

MANAGEMENT ACCOUNTING AND HEALTH CARE'S IMPENDING FISCAL CRISIS

During the next five to ten years, hospitals and health systems will face a variety of financial challenges, including pressures related to the economy, health care reform, and increased demand for care. Addressing these challenges will require, at a minimum, an understanding of the costs associated with care delivery. It also will require these organizations to develop an ability to *manage*—rather than simply *measure*—their costs.

In a sense, then, this book represents a call to action. Cost-influencing decisions are being made in national, regional, state, and local health policy arenas, as well as in integrated delivery systems, academic medical centers, community hospitals, and even small home health agencies and nursing homes. These decisions require—but often lack—good analyses of the relevant cost implications. In addition, provider entities need to use much more sophisticated measurement and control systems than most now have. No one in health care is exempt from the challenges.

Organization of the Chapter

The chapter begins with a discussion of four forces that will affect costs in all health care systems in the industrialized world over the next five to ten years, putting most of the focus on the United States but also pointing out implications for other industrialized nations:

- The impact of demographic changes on the Medicare Trust Fund in the United States and on national health care budgets in other industrialized countries¹
- The typical spending patterns for the elderly (sixty-five years old and older)

LEARNING OBJECTIVES

On completing this chapter, you should know about

- Four forces that are affecting health care costs: demographic changes, morbidity patterns, the special needs of the elderly, and the unusual structure of the health care market
- Five drivers of health care costs: case mix, volume, resources per case, cost per resource unit, and fixed costs
- Some alternative ways to address these cost drivers
- The nature of the health care “food chain” and its implications
- The impact of the Affordable Care Act on costs

morbidity

Refers to the state of disease within a population. It contrasts with *mortality*, which is the term used for the deaths in a population.

cost drivers

An activity that can be directly linked to an increase or decrease in costs. Cost drivers are frequently relatively easy to identify but sometimes difficult to measure. Thinking in terms of cost drivers allows managers to shift their focus away from the traditional departmental structure of an organization and toward the activities that cause the existence of costs and, perhaps most important, toward the managerial actions that can influence and control costs.

- The *morbidity* patterns in the nonelderly population
- The complex nature of the health care market

Collectively, the first three forces will create intense pressures on health care costs, and the fourth will limit the ability of market mechanisms to control cost increases. Combined, these forces represent a daunting challenge.

The chapter then addresses some potential responses to these forces. In particular, it focuses on ways that health care organizations can address their *cost drivers*. Finally, it discusses ways that management accounting systems can help organizations manage these cost drivers.

Four Forces Affecting Health Care Costs

Demographic Changes

Figure 1.1 shows how annual inpatient days per person change as people age. This is not surprising: as people grow older, they tend to use more inpatient care. The problem is that members of the baby boom generation—people born between 1945 and 1955—are now in their late fifties to late sixties. If the historical pattern continues, the baby boomers will demand

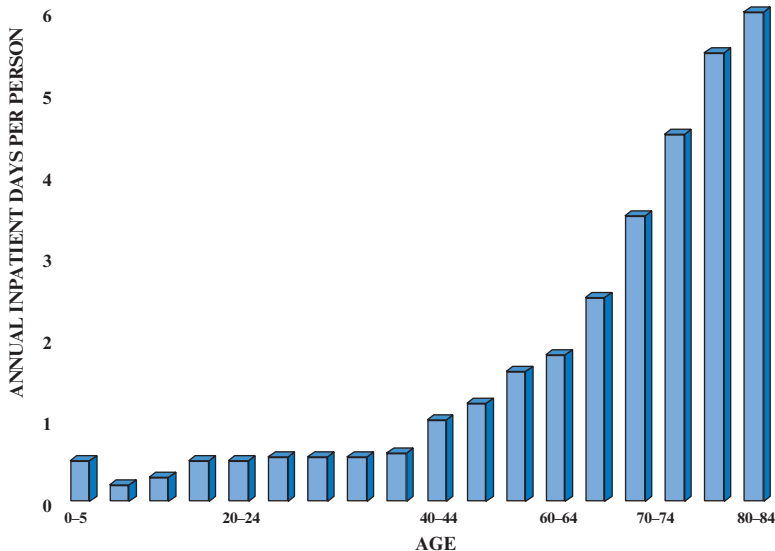


Figure 1.1 Demographic Trends

Source: The Crimson Group, Inc., adapted from presentation materials in company files.

geometrically increasing amounts of inpatient care. This idea is supported by an analysis from the Kaiser Family Foundation, which forecasted that Medicare spending would nearly double in an eight-year period, growing from just over \$500 billion in 2010 to about \$1 trillion in 2018.²

This problem is not confined to the United States. As figure 1.2 shows, several European countries will have an even more serious problem than the United States has in regard to the aging of their populations. In the Catalonia region of Spain, for example, costs in the first decade of the 2000s, shown in figure 1.3, increased by about 250 percent, from some €400 million to €1 billion; this represents a growth rate greater than that forecasted for the United States.

Spending Patterns for the Elderly

Medicare's spending (and, similarly, spending for the elderly in other countries) is not uniformly distributed among its beneficiaries. As figure 1.4 shows, approximately 20 percent of the program's beneficiaries consume well over 80 percent of its spending. Much of this spending is related to chronic conditions.

