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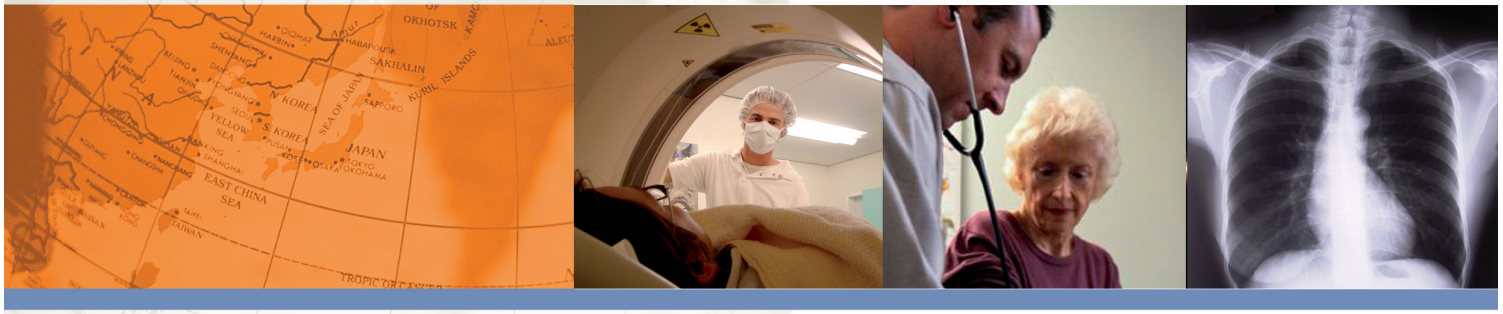

Accounting for the Cost of Health Care in the United States

January 2007

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McKinsey Global Institute

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MGI's research is conducted by a group of full-time MGI Fellows, based in offices in San Francisco, Washington, DC, London, and Shanghai, and led by MGI's director Diana Farrell. MGI project teams also include consultants drawn from McKinsey's offices around the world, and are supported by McKinsey's network of industry and management experts and worldwide partners. In addition, MGI teams work with leading economists, including Nobel laureates and policy experts, who act as advisors to MGI projects.

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Carlos Angrisano
Diana Farrell
Bob Kocher
Martha Laboissiere
Sara Parker

Preface

This report is the end-product of a project by the McKinsey Global Institute (MGI), working in collaboration with our colleagues in McKinsey & Company's health-care practice groups around the world. In this study, we account for the higher cost of the US health care system by analyzing the seven cost categories used by the OECD. This research builds on an earlier MGI effort in which we compared the health care systems in the United States, the United Kingdom, and Germany by assessing the productivity and treatment of four major diseases.

Our aim is to provide a sound and unbiased fact base for use in the public debate on health care and to enable policy makers, regulators, intermediaries, payors, providers, employers, clinicians, and patients, to make more informed and therefore better decisions.

Bob Kocher, an Associate Principal McKinsey's Washington, DC office, Martha Laboissière, an MGI Senior Fellow in San Francisco, Carlos Angrisano, an Associate from McKinsey Sao Paulo's office, and Sara Parker, a research analyst from the North America Knowledge Center in Boston, worked closely with me to develop this research.

We have benefited enormously from the extensive input received from McKinsey's global network of industry experts. We would like to acknowledge Ajay Dhankar, Lynn Dorsey-Bleil, Jean Drouin, Yair Elbaz, Lucia Fiorito, Ernest Franklin, Clemens Guth, Viktor Hediger, Nicolaus Henke, Michael Hughey, Sonosuke Kadonaga, James Kalamas, Ludwig Kanzler, Kamiar Khajavi, Nancy Killefer, Toby Lambert, John Leaman, Alison Loat, Simon London, Paul Mango, Lenny Mendonca, Alexander Moscho, Mona Mourshed, David Nuzum, Jeremy Oppenheim, Michael

Patsalos-Fox, Mike Pearson, Vivian Riefberg, Maren Rowold, Jocelyn So, Michael Stewart, Steven Strauss, Craig Tanio, Bradley Tevelow, Marit Vaagen, Jean Baptiste Voisin, Jurgen Wettke, Reinhard Wichels, and Cory Williams.

