment are also either not widely known or not adopted. For example, most cancers are detected earlier in the United States than in the United Kingdom, Japan or Germany (Exhibit 15), most likely because of differences in screening recommendations and the type of diagnostic technologies in place.

Safeguarding is also important for making care less hazardous, integral to high quality: the patient whose disease is accurately diagnosed, and for whom the correct treatment protocol is adopted, is still ill-served by the health care system if that treatment is maladministered, or the patient contracts a different illness as a result of poor hospital conditions. In 1999, the Institute of Medicine reported that medical errors caused as many as 100,000 preventable deaths in the United States⁴. In a Commonwealth Fund International Health Policy Survey of

3 “Lessons from the CMS/Premier Hospital Quality Incentive Demonstration Project,” presentation by Richard A. Norling, Premier President and CEO, given at the 2006 Annual Meeting of The American Health Quality Association, February 23, 2006.

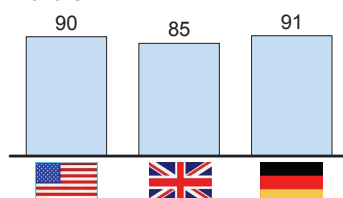
4 Institutes of Medicine. *To Err Is Human: Building a Safer Health System*. National Academy Press, Washington DC, 1999. Available at <http://www.iom.edu/CMS/8089/5575.aspx>. Accessed September 10, 2006.

Exhibit 14

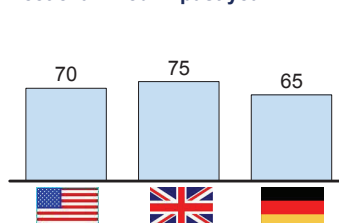
MEASURE OF COMPREHENSIVE ANNUAL CHECKUPS AMONG DIABETIC PATIENTS

% of patients reporting treatment

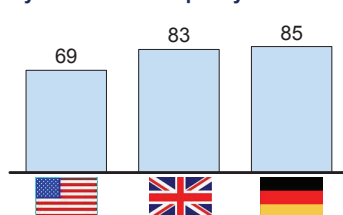
Hemoglobin A1C checked in past 6 months



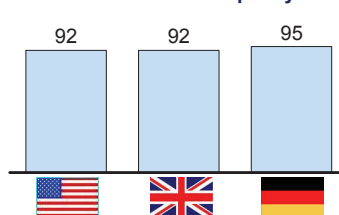
Feet examined in past year



Eyes examined in past year



Cholesterol checked in past year



Note: Data unavailable for Japan.

Source: Commonwealth Fund International Health Policy Survey of Sicker Adults, 2005.

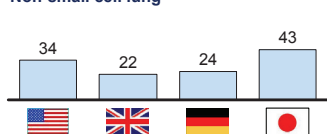
Exhibit 15

MEASURE OF EARLY DETECTION FOR VARIOUS CANCERS

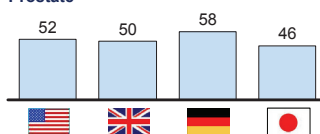
Cancers detected at Stages 1 or 2

% of patients diagnosed, 2001

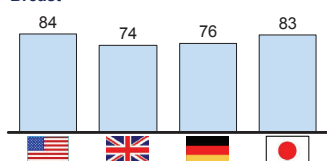
Non-small cell lung



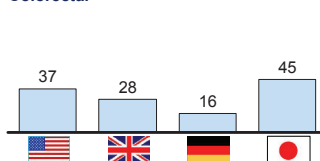
Prostate



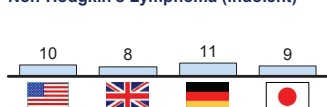
Breast



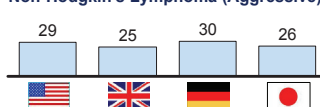
Colorectal



Non-Hodgkin's Lymphoma (Indolent)



Non-Hodgkin's Lymphoma (Aggressive)



Note: Early cancer detection is a proxy for effective screening programs and/or effective screening technologies.

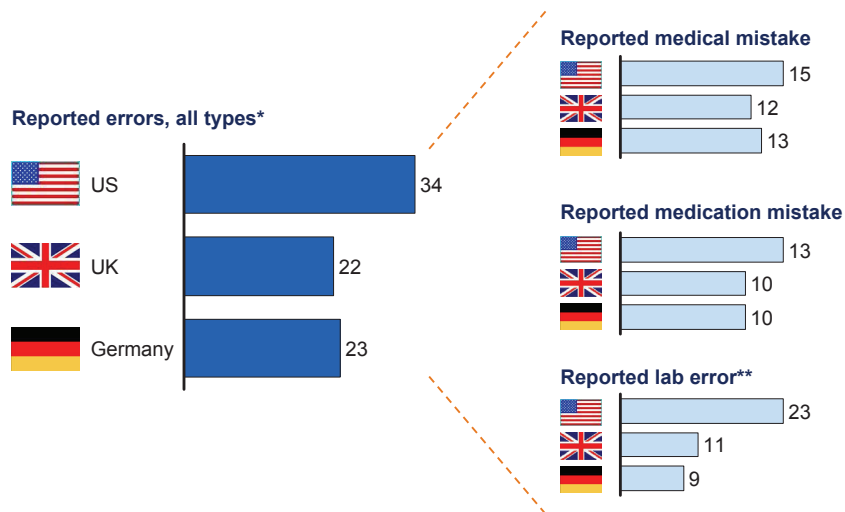
Source: Datamonitor Treatment Algorithms Survey, 2001.

Sicker Adults carried out in 2005, one-fifth to one-third of patients in all countries reported that they had experienced medical errors in their care (Exhibit 16).