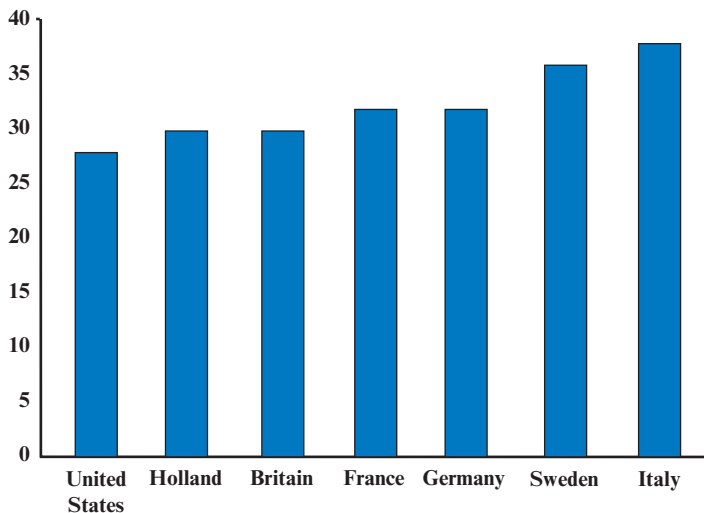


Figure 1.2 Percentage of the Population 60 Years Old and Over in 2015 in Selected European Countries and the United States

Source: Bernd Raffelhüschen and Jagadeesh Gokhale, "Population Aging and Fiscal Policy in Europe and the United States" (January 2000). CESifo Working Paper Series No. 237. Available at <http://ssrn.com/abstract=263970>.

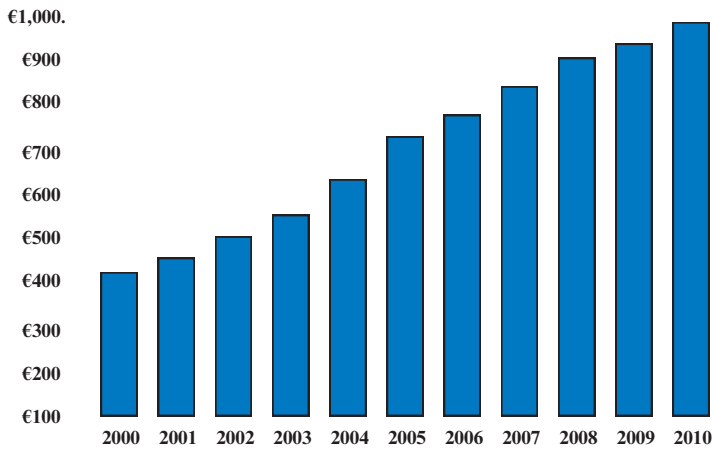


Figure 1.3 Health Care Costs in Catalonia (in Millions of Euros)
 Source: *La Vanguardia*, November 28, 2010. *La Vanguardia* obtained the data from the Department de Salut, Barcelona, Spain.

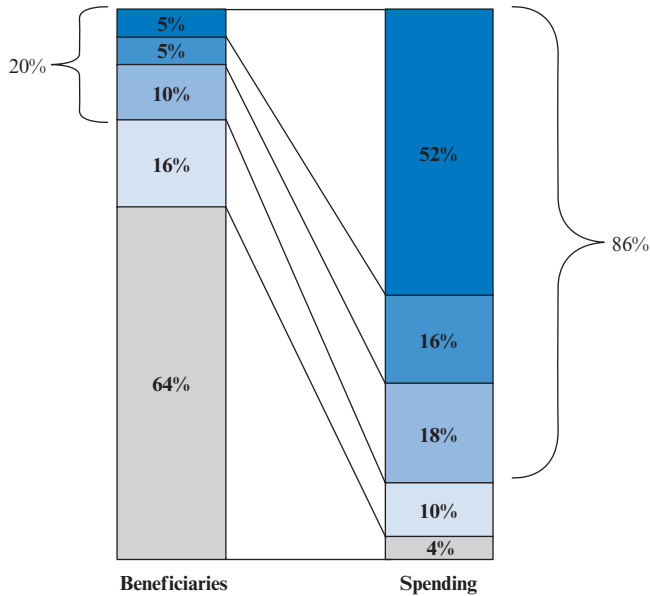


Figure 1.4 Medicare Spending Patterns
 Source: The Crimson Group, Inc., adapted from presentation materials in company files. For more specific information, see Gerald F. Riley, "Long-Term Trends in the Concentration of Medicare Spending," *Health Affairs* 26 (May 2007): 808–816.

EXAMPLE

According to one analysis, approximately one-fourth of Medicare beneficiaries have five or more chronic conditions. These individuals account for approximately two-thirds of the program's costs.³

Morbidity in the Nonelderly Population

The elderly are only part of the story. As figure 1.5 shows, prior to becoming eligible for Medicare, many individuals experience high-cost medical conditions—mainly cancer and heart disease. In the United States, with some eighteen million individuals gaining insurance coverage in 2014 under the *Affordable Care Act*, the impact on insurers will be significant. Many countries with national health insurance—or that otherwise have insurance coverage for their entire population—are already facing this problem.