McKinsey's knowledge community provided essential research support. We would particularly like to thank Don Amsel and Francis Vincent from McKinsey's North America Knowledge Center in Boston who supported the effort throughout. We would also like to acknowledge Cornelia Boyn, Kelly Brennan, Arlene Derbaix, Grail Dorling, Alan Fitzgerald, Takiko Fukumoto, Alain Guiette, Rebecca Hurley, Kathy Knauss, Sathya Mohan, Matthew Nobbs, Teresa Rico, Gerold Scheunemann, Vivien Singer, and Doreen Welborn for their contributions

Our thanks to Alain C. Enthoven—Marriner Professor of Public and Private Management, Emeritus at Stanford University, Alan Garber—Henry J. Kaiser, Jr. Professor, Professor of Medicine and Professor,at Stanford University, David M. Cutler—Otto Eckstein Professor of Applied Economics and Dean for the Social Sciences at Harvard University, and Martin Baily, senior advisor to MGI, senior fellow at the Institute for International Economics and formerly chairman of the Council for Economic Advisors to President Clinton who provided valuable insights to the research performed.

We would also like to acknowledge Kelly McLaughlin and Anne Clark for the development of the interactive graphics, and Janet Bush, MGI's senior editor, Deadra Henderson, MGI's practice administrator, Terry Gatto, Sara Larsen and Linda Corbin, our executive assistants, Roberta Blanco and Jose Carlos de Sousa, in report production, and Rebecca Robboy and Kim Brooks in External Relations, who supported the effort throughout.

This work draws on McKinsey's in-depth analytical work and understanding of health care systems. As always, the findings and conclusions draw on the unique perspectives that our colleagues are able to bring to bear through their intensive client work with the world's leading companies. Extensive interviews with leading academics, executives, and government officials, provided additional input. As with all MGI research, this report is independent and has not been commissioned or sponsored in any way by any business, government or other institution.

Diana Farrell
Director, McKinsey Global Institute
January 2007

Synthesis

The United States spends more of its wealth on health care than any other developed country, and that share is rising. In 2005, the United States spent $1.9 trillion, or 16 percent of GDP, on health care, up from $1.7 trillion, or 15 percent of GDP, in 2003. This compares with an OECD median of 8.5 percent. In 1960, the share of GDP had been only 5.2 percent. It is an arresting statistic that the United States now spends more on health care than it does on food.

Many studies have attempted to explain why the United States spends disproportionately more on health care—some popular theories include the high price of drugs, the abundance of new medical technology and the private nature and administrative complexity of the system—but none has fully justified why it costs so much, or why it seems to have fallen short in delivering the expected value. Few have attempted a holistic view of the system, and not many analysts have direct experience in working across all parts of the US health care system.

The McKinsey Global Institute (MGI), with input from McKinsey's health care practice leaders and experts, has undertaken major research on the US health care system. This study builds on an earlier MGI effort that compared the health care systems in the United States, the United Kingdom, and Germany and assessed the productivity and treatment of four major diseases. At that time, we concluded that input prices were the major differences across systems at the disease level. Our aim now is to provide a sound and unbiased fact base for policy makers, regulators, intermediators, payors, providers, employers, clinicians, and patients, grounded in the realities of health care systems around the world in which our McKinsey colleagues operate extensively.

While there is no clear optimal amount that the United States should spend on health care—every country makes its own societal choices—global comparisons can highlight potential opportunities for more rational spending. Using a sample of 13 OECD countries, we developed a measure we call Estimated Spending According to Wealth (ESAW). This measure adjusts health care spending according to GDP per capita and is anchored in the fact that countries spend more on health care (or any good or service) as their prosperity increases. Even after adjusting for its higher per-capita income levels, the United States spends some $477 billion—$1,645 per capita—more on health care than peer countries.