Exhibit 16

PATIENT REPORT OF MEDICAL ERRORS IN THEIR CARE

% of respondents reporting errors



* Accounts for one or more errors reported together; individual numbers for errors cannot be added.

** Either incorrect test results or delays in notification of abnormal results.

Source: Commonwealth Fund International Health Policy Survey of Sicker Adults, 2005.

To improve this situation, safety levels must first be measured and comparable data obtained. Frequent measures are the number of falls from beds, nosocomial infections⁵, drug errors, and iatrogenic conditions, since these are among the most common types of preventable medical errors. However, the data currently available on preventable medical errors is largely limited to providers' self-reported figures, which may not always be reliable. For example, hospitals in United Kingdom and the United States report nosocomial infections among 7.5 percent and 5.7 percent of inpatients, respectively; the equivalent figure in Germany is less than 0.1 percent, suggesting a difference in the definition of such infections or in reporting vigilance (Exhibit 17).

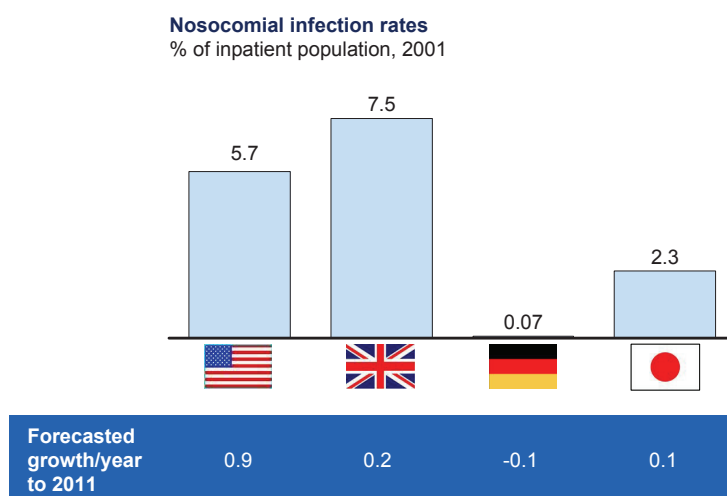
Provide adequate service levels. In most industries, customer satisfaction is an important measure of value. In health care, this includes safety, patients

5 Nosocomial infections are those that are a result of treatment in a hospital or hospital-like setting, but secondary to the patient's original condition. Infections are considered nosocomial if they first appear 48 hours or more after hospital admission.

perceptions of waiting times, the quality of their communications with medical professionals, and how well their expectations were met during the different stages of care. However, patient satisfaction is a relative metric. Thus, while we believe health care system leaders should consider patient experience and customer satisfaction, the important dimensions that lead to it, such as safety and waiting times, are captured in other principles.

Exhibit 17

RATE OF HOSPITAL-ACQUIRED (NOSOCOMIAL) INFECTIONS



Source: Decisions resources; American Hospital Association; German Federal Statistical Office; Japan's Ministry of Health, Labor, and Welfare Hospital Survey; England's Hospital Episode Statistics.

Challenges raised by this principle. Quality assurance is challenged by the lack of reliable data on quality, safety, and service for providers, which can make it difficult to develop and then monitor the most effective options of treatment or other service. Cross-country comparisons show that average performance varies significantly across different systems. We believe large variability often stems from system-level issues such as insufficient attention from policy makers, lack of adequate funding, or poor data monitoring and availability.

PRINCIPLE FIVE: PROMOTE COST OPTIMIZATION AMONG PROVIDERS

Achieving **sustainable cost** is probably the highest priority of health care systems worldwide. There are two focus areas for providers to optimize costs: (1)

in the acquisition and management of inputs and (2) in the delivery of services (or goods).

Improving process productivity lies at the heart of providing health care services more cost-effectively. The implications of proposed changes should be carefully evaluated such that they must avoid changes that compromise safety. However, intermediaries should seek to remove barriers that exist simply to protect perceived entitlements and job security.

Optimize costs in the acquisition and management of inputs. Health care leaders can adjust the costs of inputs of labor or goods by optimizing both prices paid and volumes consumed.

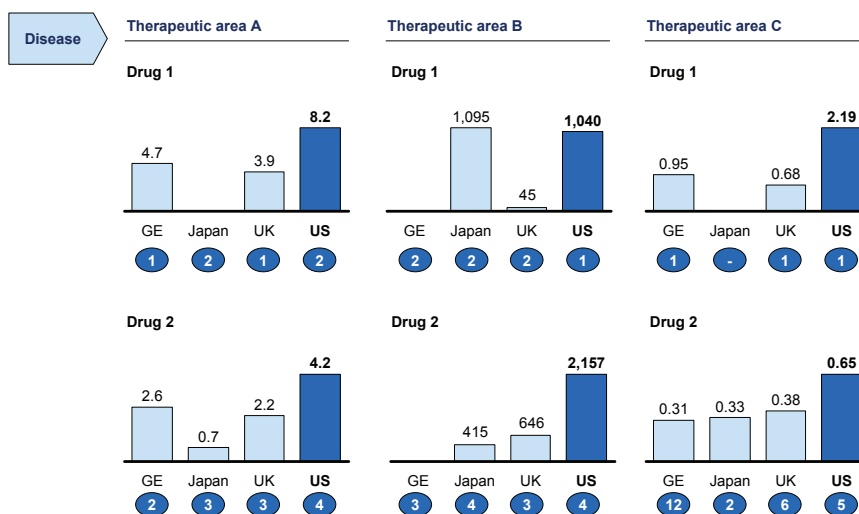
We and others have identified several opportunities to optimize input cost, prescription drug pricing being a prominent example. Average drug prices are 50 percent to 70 percent times higher in the United States than in peer countries (Exhibit 18). The latter four countries regulate the price of drugs via negotiations between the individual payors and pharmaceutical companies, through bulk purchases by public health care bodies, and by imposing caps on the maximum price charged directly to consumers.