Complexity of the Health Care Market

The health care market is unlike any market described in an economics textbook. In no other market that we know of does Person A (a patient)

Affordable Care Act

A 2010 law in the United States that requires near universal coverage for health care and provides a variety of patient protection features. For details, see www.hhs.gov/healthcare/rights/law/index.html.

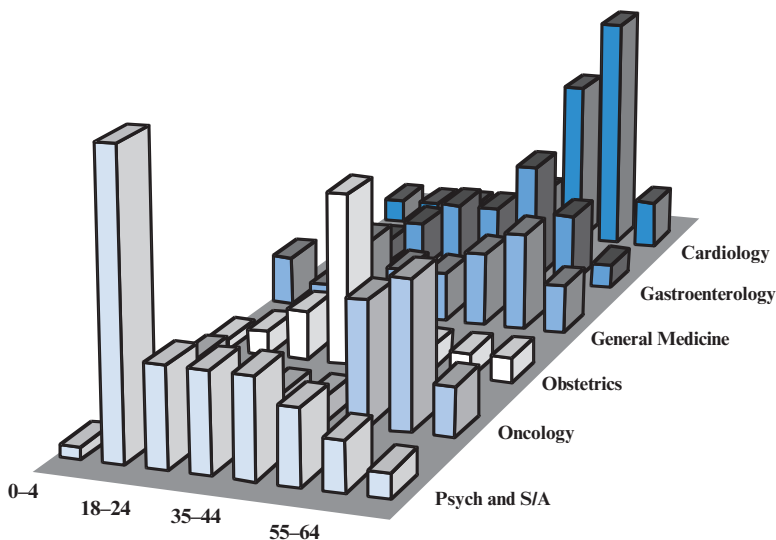


Figure 1.5 Morbidity among Those Not Yet Eligible for Medicare

Source: The Crimson Group, Inc., adapted from presentation materials in company files. Data are from a large California employer.

diagnosis-related groups (DRGs)

A DRG is a collection of several homogeneous diagnoses, and constitute a hospital's "products." A DRG is determined by "grouper" software, based on the International Classification of Diseases as well as the procedure performed, and the patient's age, sex, discharge status, including any complications or co-morbidities. A DRG determines how much Medicare pays a hospital for each of its products. For details, see <http://medicaldictionary.thefreedictionary.com/DRG>.

subcapitation

An arrangement when an organization that is paid under a capitated basis contracts with another organization also on a capitated basis. The first organization shares a portion of the original capitated premium with the second organization, but both are at risk for expenses that exceed the capitation payments.

receive services ordered by Person B (a physician), which are delivered by Person C (a hospital, clinic, or specialist), paid for by Person D (an insurer), whose revenue comes from Person E (the insured). Even when the setting is less complex, such as in a physician group practice, Person A has little say over the services ordered by Person B, which often are delivered by Person C (such as a lab or a radiology unit), and are paid for by Person D with revenue from Person E.

The result, shown in figure 1.6, is five separate markets:

1. A premium-sharing market (between an employer and its employees)
2. A per member, per month (PMPM) market (between an employer and an insurer, such as a managed care plan or a regional government)
3. A deductible market (between a patient and an insurer)
4. A copayment market (between a patient and a provider, usually a physician or a hospital unit, such as an emergency room)
5. A fee market (between a provider and an insurer)

The fifth market can be quite complex, including such payment approaches as fee-for-service (discounted or otherwise), *diagnosis-related groups (DRGs)*, bundled prices, and *subcapitation*. In the United States, under some of the provisions of the Affordable Care Act, bundled prices have been expanded from a single price that includes the hospital charge and the physician fee to a fixed amount for all aspects of an episode of care, including postdischarge services, such as home care.

Depending on how their health care systems are organized, some countries may not have all five market participants, but most have at least four. For example, instead of an employer, some countries may have a social

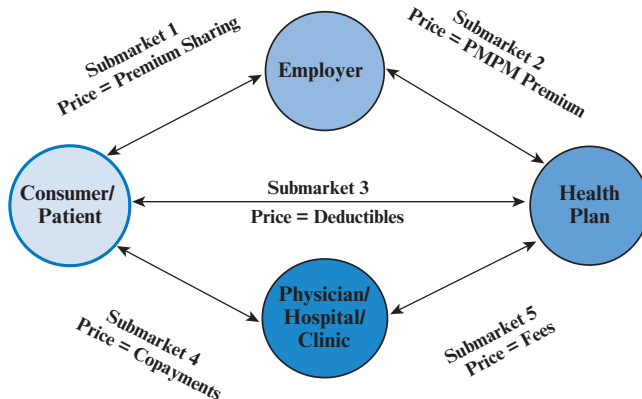


Figure 1.6 Five Separate Health Care Markets

security system; and some have tax payments (perhaps sequestered for health care) in place of premiums or premium sharing. In all countries, however, there is a division among those who order the “product,” those who provide it, and those who pay for it.

Responding to the Four Forces

On a conceptual level, it is relatively easy to describe how these four forces can be addressed. As figure 1.7 indicates, there are only five drivers of health care costs: case mix, volume, resources per case, cost per resource unit, and fixed costs. Each of these cost drivers relates to one or more of the four forces. Together they can help explain (1) why a country’s (or state’s, or hospital’s) costs changed from one year to the next, (2) why one health system’s or hospital’s costs differed from another’s, or (3) why actual financial results for a hospital or health system differed from budgeted ones.