In this study, we show that the overriding cause of high US health care costs is the failure of the intermediation system to (a) provide sufficient incentives to patients and consumers to be value-conscious in their demand decisions, and (b) establish the necessary incentives or mandates to promote rational supply by providers and other suppliers. There are, currently, no fully reliable mechanisms to drive down input prices or to stem the United States' very high use of consultations and outpatient testing and imaging—some of which is potentially unnecessary. Moreover, the system incurs a range of costs not borne in other countries, which are unique to the US system with its significant for-profit element and its multiple-state and multiple-payor administrative structure.

Despite higher costs, the United States does not deliver objectively better quality and access for US citizens as a whole relative to peer countries. This global comparative analysis therefore suggests that major opportunities for cost improvement—even if not the full $480 billion—are as possible as they are necessary, given the pressures of fiscal imbalances, demographics, and rising health care costs. With this analysis, we invite intermediaries—payors, employers, regulators, and government—to engage in an empirically grounded debate about all aspects of the US health care system that will lead to sound reform, delivering better management of costs while improving care quality and patient access.

POSSIBLE EXPLANATIONS FOR HIGHER US HEALTH CARE SPENDING

Our report identifies and analyzes two main potential explanations for the relatively high level of US spending on health care. Either the US population is sicker than those in other countries, so that citizens naturally demand more care, or the system is intrinsically more expensive.

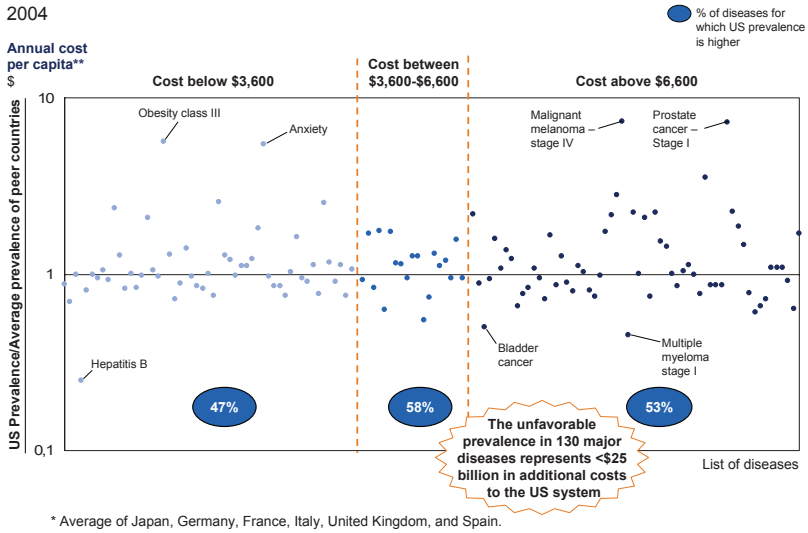
DISEASE MIX IS NOT TO BLAME

We conclude that the additional spending in the US health care system is not explained by a higher disease burden. We found that the US population is not significantly sicker than the other countries we studied, a conclusion we arrived at by comparing the prevalence of 130 diseases in the United States, including the most common disease groups, with their prevalence in Japan, Germany, France, Italy, Spain, and the United Kingdom (Exhibit 1). The differential impact of the 130 diseases analyzed, is less than $25 billion in treatment costs.

Exhibit 1

DISEASE PREVALENCE IN THE UNITED STATES VS. PEER COUNTRIES*

2004



* Average of Japan, Germany, France, Italy, United Kingdom, and Spain.