Exhibit 18

PRICES OF THE SAME DRUGS FOR SELECTED DISEASES

\$ per standard unit, 2005

Rank in sales revenues for that disease



Source: IMS; MGI analysis

In other cases, however, health care leaders can be constrained by countervailing regulations protecting the economic interests of special-interest groups. During the framing of the United States Medicare Part D, which provides drug coverage to the elderly and disabled, pharmaceutical companies lobbied successfully against any requirement for negotiating drug prices with the US government. Similarly, the recent introduction of drug prescribing authority for nurses in Britain's NHS, aimed at reducing waiting times and system costs, is being resisted by those with an interest in limiting prescribing privileges to physicians.

In the 1990s, many hospitals in the United States expanded the responsibilities of nurses with lower levels of training to reduce reliance on registered nurses and therefore average wage levels. More recently, the respective roles of registered nurses, lesser-trained nurse assistants, and other staff were redefined to meet nursing labor shortages and to limit hospitals' dependence on high-priced temporary agency nurses. In response, nurses' associations in California have introduced legislation defining minimum nurse-to-patient ratios, the purpose being to defend nurses against the practices of routine "short-staffing" and delegating care to lower-cost clinical labor. The problem is that such regulations, where adopted, reduce the flexibility in hospital staffing and limit providers' ability to improve productivity, benefiting patients and reducing system costs.

Optimize costs in service delivery. In health care, higher productivity can be measured by reductions in service times, including average lengths of stay and emergency rooms waiting times, and by increased capital productivity measured by, for instance, acute care turnover—the number of surgical operations per operating room per day.

In the United States, wide variations are found among different providers, suggesting a tangible opportunity to improve cost control by raising efficiency to best-practice levels. For example, marked differences exist in the number of consultations provided per year by physicians of given specialties, the average length of stay in hospitals, the amount of nursing support per patient day, and the "service intensity" of a hospital stay—measured by the frequency of lab tests, diagnostic radiological exams, or therapeutic procedures.

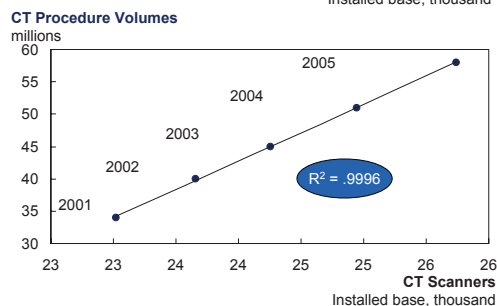
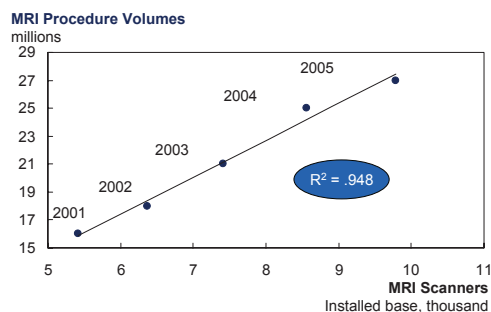
Moreover, a direct correlation is found between diagnostic scanning procedures and volumes. Wide variation in service intensity between self-referring physicians—those who direct patients to another part of their own practice or facility—and other practitioners is also observed. Self-referring physicians order two to eight times more scans than the average physician. Superficially, this gives the impression of a desirable increase in capital productivity. However, an audit by National Imaging Associates (NIA) has concluded that 30 percent to 40 percent of diagnostic imaging does not contribute to a better outcome for the patient and is therefore an unnecessary cost (Exhibit 19).

Exhibit 19

CORRELATION BETWEEN CT AND MRI SCANNERS WITH PROCEDURE VOLUMES

- Self-referring physicians order two to eight times more scans than average, probably due to high cost of acquisition

- NIA audit concluded that 30% to 40% of diagnostic imaging is inappropriate or noncontributory



Source: Frost and Sullivan; MGI analysis.

Challenges raised by this principle. Although process innovations offer the potential for improved productivity, they are often opposed by those who have a financial stake in maintaining the status quo, as well as by professional and consumer advocates concerned about patient safety. Health care system leaders must therefore thoroughly explore the implications of proposed changes in care delivery and inputs. Clearly, they must avoid changes that compromise safety; but they are still justified in seeking to eliminate barriers that exist simply to protect incumbent stakeholders.

INTERMEDIATION IN HEALTH CARE

All modern health care systems have intermediaries—including policy makers, regulators, and the private and public parties involved in pricing and financing health care—who ensure that supply matches demand at prices consistent with national goals relating to access, quality, and cost. Governments are overall more powerful than any other intermediaries because they set the regulatory framework and price in which the others operate.

PRINCIPLE SIX: PROMOTE SUSTAINABLE FINANCE MECHANISMS

Financing intends to ensure that the demand and supply of health care services are matched. Two critical levers direct the flow of funds in health care systems: (1) the origin of the resources to pay for care and (2) the payment mechanisms used to distribute funds to health care services.

By examining alternative sources of finance and payment and then matching them to the health care needs and economic characteristics of their respective populations, health care system leaders will succeed not only in avoiding the current pitfalls of un-insurance, under-insurance, or over-insurance but also in containing unruly cost increases or pricing abuses while at the same time creating incentives to improve cost, access, and quality. Moreover, financing should be designed to ensure long-term sustainability for a system accounting for changes in demographics and likely growth in demand.