Case Mix and Volume

Case mix and volume are related to morbidity patterns in the population, which result mainly from the environment, genetics, and health habits.⁴ Although some improvements to the environment (such as cleaner air and water) may have an impact, nothing can be done about genetics (except asking people to choose their parents carefully!). According to the *Journal of the American Medical Association*, almost 35 percent of all deaths in the

Case mix and volume

Refers to the different types of diagnoses that can present themselves for treatment. Examples include diabetes, liver cancer, or psoriasis. Volume refers to the number of each type of case.

Cost Driver		Examples	Controlling Force(s)
Case Mix	Morbidity	Diabetes, cancer, heart disease . . .	Environment, genetics, health habits
Volume		10,000 cases diabetes, 15,000 cases cancer . . .	Environment, genetics, health habits
Resources per Case	Utilization and Efficiency	8 outpatient visits, 2 glucose tests, 2 complete blood counts (CBCs) . . .	Physicians, clinical protocols, available technology
Cost per Resource Unit		\$40 per OPD visit, \$25 per glucose test, \$12 per CBC . . .	Service-providing units
Fixed Facility Costs	Technology	Plant and equipment depreciation, managerial and administrative staffing. . .	Senior management, physicians, health policy

Figure 1.7 Health Care Cost Drivers

United States are related to tobacco use, poor diet, and physical inactivity, which suggests that public health programs need to focus mainly on health habits. Public health officials must consider (1) prevention programs, such as laws that require the use of seat belts and motorcycle helmets; (2) early intervention programs, such as cancer screenings; and (3) wellness programs, such as childhood inoculations.

Computing the benefits of a prevention or wellness program is by no means easy, in part because it is not clear that people want to improve their health. Indeed, improving one's diet or increasing physical activity can be enormously difficult in a society where people do not adopt—or, apparently, *wish* to adopt—more healthy lifestyles.

EXAMPLE

A 2007 study by the Centers for Disease Control and Prevention (CDC) (www.cdc.gov/) found that 30 percent of the US population between fifty and seventy years of age had an average body mass index of 30 or above (30 is defined as "obese"). In an earlier study, the CDC found that the number of states with more than 20 percent of their population classified as thirty pounds or more overweight grew from zero states in 1991 to twenty states in 2000.

In addition to computing the financial benefits of each new programmatic endeavor in terms of, say, cost savings due to a reduction in morbidity, health policy analysts also must examine the relevant program costs; otherwise, a benefit-cost analysis will not be possible. But determining the program's costs can be difficult, in part because some of the program's "benefits" come in the form of cost reductions in the delivery system, such as from a decline in hospitalizations for conditions caused by obesity or smoking.

Program costs also must be analyzed in terms of both one-time investments (such as new facilities or equipment) and ongoing expenses (such as salaries and supplies). In many instances, a program's costs also will include a "fair share" of an organization's overhead. To assemble all the disparate pieces into one programmatic package is a daunting challenge, to say the least.

Resources per Case

Addressing this cost driver means, in effect, lowering the bars in figure 1.1 (in addition to reducing the other resources used to treat a case, such as

Resources per Case

The cost-related elements that are used in the treatment of a patient with a particular diagnosis. In a hospital, these resources include a day of care, a laboratory test, a radiological procedure, and a variety of non-clinical items, such as a meal or a pound of washed laundry.

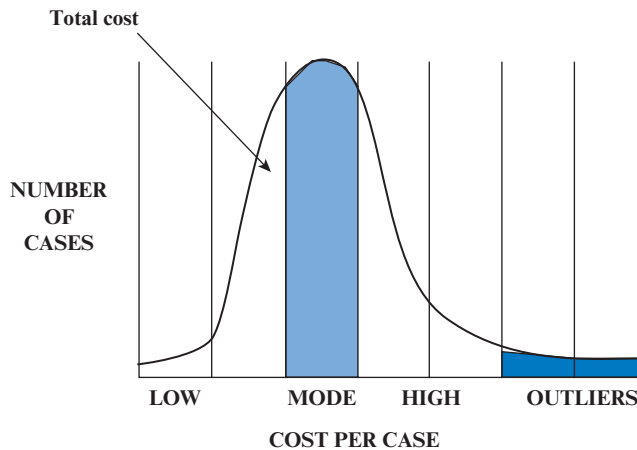


Figure 1.8 Number of Cases versus Cost per Case

Source: The Crimson Group, Inc., adapted from presentation materials in company files.

tests and procedures). Figure 1.8 demonstrates this idea conceptually. Because the vertical axis represents the number of cases and the horizontal axis represents cost per case, the area under the curve is the total cost. The obvious goal is to shift the modal (or average) cost per case to the left, which can be done by, say, using outpatient instead of inpatient care, engaging in preadmission activities or in-home care so as to shorten a patient's length of stay, or undertaking any of a variety of similar resource-reducing measures. (In this regard, note that a focus on outliers has very little cost-saving potential in most hospitals.)