** Annual cost per capita to treat the condition in the US.

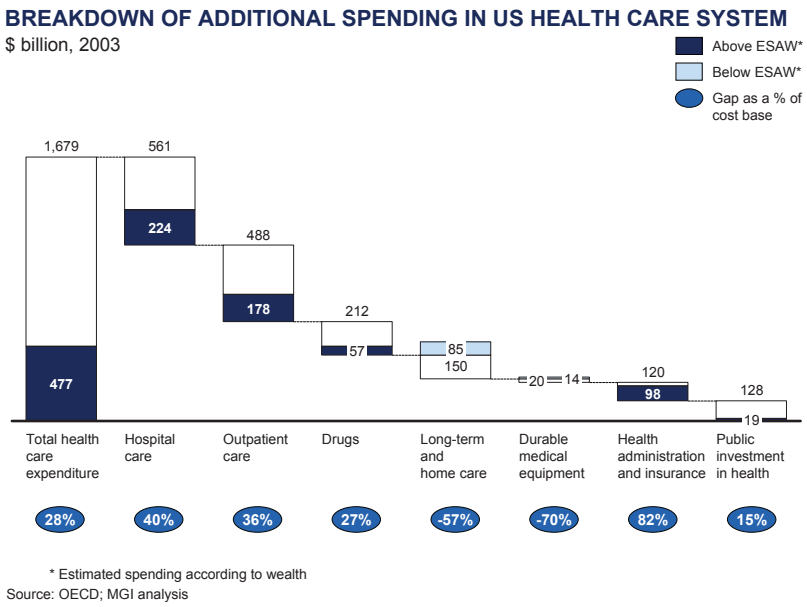
Source: MEPS; Decision Resources; MGI analysis

The high prevalence of some conditions in the United States (e.g., heart conditions, diabetes, and select types of cancer) indicates that prevention programs targeted at reducing the prevalence of disease, particularly diseases with high treatment costs, would offer very substantial opportunities for better health and lower cost.

AN INTRINSICALLY MORE EXPENSIVE SYSTEM

Our analysis shows that across five of the seven health care categories used by the OECD—hospital care, outpatient care, drugs, administration and insurance, and public investment in health—the United States spends above its ESAW. In only two categories—long-term care and durable medical equipment—does it spend below the ESAW (Exhibit 2).

Exhibit 2



* Estimated spending according to wealth
Source: OECD; MGI analysis

Of the $477 billion that the United States spends above ESAW, we calculate that $224 billion are found in hospital care and $178 billion in outpatient care. Together, these account for more than 80 percent of US spending above the level its ESAW would predict. Further analysis allows us to map, in hospital and outpatient care, $147 billion of the additional costs to operational expenses and support functions, $100 billion in medical labor, $75 billion in the profits made and taxes paid by private payors and providers, and $49 billion in supplies (Exhibit 3).

Within the other categories in which the United States spends above ESAW, together amounting to $174 billion, $98 billion is incurred in administration and insurance, $57 billion in outpatient drugs, and $19 billion in public investment. In long-term and home care the United States spent $85 billion less than ESAW, and in therapeutic and durable medical equipment, $14 billion less than ESAW. This report examines in detail the level of spending in each category.

ACCOUNTING FOR THE HIGHER SPENDING

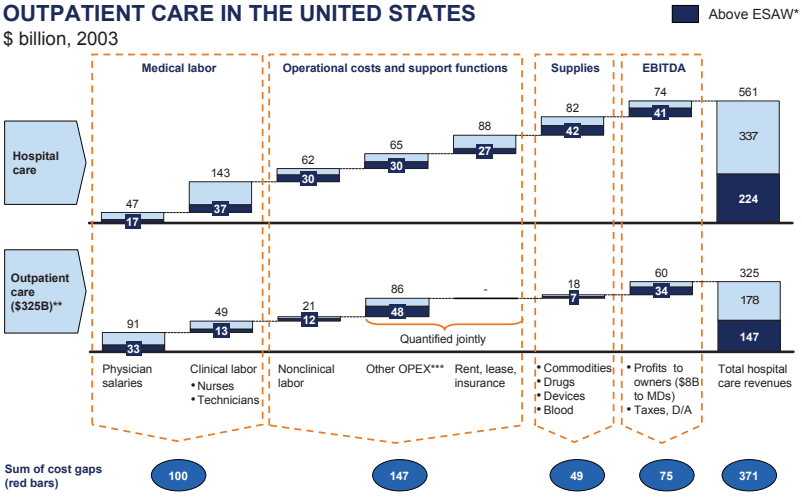
We analyzed the three main components of the US health care system: the inputs consumed (both the volumes and unit costs), the operational processes that are in place, and the intermediation processes. This approach yields a clear picture of the sources of higher spend. Input costs—including doctors' and nurses'