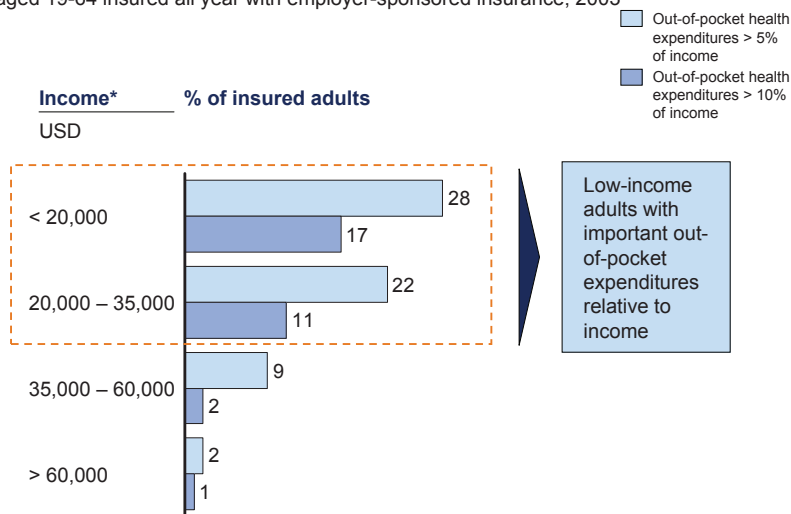
Sources of funds for financing health care. Health care systems worldwide have largely financed health care through private insurance or by transferring wealth from richer to poorer citizens through a public health insurance or entitlement program. However, even in countries with universal coverage, a third important source of funds is personal savings—either used directly or in the form of co-payments, co-insurance, or deductibles (meaning the patient pays for certain specified items of care). Not surprisingly, personal savings are a more prevalent source of health care funding in countries that do not provide universal coverage (Exhibit 20).

Each of these sources of funding plays an important function, yet even in those countries offering universal care, the way funds are pooled varies widely, suggesting room for efficiency improvements (Exhibit 21).

Exhibit 20

OUT-OF-POCKET EXPENDITURES OF INSURED AMERICAN ADULTS

Adults aged 19-64 insured all year with employer-sponsored insurance, 2003



* Income groups based on 2002 household income.
Source: The Commonwealth Fund Health Insurance Survey, 2003.

Exhibit 21

BASIC FINANCING MECHANISMS FOR HEALTH CARE

Applicability	Examples of "correct" use of mechanism ✓	Example of "misuse" of mechanism ✗
Savings and out-of-pocket expenditures <ul style="list-style-type: none"> Predictable low-cost care (e.g., yearly checkup) Predictable high-cost care (e.g., end-of-life care) 	<ul style="list-style-type: none"> Singapore's Medisave account for inpatient costs HSA (health savings account) 	<ul style="list-style-type: none"> Low-income US uninsured population
Insurance <ul style="list-style-type: none"> Unpredictable and catastrophic care 	<ul style="list-style-type: none"> High-deductible plans 	<ul style="list-style-type: none"> Comprehensive German mandated coverage
Wealth transfer <ul style="list-style-type: none"> Care for low-income households 	<ul style="list-style-type: none"> Medicaid (US) 	<ul style="list-style-type: none"> Medicare (US) Free health care at the point of access for those who can afford it (UK and Canada)

Source: MGI analysis.

Insurance plans are an appropriate vehicle for the subset of health care spending associated with unpredictable catastrophic illness or injury such as cancer or strokes. Premiums from the population equally at risk for such occurrences are used to fund care for those who are directly affected. Spreading the risk in this way is a valuable method of pooling an adequate level of resources.

However, *savings* vehicles may be more economically efficient than insurance for funding discretionary health care spending. Consumers already use their own savings to cover items such as deductibles and co-payments, and they may also choose to use savings for an item such as LASIK surgery (laser eye surgery) rather than for other discretionary outlays such as purchasing a new home or financing a vacation. In addition, traditional insurance or entitlement programs may not be the most efficient way to fund end-of-life care. Late in life, individuals often own assets such as life insurance and retirement savings against which they can hedge the risk of their end-of-life medical needs.

However the pool is comprised, wealth transfer mechanisms are still necessary for those who cannot afford insurance plans or are unable to amass sufficient savings to cover health care services. These mechanisms can be used to finance minimum basic benefits such as disease prevention, other forms of primary care, chronic disease care, and lifesaving treatments. Paying the providers directly from the public purse or targeting public payments explicitly at the poorest citizens are two frequently used models.

Matching alternative sources of financing to the health care needs and economic characteristics of the population allows health care system leaders to avoid the pitfalls of uninsurance, underinsurance, or overinsurance. In the United States, for instance, a combination of savings and employer-based insurance is broadly used to cover health care costs. Despite this provision, however, the required levels of co-payment have actually led to problems of underinsurance and lack of access in some cases, particularly in the low-income population. In 2003, 29 percent of the US insured population had access problems due to lack of financial resources (Exhibit 22 and 23).