EXAMPLE

The Dartmouth Atlas Working Group has studied how reductions in resources per case can be done without affecting the quality of care. The researchers examined the treatment for chronic conditions in the last two years of life in several organizations where the Centers for Medicare & Medicaid Services had rated the quality of care as similar.⁵ They found variation between the “most aggressive” and the “most conservative” hospital of almost \$61,000 per case (\$105,067 versus \$44,090, on average). Most of the variation was due to days in the ward (forty-two versus twelve), but there also were significant differences in regard to days in the intensive care unit (twelve versus four), specialist visits (ninety-seven versus eighteen), and primary care visits (thirty-four versus twenty-three).⁶

CURRENT PATTERN		OPTIONAL PATTERN	
Admit to Telemetry ALOS = 2.2 days	\$2,800	Admit to Observation Unit ALOS = 23 hours	\$1,000
Daily EKG × 3	\$225	EKG × 2	\$150
Enzymes and Full Bloods	\$175	Enzymes and Limited Bloods	\$75
Cardiology Consult	\$150	Cardiology Consult	\$150
Echo	\$350	Echo	\$350
Thallium Stress Test	\$450	Non-Thallium Stress Test	\$125
TOTAL COST	\$4,150	TOTAL COST	\$1,850

Figure 1.9 Alternative Treatment Patterns for a 48-Year-Old, Presenting in the Emergency Room with Atypical Chest Pain, Positive Smoking, and Family History, with a Normal Electrocardiogram (EKG)
 Source: Robert Galvin, MD, personal communication, June 2005.

Resources per case also can be managed by physicians working collaboratively to determine the most appropriate resource mix for the average (or modal) patient with a given diagnosis or DRG. Figure 1.9 shows how this was done for the treatment of a patient with a certain presenting condition in a hospital emergency room.⁷



incidence rate

The frequency a particular event occurs. For example, if the incidence rate of a heart attack during a year is 1% and there are 1 million people, then 10,000 of them will have heart attacks.

PROBLEM

Assume there is an *incidence rate* of 5 persons per 1,000 insured (0.5 percent), which is fairly normal, and that there are about 1,000,000 insured people. Compute the annual savings to the insurer associated with the alternative care delivery pattern shown in figure 1.9.

It is extremely important that you write out your own answer before looking at the one given. Please do not shortcut this feature of the learning process. If you have not written out an answer yet, please do so before you continue reading.



ANSWER

The savings would be \$11.5 million per year: 1,000,000 people × 0.5 incidence rate × \$2,300 (\$4,150 – \$1,850) per person.

As this example and the Dartmouth Atlas research indicate, there are some important opportunities to address the growth in health care costs by focusing on resources per case. Happily, doing so need not be

accompanied by a reduction in quality. In fact, by developing appropriate disease management protocols, quality actually may be improved.

One of the most dramatic efforts to address the issue of resources per case was made in Grand Junction, Colorado, a site often used as an example in health care reform discussions.⁸ In Grand Junction, leadership by primary care providers (PCPs) resulted in a culture of incentives for cost control—a culture that was reinforced by the PCPs' deciding to *withhold* 15 percent of their fees to create a risk pool. The risk pool was managed by the Mesa County Physicians *Independent Practice Association*.

To better control resources per case, the Grand Junction PCPs, who on a per capita basis in Grand Junction were 185 percent of the national average of PCPs in a community, gathered data on the cost profiles of specialists and reduced their referrals to those who used above-average resources with no discernible quality differences. PCPs also led the way in the regionalization of services, resulting in one tertiary care hospital (many communities of a similar size have two or more *tertiary care hospitals*) that was fed by several secondary hospitals. Grand Junction's PCPs also supported end-of-life care that placed an emphasis on *hospice care* rather than on inpatient hospital care.

The results were impressive. Grand Junction saw

- A reduction in high-cost surgical interventions. Its *coronary artery bypass graft (CABG)* rate was 60 percent of the Medicare national average, and its inpatient coronary angiography rate was 55 percent of the national average.
- A decrease in inpatient days during the last two years of life to 61 percent of the national average, with hospice days rising to 174 percent of the national average. Deaths in hospitals declined to 50 percent of the national average.

In all of these instances, assessing the treatment options and making the needed trade-offs require an understanding of the relevant costs under alternative scenarios. Changing the way resources are used to treat a case without understanding the relevant cost implications is the health care equivalent of flying blind.⁹

Cost per Resource Unit

The distinction between resources per case and *cost per resource unit* is important. For example, the number of *complete blood counts (CBCs)* ordered for a patient during an inpatient stay is one measure of the resources used to treat a case. However, the cost of performing a blood analysis is a separate matter. Few hospitals have engaged in the activities needed to

withhold

An amount removed from a physician's (normally a primary care physician's) fee that is placed in a fund for later distribution if certain goals are met. If health care costs (and other goals) do not meet a certain defined target the withheld amount is not paid out.