salaries, drugs, devices, and other medical supplies, and the profits of private participants in the system—explain the largest portion of high additional spending, accounting for $281 billion of spending above US ESAW. Inefficiencies and complexity in the system's operational processes and structure account for the second largest spend above ESAW of $147 billion. Finally, administration, regulation, and intermediation of the system cost another $98 billion in additional spending. Together, these three account for $526 billion of US spending above ESAW. Other miscellaneous expenditures in outpatient care (including durable medical equipment), as well as in public investment, account for $36 billion. If we then include the spending below ESAW in long-term care, we reach our net figure of $477 billion spending above ESAW (Exhibit 4).

Exhibit 3

MAIN COST CATEGORIES AND DISCREPANCIES IN HOSPITAL AND OUTPATIENT CARE IN THE UNITED STATES

$ billion, 2003



* Estimated spending according to wealth.
** Only physician services (excludes dentists and other health professionals). Values use same assumptions as in hospital care.
*** Contract services, repairs and maintenance, professional fees, and utilities.
Source: MGI analysis

HIGHER INPUT COSTS

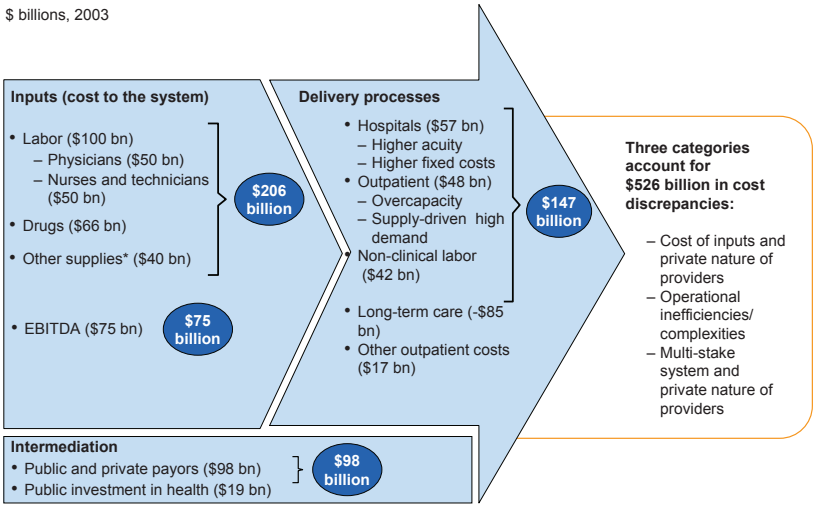
Inputs into the US health care system include payments to doctors, nurses, and other technicians and the cost of drugs, medical devices, and other supplies. Together, these account for a full $206 billion spend above ESAW.

Drugs. The cost of drugs to the system contributes to higher spending by an estimated $66 billion above ESAW, of which $57 billion is incurred by outpatients and $9 billion is consumed in hospitals and outpatient procedure centers. Our analysis shows that the higher relative cost of drugs to the system is largely responsible for the US spend above ESAW in this category.

Exhibit 4

ADDITIONAL SPENDING CAN BE ALLOCATED ACCORDING TO INPUTS, DELIVERY PROCESSES, AND INTERMEDIATION

$ billions, 2003



* Durable medical devices, hospital disposable supplies, blood products, hospital equipment, etc.