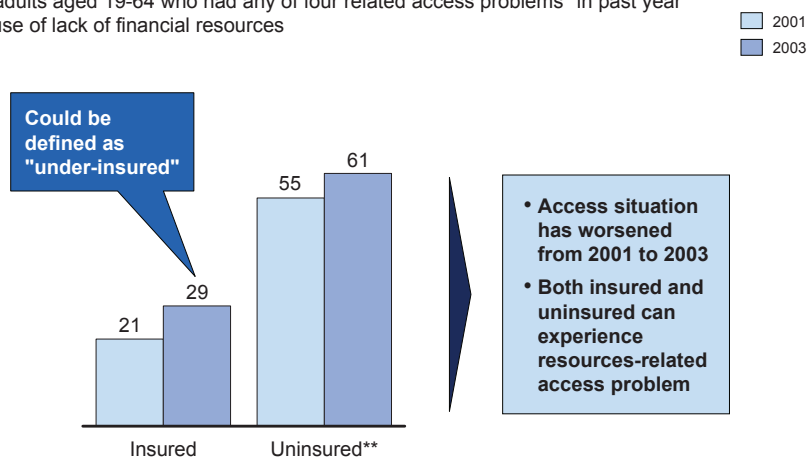
Health care system leaders should make sure that the coverage offered matches what is valued by individuals and society as a whole. Healthy, working people may be buying excessive coverage that they neither want nor need, and which is

expensive to employers and the system overall. A more graduated evaluation of the coverage appropriate for different individuals could improve overall system efficiency, reduce overall costs, and increase the incentive to save by encouraging patients and their families to look more closely and transparently at the economic trade-offs between health care and alternative uses of these funds.

Exhibit 22

FINANCIAL RESOURCES-RELATED ACCESS PROBLEMS (1/2)

% of adults aged 19-64 who had any of four related access problems* in past year because of lack of financial resources



* (1) Did not fill a prescription; (2) did not see a specialist when needed; (3) skipped recommended medical test, treatment, or follow-up; (4) had a medical problem but did not visit doctor or clinic.

** 52% in 2001 and 57% in 2003 of those who were insured only part of the year in the past year had access problems.

Source: The Commonwealth Fund Health Insurance Surveys, 2001, 2003.

Payment to providers. As escalating costs make comprehensive health care benefits less sustainable, system regulators have devised distinct methods to pay providers for service. By setting what is paid for and what is not, intermediaries have allowed differentiation to develop between services that are universally accessible and those available only to those able to pay.

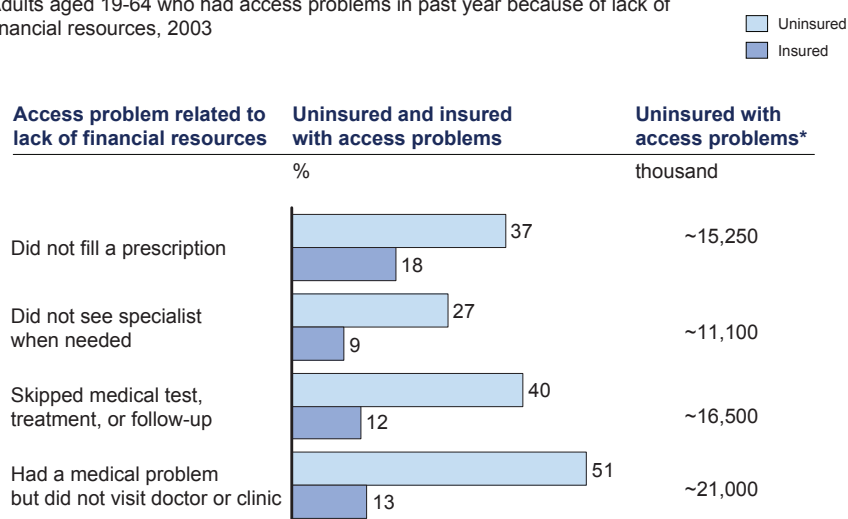
In the past, health care practitioners were generally paid on a fee-for-service basis—receiving a fee for specific services rendered rather than a retainer, salary, or other regular contractual form of payment. Likewise, patients paid a specific amount for a particular service, so that, rather than paying into some kind of insurance or savings scheme that would pay on their behalf, they paid the provider directly when the need arose. The problem with that system is that expenditure increases whenever providers increase their fees, provide more

units of service, or substitute more-expensive services for less-expensive ones. Unfortunately, providers have the incentive to do all three and have been free to do so. The fee-for-service system has duly been held partly responsible for escalating health care costs. Intermediaries, particularly insurance companies and regulators, have therefore sought alternative forms of payment.

Exhibit 23

FINANCIAL RESOURCES-RELATED ACCESS PROBLEMS (2/2)

Adults aged 19-64 who had access problems in past year because of lack of financial resources, 2003



* Based on a nationally representative telephone survey of 4,052 adults.
Source: The Commonwealth Fund Health Insurance Survey, 2003; MGI analysis.

The two most common options are payment by diagnosis related groups (DRGs) and capitation fees. DRGs are an inpatient hospital classification system that categorizes particular illnesses by their diagnosis and treatment. Payors then pay a hospital and physicians predetermined amounts for each patient they treat according to the relevant DRG. In the United States, one such scheme used by Medicare clusters patients into 468 discrete disease categories. DRGs have the advantage of incentivizing providers to reduce care-delivery costs and, in the United States, have proved to be critical to the country's achievement of the lowest length of stay of any OECD country. DRGs have recently been adopted as a payment method in the United Kingdom and in Germany, and both countries have seen cost savings and productivity improvements in their health care systems as length of stay and waiting times fall.

Under payment by capitation fee, payors pay specified amounts to the provider for each person served in the scheme, no matter the actual number or nature of services delivered over a set period—usually a year. Providers are not reimbursed for services that exceed the allotted amount. The capitation fee may be fixed for all members of health plan, or it can be adjusted for the age and gender of the member, based on actuarial projections of medical use. This payment system is a core feature of some managed care plans (particularly HMOs)⁶, which pay providers a fixed amount to care for a patient over a given period. It gives providers an incentive to focus on improving the overall health of members at less cost than it would take to treat them if they fell ill. It should therefore be self-regulating against abuse by providers. However, despite these compelling theoretical benefits, capitation has generally fallen out of favor. In practice, providers have had difficulty managing risk, and this has created financial strains that have, in turn, created undesirable incentives to deny or ration care. Patients have reacted negatively, not only because most provider-sponsored health promotion has been ineffectual but also because of the belief that providers are rationing costly care.