Independent Practice Association

One form of a health maintenance organization (HMO). An HMO receives its revenue from monthly premium payments made by, or on behalf of, each insured person. Its revenue therefore is essentially fixed, and it must manage its expenses so that they do not exceed its revenue.

tertiary care hospitals

A hospital that deals with very sick patients. It contrasts with a community (secondary care) hospital that deals with moderately ill patients, and a quaternary care hospital, that deals with the sickest of patients. There are no primary care hospitals. Primary care is delivered by physicians in their offices.

hospice care

Focuses on palliative care for a terminally ill patient (one who is medically certified to have less than six months to live). For details, see <http://hospicenet.org>.

coronary artery bypass graft (CABG)

Pronounced “cabbage” is a surgical procedure performed to relieve angina (chest pain or discomfort) and reduce the risk of death from coronary artery disease. Arteries or veins from elsewhere in the patient’s body are grafted to the coronary arteries to improve the blood supply to the heart.

cost per resource unit

The cost of each unit of service provided to treat a case, such as the cost of a complete blood count (CBC). It needs to be distinguished from the resource unit itself. For example, one cost driver is the number of CBCs, but another is the cost of each CBC.

complete blood counts (CBCs)

A complete blood count. A fairly typical test for a patient in a hospital.

understand the cost of providing such physician-ordered resources as laboratory tests, radiology procedures, and other *intermediate products*.

Even without having good cost information, any hospital manager knows that cost reductions can take place with an increase in efficiency or a decrease in hourly wage rates or unit supply costs (for example, through a shift from name brand to generic drugs). However, computing the cost implications of these decisions can be tricky.

To make accurate unit cost computations, hospitals need to adopt the technique of activity-based costing (ABC). Although ABC is becoming increasingly prevalent in health care,¹⁰ its use is not widespread. Moreover, many users of ABC in health care organizations do not fully understand the kinds of problems it was designed to solve, nor do they understand the importance of using what are called “multiple second-stage cost drivers.” Yet to make informed decisions about ways to reduce the cost per resource unit, a hospital’s physicians and managers must move down the ABC learning curve quickly. ABC is discussed in chapter 5.

Fixed Costs

Most health care organizations incur significant fixed costs. For example, plant and equipment depreciation expenses can represent a large percentage of a hospital’s annual operating budget. Indeed, because the health care sector is characterized by a high rate of technological change, many hospitals (as well as other provider organizations) are likely to experience continuous growth in their annual depreciation expense. To avoid the resulting fiscal difficulties, senior management and physician leaders need to make judicious choices about the acquisition of new technology. However, few hospitals have shown a willingness to bite the technology-sharing bullet.

EXAMPLE

In Grand Junction, having one tertiary care hospital fed by several secondary hospitals helped curtail the growth of new technology while continuing to assure patients of access to needed resources. In effect, the Grand Junction PCPs helped ensure the sharing of technology.

Full-time employees, whose daily activities are largely unrelated to the volume of care provided, also constitute fixed costs. Unless there is a significant change in a hospital’s average occupancy, the salaries of such people as admitting clerks, schedulers, housekeepers, dietitians,

laundry staff members, and departmental administrators will remain largely unchanged over the course of a year. By the same token, if a hospital's average occupancy falls, it will need to make some difficult choices in regard to its staffing pattern. The nature of a hospital's costs (as well as cost behavior in general, and costs in other kinds of health care organizations) is discussed in chapter 3.

The Health Care Food Chain

Difficult cost-containment choices emerge, in part, because a reduction in one entity's costs in a health care system is accompanied by an equivalent reduction in another entity's revenues. As a result, implementing cost reduction efforts can become complicated.

EXAMPLE

Consider the scenario shown in the problem concerning alternative treatment patterns in an emergency room, and the ensuing consequences. The \$11.5 million in cost reductions were for the payer, not for the hospital. That is, the payer (Medicare, a managed care organization, or some other insurer) would pay less to the hospital as a result of this change in resources per case, and the hospital would receive less revenue. If it did not find ways to decrease its costs, its operating margin would decline.

The nature of this *health care food chain* is shown in figure 1.10. As the figure indicates, at each step along the way, the expense for one entity represents revenue for another. Unless physicians and hospital managers have a good understanding of their costs—and unless they design good systems to control their costs—they will be at the mercy of entities higher up in the food chain. And, of course, the same principle applies to those entities, such as pharmaceutical and medical equipment firms, to which hospitals or physician group practices make payments.

In this respect, it is important to note, as shown in Figure 1.10, that many of the “suppliers” to which hospitals make payments are employees. Although perhaps this topic is not explicitly discussed in conversations about cost control, it should be noted that in a hospital or physician-hospital organization, where a significant portion of costs is in the form of salaries and wages, cost reductions no doubt will require a resizing of the workforce.

intermediate products

Services that are provided to a patient during his or her stay in a hospital. The “final product” is a discharge from the hospital, but the intermediate products consist of all those services needed to provide the final product. They include lab tests, radiological procedures, meals, laundry, and others. They will be discussed later in the book.

health care food chain

The idea that each entity's expenses in the health care system represent revenue for another entity.