Source: MGI analysis

In analyzing the volume of drugs consumed per person (standard drug units per capita) for the nine major therapeutic areas in Germany, Canada, the United States, and the United Kingdom, we found that US patients consume approximately 20 percent less prescription drugs than patients in these other nations. As both drug costs and volumes determine total spending in the system, we determine that drug costs to the US health care system are, through this measure, 70 percent higher in the United States than in peer nations.

To validate this finding, we used three distinct analyses comparing wholesalers' prices for drugs. A comparison of branded drugs in the United States and Canada shows that in the United States, prices of branded products are 60 percent higher; an evaluation of a sample of the top-selling drugs of the leading pharmaceutical companies shows that the US drugs are on average 2.3 times more expensive than in other countries; and finally, an evaluation of generic and OTC drugs—which correspond to approximately 10 percent of the market in sales—shows that in the United States prices varied from 10 percent higher to 50 percent lower.

We also analyzed the drug distribution and retail pharmacy system in the United States and peer countries. We found that distribution systems are overall quite similar, except for two distinctions. The first is the use of pharmacy benefit managers (PBMs), an entity unique to the United States, which adds 1 to 3

percent to the total cost of drugs to the system. The second is the use of rebates negotiated between pharmaceutical companies and payors or PBMs. Although in extreme situations rebates can reach 50 percent, they generally average 10 percent.

Taking all this into account, we find that overall US drug costs to the system are 50 to 70 percent higher than in peer countries, even after PPP and wealth (GDP) adjustments. This additional cost varies by type of drug (higher in branded, patented drugs, lower in generics), by therapeutic group, and by age of drug.

In addition, the United States uses a mix of drugs that is, on average, slightly more expensive than that used in peer countries, though this is a much smaller contributor to the United States' higher spending than are prices. The United States tends to be an early adopter of newly launched drugs, which are patent-protected and sold at higher prices. For a short period—usually less than 24 months—consumers in the United States have greater access to next-generation drugs, some of which rapidly become top sellers in the United States, but not necessarily in other countries. Within one to two years, however, the top-selling drugs in the United States, the United Kingdom, and Germany tend to converge, from the perspective of both revenue and unit volumes.

Physicians' compensation. Physicians' total compensation contributes an additional spending above ESAW of $58 billion, of which $50 billion arises from their remuneration from salaries, professional fees, or a combination of these, and $8 billion is income from equity stakes at outpatient centers. Our analysis shows that, for our OECD comparison countries, physicians' compensation is, on average, 4 times GDP per capita for specialists and 3.2 times for generalists. In the United States, these figures rise to 6.6 and 4.2, respectively.

In the complex US remuneration structure, physicians more commonly receive fee-for-services provided (although they can receive salaries if fully employed by a hospital). The fee-for-service format creates incentives to see more patients than other formats would—especially since subjective clinical judgment guides treatment intervals and consultations in most cases. Not surprisingly, then, physicians in the United States see, on average, 1.6 times more patients than do physicians in other countries. Thus, physician remuneration in the United States accounts for $50 billion of the spending above ESAW.

In addition to the fee-for-service payments for consultations and procedures, physicians frequently co-own outpatient facilities, such as ambulatory surgery centers (ASC), diagnostic imaging centers (DIC), and diagnostic testing and

procedure laboratories, and receive their share of profits from these. The profit sharing in those centers generates additional income for owning physicians above and beyond fee-for-service payments and accounts for another $8 billion of US higher spending.

Nurses and other clinical labor compensation. Compensation for nurses and other clinical labor is $50 billion above ESAW in the United States. Additional spending on nurses' labor is a result of staffing patterns, increased acute care needs in hospitals, and higher ratios of clinicians to patients. For instance, the United States employs 9.5 nurses per 1,000 acute care bed day compared with the OECD average of 7.1 nurses. In inpatient medical and surgery units, staffing ratios are usually one nurse for six to eight patients compared with one nurse for 10 to 12 patients in Europe.