A third, less-used form of payment is the per diem rate. In this case, the provider is paid a daily fee for specific services or outcomes, regardless of what they cost to provide. Per diem rates are paid without regard to actual charges and may vary by level of care, such as medical, surgical, intensive, and psychiatric care. Per diem rates are usually flat all-inclusive rates. Their disadvantage is that, because per diems are typically set at levels that fully cover costs, providers have little incentive to manage cost and overall length of stay.

To improve quality of care across the board, health care system leaders are now exploring novel initiatives, including payment-for-performance. The core principle of this model is collaboration with providers and other stakeholders to ensure that valid quality measures are used and that providers are supported in achieving simultaneous improvements in health care quality and cost. In the United States, for example, CMS is pursuing such a program to support quality improvement for Medicare beneficiaries both in hospitals and among outpatient physicians (Exhibit 24). In its hospital pilot programs, CMS

⁶ Health maintenance organizations deliver managed care in which the HMO coordinates an individual's health care with participating providers. HMOs are the most common type of managed care.

makes differential payments for the top and bottom decile of providers, based on composite performance across four to six quality indicators per disease. Private payors in the United States are pursuing similar programs, using a combination of variable co-payments for patients to encourage them toward higher-quality and lower-cost facilities, and rewarding high-performing providers through incremental patient volume.

Exhibit 24

PAY-FOR-PERFORMANCE IMPACTING QUALITY

CMS-Premier Pay-for-Performance Demonstration Project, initial year results

Composite quality index scores			
	Baseline %	1-year follow-up %	% of gap closed
AMI	90	93	30
Heart failure	64	75	31
Pneumonia	70	80	33
CABG	86	90	29
Hip and knee replacement	85	91	40

Source: CMS

These efforts to find alternative forms of payment that are better matched to the health care needs and economic characteristics of different populations are important if health care system leaders are to succeed in containing unruly cost increases or pricing abuses and, at the same time, creating incentives to improve cost, access, and quality.

PRINCIPLE SEVEN: STRENGTHEN INTERMEDIARIES' CAPABILITIES

Our final principle addresses the capabilities that intermediaries need to build, individually and collectively, in order to effectively implement health care system reforms. Intermediaries must work within a robust organizational framework and reach an understanding of the best levers to implement change and deploy reforms appropriately.

Build organizational capabilities

The broad system-design decisions such as choosing between a single-payor public entitlement program and a multipayor private health insurance market are largely in place. But whether such strategic choices will achieve the system's particular cost, quality, and access objectives still depends on the much more complex series of organizational design decisions that will dictate how well the strategy is executed. Health care system leaders need to ensure that the appropriate organizational framework is in place at every level of the system. Based on our experience, we advocate that all the organizations comprising a health care system need the following organizational capabilities: clear leadership, adequate skills, clear accountability, and good interconnectivity of stakeholders' interests.

Earn greater leadership authority. Like anyone going through the process of change, health care organizations need leaders who can inspire people to transform their behaviors as necessary in pursuit of shared goals, and who are skilled enough to negotiate these goals with other leaders in the system, aligning them with the requirements of consumers. What is needed, therefore, is an unusual balance of collaborative and executive authority. Too much emphasis on executive authority to push through change risks alienating some stakeholders in the system and building resistance to reforms. An example of this is the United Kingdom's recent imposition of a system-wide single IT system that is facing resistance from doctors who feel they were not sufficiently consulted. On the other hand, too much emphasis on collaboration may result in endless discussions and inaction in a system comprised of so many diverse groups, all with a legitimate stake.

Choosing the right reforms is the bedrock of successful change—and demonstrating the benefits as they materialize to all the stakeholders is a credible way for health care intermediaries to earn greater leadership authority.

Build institutional skills. Once a health care system has decided on a new direction, effective execution depends heavily on the strength of its member organizations' institutional capacity, for example, personnel management, financial management, and IT. Health care organizations vary widely in their skill levels; frequently, inadequate IT systems compounds challenges. This is

a crucial weakness given the relationship between good information and data gathering and the success of early efforts to promote value consciousness among consumers and adequate safeguarding of care.

While computer technology has revolutionized industries such as banking and airlines, it has had a lesser impact on health systems. Many health care organizations buy the latest technology without knowing how best to use it for achieving their goals, resulting in a fragmentation of information. For health care systems to achieve the efficiency improvements seen in other sectors over the past decades, they need to develop IT capabilities that will allow them to integrate clinical and business IT systems seamlessly.

Develop greater accountability. Many private organizations lack accountability; individuals do not feel responsible for the performance of their area, department, function, project, or program. The public, nonprofit aspect of health care tends to dilute accountability further. It is even more difficult for individuals to take personal responsibility for their performance when it is so hard to measure desired outcomes, which cannot always be expressed in turnover or profits. If people do feel directly accountable for results, as we have seen in the private sector, organizational performance improves dramatically. For this reason, developing performance measures—carefully designed and demonstrably fair—for health care organizations and developing individual accountability are critical for delivering reform effectively. Compensation systems that reward positive performance are underused in health care and could be an effective tool to improve accountability.