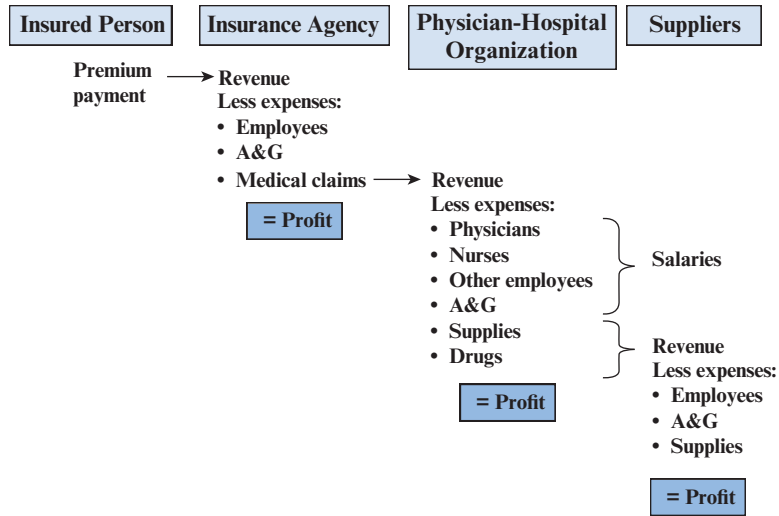


Figure 1.10 Health Care Food Chain

The Food Chain versus the Value Chain

The food chain need not have pejorative connotations. Considerable work has taken place on what now is known (perhaps euphemistically) as the “value chain.” The idea, which was initially presented outside of the health care context by Michael Porter, Harvard University’s strategy guru, is that each entity in an industry adds something to the final value of a product.¹¹ The value that it adds can be measured and accounted for financially in terms of such activities as inbound logistics, operations, outbound logistics, and the like.

value-based purchasing

The idea that cost is not the only consideration in a purchasing decision; benefits also matter. An example from the computer industry is a cheap (say, \$300) computer. This computer will not have much RAM, hard-drive capacity, or processing speed. So, consumers will be willing to pay more if they perceive that their benefits (e.g. processing speed) increase in greater proportion to their costs.

In health care, the concept of the value chain was expanded some thirteen years ago to include the idea of *value-based purchasing*.¹² The basic argument was that costs do not constitute the only factor to be considered in decision making; rather, a purchaser must ask what benefits are being received for those costs. In the computer industry, for example, there are machines that sell for only a few hundred dollars, but they do not have the same features or benefits (processor speed, RAM, and so on) as computers that are more expensive. Thus, like computer purchasers, health care purchasers need to consider what they are receiving for their payments.

The Wharton School’s health care group also addressed value. However, instead of incorporating the entities shown in figure 1.10, its value chain used a different mix of stakeholders: payers (government bodies, employers, individuals, employer coalitions); fiscal intermediaries (health maintenance organizations, pharmacy benefit managers); providers (hospitals, physicians, pharmacies); purchasers (wholesalers, mail-order distributors);

and producers (manufacturers of drugs, devices, supplies, and other similar items).¹³

Similarly, Michael Porter and Elizabeth Teisberg proposed that competition in health care should be value based and that entities should be rewarded based on their results.¹⁴ In effect, this idea simply represented a return to the notion of value-based purchasing.¹⁵

Impact of the Affordable Care Act

There are some early indications of the ways that costs will be affected (or, as the current jargon goes, “how the cost curve will be bent”) in the United States under the Affordable Care Act. The following efforts are expected to take place in an attempt to reduce resources per case:¹⁶

- A focus on providing more coordinated care for patients with chronic conditions
- An increase in the use of electronic medical records to help physicians choose the right tests and treatments
- A reform of the health care system’s infrastructure that will “enhance horizontal coordination among providers and provide more constant monitoring of patients”
- An imposition of penalties for hospitals with high risk-adjusted readmission rates, to address the fact that 20 percent of Medicare patients are readmitted within thirty days after discharge
- A provision of incentives for hospitals to adopt practices that reduce rates of hospital-acquired conditions, paid for via penalties for hospitals with high rates
- The use of bundled payments to provide physicians and hospitals with incentives to coordinate care for patients with chronic illnesses
- Evaluation and testing of new programs that enhance quality and reduce costs

All of the measures just listed, but especially the last two, will require an understanding of a hospital’s costs and an ability to address the cost implications of alternative approaches to care delivery. These measures also will require an understanding of when to use full-cost accounting (discussed in chapters 2 and 5) and when to use differential cost accounting (discussed in chapters 3 and 4). And they will require hospitals and other provider entities to have much more sophisticated cost control systems than many now have. This last requirement occupies most of the latter half of the book, beginning with chapter 6.

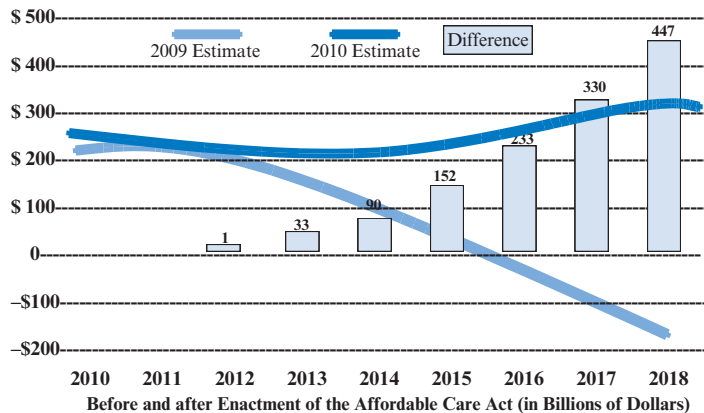


Figure 1.11 Estimates of the Medicare Part A Trust Fund Balance

Source: *DGA Partners Analysis of Kaiser Family Foundation's Medicare Chartbook*, 4th ed. (2010).