Additionally, a complex structure of regulation in the United States mandates these higher staffing ratios, which are regarded by nursing unions and others as important for providing quality care. The salaries of nurses in the United States, however, are in line with peer OECD countries, around 1.3 times GDP per capita.

Non-drug supplies. Non-drug supplies account for another $18 billion of spending above ESAW. The United States is the largest consumer of medical devices in the world. It spends 54 percent above its ESAW on the top five inpatient devices—defibrillators, pacemakers, coronary stents, hip implants, and knee implants—when compared with Europe and Japan. Our analysis of knee and hip replacements indicates that higher implant prices—and, in some cases, higher volumes—account for additional spending on this input. The wealth-adjusted cost of a knee implant is 32 percent higher, and a hip implant 65 percent higher, than the average of France, Germany, Italy, and the United Kingdom. In terms of volume, one example of higher utilization is the fact that the United States has the highest incidence of knee-replacement surgeries for the over-65-year-old population.

PROVIDER PROFITS AND TAXES

The substantial private component of the US health care system adds another $75 billion to US spending through the profits earned and taxes paid by providers.

Public data sources show that $27 billion of the profit generated by US health care providers can be attributed to higher returns on investment. Of this $27 billion, $8 billion accrues to physicians as income resulting from equity positions in the facilities we described in the previous section on physicians' compensation.

Assuming a tax rate of 33 percent for the system's for-profit segment, this generates approximately $25 billion in taxes that are not incurred in the largely publicly owned health care systems in comparison OECD countries. Finally, higher expenditures arising from interest, depreciation, and amortization account for the remaining $23 billion.

ADDITIONAL OPERATIONAL COSTS

Accounting for $147 billion of US health care spending above ESAW, this category includes all non-clinical labor, operational expenses (maintenance and repairs, contract services, professional services, and utilities, among others), rent and lease, and insurance against medical malpractice. Additional operational costs of hospitals and outpatient centers are the result of different drivers.

In hospitals, the additional operational costs are due to the increased acute care needs of patients, the mix of cases treated, and the higher costs associated with miscellaneous staff and support functions (such as administration). Additional factors contributing to higher operating expenditures include the need to pay for higher staff-to-patient ratios, medical insurance, and diagnostic equipment (including increased costs for the lease, maintenance, and repair of sophisticated equipment).

In recent years, outpatient procedures (such as colonoscopies, MRIs, CT scans, and other laboratory tests) have increasingly been moved out of hospitals into ASCs, DICs, and diagnostic testing and procedure centers. Simpler cases have moved out of hospitals into physicians' offices. As a consequence, US hospitals have a case mix and acuity that is higher than other OECD countries, with a larger proportion of medical cases and costly procedures (such as trauma and complex surgeries), necessitating higher operational expenses. The highly acute hospital-case mix might help explain why, although the average of hospital days per year in the United States is relatively low, the cost per day is the highest of all countries analyzed, and 2.6 times higher than the OECD average.

In outpatient centers, higher operational expenditures are in large part explained by subscale operations and a lack of value-consciousness on the part of consumers and providers. Outpatient centers benefit from a cost base that is 20 to 30 percent lower, while receiving reimbursement that is frequently similar to that of inpatient providers. Outpatient centers have grown rapidly by capturing less-acute and high-margin procedures from hospitals. The high profitability of the emerging outpatient centers has driven investors and physicians to fund a rapid expansion in the number of these facilities, which has resulted in subscale

operations and redundancy in capacity. For example, in a hospital, a CT scanner will perform approximately 20 to 30 scans in a day; in a DIC, this same equipment will complete many less, since they tend to be open for fewer hours a day and the breakeven number of scans can be as low as four to eight scans a day. Yet, these scanners still require largely the same staff and maintenance as in a hospital setting.