Coordinate stakeholders' interests and responses. As leaders seek to implement change, they need to understand the interests of the stakeholders affected, anticipate how they will react, and monitor their actual responses. Doing this will help them design and adjust the change program to the maximum benefit of all stakeholders. For example, payors may set precise targets for providers on cutting waiting times for specific procedures (such as joint replacements) or treatments (such as the time from arrival at the hospital to treatment for heart attacks) and offer a financial incentive to those hospitals that exceed the target. In practice, it is critical to link these goals with monitoring; otherwise, providers may have the perverse incentive to optimize these metrics by denying appropriate care to subsets of patients—for example, by offering only rehabilitation and mobility support to certain joint replacement

candidates, or by using thrombolytics⁷ instead of the catheterization⁸ labs at off-peak hours when it is harder to achieve the treatment time goal for heart attack patients. To forestall such adverse unintended consequences, system leaders need first to understand how effectively their organizations currently coordinate the interests of stakeholders and manage the risk of potential conflicts. Using these results, each organization will want to focus efforts on a few of the highest-priority areas. The goal is to develop the most effective targeted actions to improve performance across each area. Understanding the mind-sets of the stakeholders involved and their likely responses will inform teams in how to design actions.

Deploy the right approaches to implementation

To secure changes in behavior among consumers and suppliers, health care system leaders have three levers at their disposal: (1) building awareness, (2) adjusting incentives, and (3) imposing mandates (Exhibit 25). They need to find a balance between the three, appropriate to the political and cultural context of their system, through negotiations with stakeholders.

Build awareness. Creating awareness of the need for change involves surveying, gathering data, compiling data sets, disseminating information, and any other tools that increase knowledge about shortcomings and lead to action. This effort is most likely to be effective where the interests of consumers and suppliers are naturally aligned with the goals of the system. For example, both patients and the system as a whole share an interest in patients' receiving care from physicians with a track record of superior outcomes for the same cost (in systems where price variation exists). So, making physicians' cost and quality differentials transparent may, in itself, be enough to promote behavior consistent with the overall good of the system. (The physicians themselves, who will not all benefit, may, of course, resist.)

7 Thrombolytic therapy is the use of drugs to break up the clot that is causing the disruption in blood flow to the brain.

8 Cardiac catheterization is a procedure done on the heart. In it, a doctor inserts a thin plastic tube into an artery or vein in the arm or leg. From there it can be advanced into the chambers of the heart or into the coronary arteries. This test can measure blood pressure within the heart and how much oxygen is in the blood. It is also used to get information about the pumping ability of the heart muscle.

The effectiveness of building awareness as a means of influencing behavior also depends on the quality of information available to consumers and suppliers, and their ability to understand that information. In order to estimate the potential for this awareness-building exercise, therefore, health care system leaders should examine the alignment of individual and system interests, the availability of reliable information (or the cost of creating such information), the capacity of individuals to understand that information, and their motivation and opportunity for doing so. Notable health campaigns that have leveraged awareness-building include those communicating the risks of tobacco and the importance of safe sex to avoid HIV infection.

Exhibit 25

IMPLEMENTATION APPROACHES TO SHAPE DEMAND AND SUPPLY

	EXAMPLES			
	Contextual	Indirect		Direct
	Awareness	Incentives	Mandates	Direct action
Prevention	<ul style="list-style-type: none"> Educate public on diet, exercise, smoking, safe sex 	<ul style="list-style-type: none"> Contribute to HSAs based on lifestyle changes 	<ul style="list-style-type: none"> Restrict air pollution that is harmful to the public health 	<ul style="list-style-type: none"> Create public water and sewage systems
Value consciousness	<ul style="list-style-type: none"> Publish hospital quality metrics on the Internet 	<ul style="list-style-type: none"> Tier benefit designs to encourage use of select providers 	<ul style="list-style-type: none"> Exclude coverage for high-cost providers or procedures 	<ul style="list-style-type: none"> N/A
Capacity	<ul style="list-style-type: none"> Conduct public-needs assessments to inform private investment 	<ul style="list-style-type: none"> Forgive loans for physicians practicing in underserved areas 	<ul style="list-style-type: none"> Require regulatory approval based on demonstration of need 	<ul style="list-style-type: none"> Build public hospital in underserved communities
Quality, safety, and service	<ul style="list-style-type: none"> Publish guidelines for evidence-based medicine 	<ul style="list-style-type: none"> Pay bonuses to providers for implementing EBM 	<ul style="list-style-type: none"> License/credential providers based on minimum standards 	<ul style="list-style-type: none"> Improve the quality of publicly run hospitals
Cost competitiveness	<ul style="list-style-type: none"> Document and disseminate best practices in lean ops 	<ul style="list-style-type: none"> Negotiate preferred vendor agreements with low-cost providers 	<ul style="list-style-type: none"> Impose standard pricing for all MDs, set at low level to drive cost reductions 	<ul style="list-style-type: none"> Increase the efficiency of publicly run hospitals
Financing	<ul style="list-style-type: none"> Educate consumers about the need to save for long-term care 	<ul style="list-style-type: none"> Offer tax subsidy for purchase of employer-sponsored coverage 	<ul style="list-style-type: none"> Mandate insurance coverage for all not covered by public entitlement program 	<ul style="list-style-type: none"> Offer tax-financed entitlement program

Source: MGI analysis

Provide appropriate financial incentives. In situations where individual interests are not perfectly aligned with the goals of the system, financial incentives can play a significant role. For instance, physicians who are resistant to publishing their individual performance and cost records might be persuaded by a financial incentive, regardless of their actual performance. The most widely used financial incentives are tax breaks, capital subsidies, or bonus payments. Tax breaks are used, for example, to induce employers in the United States to provide health care benefits to employees. A public subsidy may be used to persuade a sup-

plier to invest in more specialized staff to increase the quality of care that would not otherwise be rewarded by the market. Providing bonuses to physicians and nurses is a means of accelerating capacity increases.