The fee-for-service reimbursement system creates an incentive for physicians to see more patients. This is magnified by physician co-ownership of these facilities, which offers a strong incentive to self-refer cases— physicians who own imaging equipment refer between two and eight times more tests than their peers without equity interest. Furthermore, manufacturers of imaging and diagnostic equipment advertise to physicians the financial advantages of pursuing additional testing. Ultimately, the excess installed capacity (the US has three to six times more scanners than Germany, UK, France and Canada) with low utilization further increases the pressure to generate more demand in order to justify the investments made. The vicious circle is not easily interrupted by a reduction of reimbursement fees, since revenue levels can be maintained through incremental demand fueled by clinical discretion.

Finally, insurance against malpractice adds to higher operational costs. Doctors in the United States pay an estimated average of $27,500 a year for coverage. With some 700,000 doctors in practice, this amounts to approximately $20 billion in insurance costs that are not fully incurred in other countries.

ADMINISTRATION

The United States spent $412 per capita on health care administration and insurance in 2003—nearly six times as much as the OECD average. This is because of its unique multiple-payor system, differences in insurance regulation across states, and the complexities of administering Medicare, Medicaid, and private-insurance products. This total does not include the additional administrative burden of the multi-payor structure and insurance products on hospitals and outpatient centers, which is accounted for under providers' operational costs. Nor does it include the extra costs incurred by employers because of the need for robust human resources departments to administer health care benefits.

Of the $98 billion of spending above ESAW on administration, $84 billion can be traced to private stakeholders, and the remaining $14 billion to public-sector stakeholders. In the US private sector, we found that some 64 percent of the administrative costs incurred by private payors is due to underwriting health

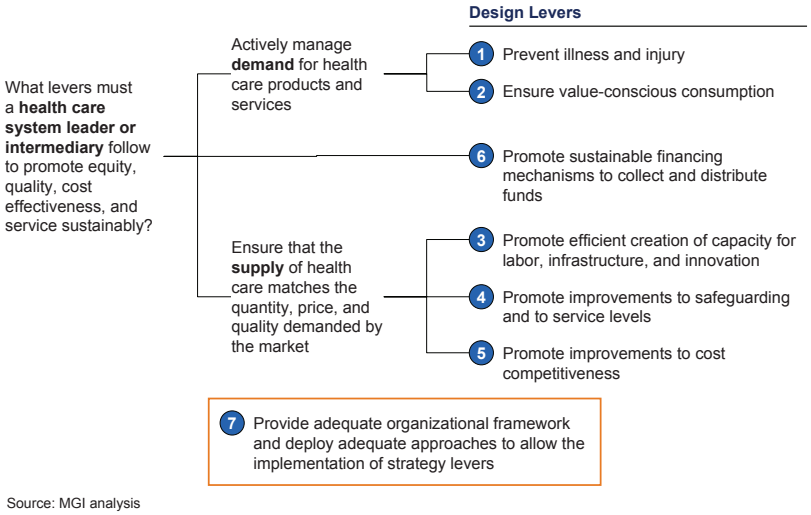
risks, and sales and marketing—costs that do not arise in the public systems of most OECD countries. In the public sector, administrative expenses take up 3 percent of the Medicare budget and 3 to 5 percent of the Medicaid system, compared with 2 percent spent in Britain's National Health Service (NHS).

. . .

Our analysis shows that the high costs of US health care are widespread across the system. In the public debate about how to bring costs under better control, different advocates have proposed a variety of preferred targets for change—whether the administrative complexity of the private system, the profitability of pharmaceutical companies, or the compensation system for physicians. Yet, our analysis shows that most components of the US health care system are economically distorted and that no single factor is either the cause, or the silver bullet, for reform actions. To be effective, reform in the US health care system will need to involve all key stakeholders and will require the proposal of solutions that are placed in the context of a coherent set of principles covering both the demand and supply sides of the system (Exhibit 5).

Exhibit 5

REFORMS SHOULD BE GUIDED BY A SUPPLY AND DEMAND FRAMEWORK



Source: MGI analysis

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Last modified: 13/04/07

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