Anticipation of increased output and depending on the system, profits are part of the reason hospitals are interested in developing lean operations—just as the current effort in many countries to persuade consumers to take more responsibility for their own health care depends in part on the financial gains they can expect. However, like awareness-building, changes to financial incentives are only effective in inducing changes in behavior to the extent that patients and suppliers can access and interpret the information they need to make the right decisions for themselves and the system.

Impose mandates. Behavior change may also be achieved by introducing policy mandates to reinforce desirable behavior or prohibit undesirable practices. Mandates are typically used when awareness-building or incentives have failed, in circumstances involving, for example:

- Extreme moral hazard—where the consequences of a decision have such a dramatic effect on an individual that no level of financial incentive could affect his or her choices. This might include circumstances in which a patient with a life-threatening condition wants a very costly, highly experimental treatment when all other avenues have been exhausted, yet one which promises little hope of success. “Do not resuscitate” orders for patients with advanced and incurable disease (such as metastatic⁹ cancer or ALS¹⁰) to avoid the additional cost of intensive care and palliative treatments is a current topic of debate among some health systems.
- Imperfect information—where individuals may have difficulty understanding the information necessary to make well-reasoned decisions. An example might be when they are obliged to base a choice between two providers on very complex data that can only be understood by a third party trained in analysis of data on health outcomes. One tool for removing ambiguity among

9 A metastatic cancer is one that spreads (metastasizes) from its original site to another area of the body.

10 Amyotrophic lateral sclerosis (ALS), often referred to as Lou Gehrig’s disease, is a progressive neurodegenerative disease that affects nerve cells in the brain and the spinal cord.

patients and providers when a tendency may exist to pursue treatments for which the evidence may not be clear—such as the implantation of cardiac defibrillators in the United States—is the reimbursement guideline, which helps to ensure the appropriateness of treatment.

- Extensive externalities—where the choice of an individual or organization has a material effect on other passive or unwitting participants, but with no associated cost to the decision maker. For example, a company’s decision to discharge its waste into water or into the atmosphere may place others at risk. To minimize such risk, governments mandate restrictions on air and water pollution.

Mandates may be more acceptable—and readily adopted—in countries where the political and cultural context favors collective interests rather than those that place a greater premium on individual autonomy. In some countries, governments and regulators have secured strong leverage over health care costs by their use. This is the case in Japan, which uses mandates relating to physicians’ salaries, the drug approval process, prices for drugs, and available capacity, among other elements of the system. Mandates tend to be more popular in those regions with higher levels of concern about the disproportionate effect of financial incentives on poorer people, and the potential for awareness-building to bypass those with lower levels of education.

Health care system leaders may also opt to take direct action to impose change when negotiating with the third parties involved would delay or jeopardize the success of the measure in question. Such direct action may be appropriate in emergencies, or where uncontroversial mass benefits are likely to be the result—as in the case of the construction of public clean water and sewage networks. Under such circumstances, direct action alone may be effective.

However, the effectiveness of direct action as a method of influencing behavior may still depend on the compliance or interest of affected parties. For example, mass vaccination campaigns, even if undertaken directly by public health officials, will have limited success unless the population participates. In evaluating the potential for reform through direct action, health care system leaders need to assess the alignment of community and system interests, the associated cost and benefits, and any potential backlash that could undermine the reform. There have been notable successes in direct action—including tax-

financed entitlement programs such as the United Kingdom's NHS, Medicare or Medicaid in the United States, and the publicly funded systems in many other countries.

CONCLUSION

Different national health care systems have evolved over many years, the result of a large number of decisions, stakeholder actions, and reforms over a long period. Before embarking on any current reform program, policy makers need to understand the history of their health system and the lessons such history offers—initiatives that are not rooted in the national experience and culture will fail.

While the goal of every national system is to provide adequate access to high-quality health care at sustainable cost, the definitions of adequate, high-quality, and sustainable will vary from country to country. Policy makers must first set out what they want to accomplish. Any program for system-wide reform should start by defining precisely what the national objectives are and how the system is currently performing against these objectives. We do believe that such country-level analysis of the health care challenges ahead might usefully be guided by the creation of a non-partisan, international institute that studies health systems around the world and their impact and therefore helps national policy makers to choose reforms that are proven to work elsewhere. We believe that such an institution could play a key role in emphasizing the importance of early health—both prevention and diagnosis—to the overall aims of health care in different systems and make the argument that resources should be moved from palliative care to prevention.

Above all, we urge health care leaders to spend more time clarifying their objectives before embarking on structural changes that can be disruptive and often have unintended consequences. We then invite them to use the seven principles outlined in this paper as the basis for designing the detailed measures needed to move their health care systems closer to their respective national objectives.

In many cases, system leaders will need to make choices between reform initiatives that pose trade-offs not only between cost containment, quality improvement, and broad access to basic care, but also with other national

objectives. Such trade-offs include the system's unique objectives for cost containment in light of the degree of economic pressure created by broader economic conditions; the system's objectives for quality improvement in the context of existing supplier market structure, conduct, and performance; and finally, the system's aspirations for social equity in the context of prevailing disparities in wealth and educational status.

We believe that, by rooting their analysis in this framework, system leaders can be confident that reform programs are addressing the areas with the greatest improvement potential and, with a strong sense of the interdependence of different parts of the health care system, can avoid the piecemeal—or simply imitative—approaches of the past that have too often proved counterproductive. After all, isn't quality health care all about the right treatments at the right time?

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