In summary, if the decline in Part A (hospital payments) of the Medicare Trust Fund balance is to be reversed in accordance with the estimates made after the passage of the Affordable Care Act (see figure 1.11)—that is, if the cost curve is going to bend—“something’s gotta give”! To figure out what that something is and how much it must give, health policy analysts, hospital administrators, group practice managers, and physician leaders must have both a good understanding of their costs and an ability to control them.

The handwriting on the wall was revealed in a study of variations in 2009 Medicare spending among thirty-five hospitals for a ninety-day episode of congestive heart failure.¹⁷ The results, contained in figure 1.12, showed a wide variation among the studied hospitals. If Medicare had drawn the payment line at some reasonable level (say, \$15,000 in figure 1.12) and had bundled the price (as it probably will do) to include both hospital and physician payments, as well as both outpatient and inpatient care, some 77 percent of the hospitals and their attending physicians in the study would have had their payments reduced, with a corresponding need to reduce their costs.

Cost Control Is Everyone's Business

Controlling costs in hospitals, health care systems, physician group practices and clinics, home health agencies, nursing homes, and other similar entities requires the involvement of managers and clinical professionals at all levels in the organization. Accounting professionals can be helpful in making cost computations (discussed in chapters 2 through 5) and in

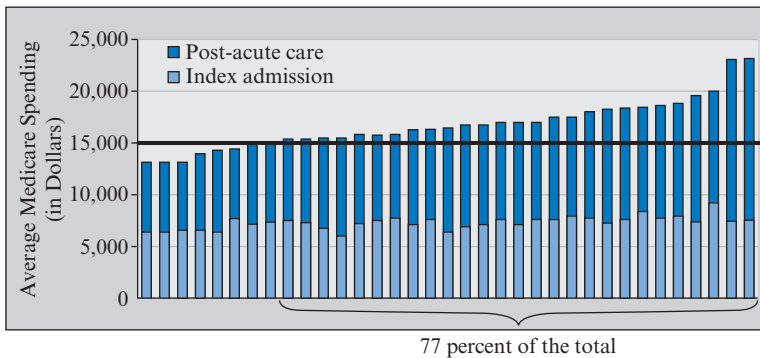


Figure 1.12 Variation in Average 2009 Medicare Spending among Selected Hospitals for a 90-Day Episode of Congestive Heart Failure

Source: Robert Mechanic and Christopher Tompkins, "Lessons Learned Preparing for Medicare Bundled Payments," *New England Journal of Medicine* 367 (November 2012): 1873–1875, doi:10.1056/NEJMp1210823.

establishing transfer prices (discussed in chapter 7). They also can help design a budget formulation process that relies on the five cost drivers shown in figure 1.7 (discussed in chapter 9). And they can prepare analyses of variances from the budget using these same cost drivers (discussed in chapter 11). However, both senior and middle managers throughout the organization must be solidly behind and deeply involved in the cost control efforts. Otherwise the resulting information may not meet their needs.

What is perhaps less obvious is that physician leaders also must be heavily engaged in cost control, for they alone can both establish clinical guidelines (resources per case) and monitor their colleagues' use of them. Indeed, without a collaborative effort among physician leaders, senior and middle managers, and the accounting staff, a provider entity may find itself being mercilessly devoured by entities higher up in its food chain.

Management Accounting Systems

As the preceding discussion has emphasized, an ability to understand and manage costs is essential for managers at both the health policy and provider levels who wish to address the four forces affecting future costs. Management accounting systems are needed in three broad areas: full-cost accounting, differential cost accounting, and responsibility accounting. The preface contains the book's learning objectives in each of these three areas, as well as a brief summary of the contents of each chapter.

Clearly, management accounting information is not the only information that managers need, nor is it the only element on the road to successful operations. But it is important, and the design of appropriate

systems cannot be delegated completely to the accounting staff. Rather, system design efforts require the involvement of senior and middle managers as well as physician leaders. One of the goals of this book is to assist managers at all levels—clinical and nonclinical—in understanding their management accounting needs and communicating those needs to the accounting staff so that the appropriate information will be available for decision making.

KEY TERMS

Affordable Care Act	Independent Practice Association (IPA)
Case mix and volume	
Complete blood counts (CBCs)	Intermediate products
Coronary artery bypass graft (CABG)	Morbidity
Cost drivers	Resources per case
Cost per resource unit	Tertiary care hospitals
Health care food chain	Value-based purchasing
Hospice care	Withhold

To Bear in Mind

1. This chapter has distinguished between the external forces driving health care costs, such as demographic changes and morbidity patterns, and five cost drivers that can help managers address how these external forces will affect their organization's costs. Health care managers need to assess how the external forces in their communities will affect case mix and volume. They also need to address how they will manage the resources they use for each case type as well as the cost of each resource unit and their organization's fixed costs.
2. Conceptually, the food chain and the value chain are the same. They illustrate the zero-sum game that characterizes most health care systems, in which one entity's expenses are another entity's revenues. Value-based purchasing is somewhat different. It considers the benefits as well as the costs of a particular product or service. Most of the remainder of this book focuses on the cost side of the equation, but managers should not ignore the benefit side.

Test Yourself

1. What are the four forces that will affect health care costs during the next five to ten years?
2. What are the five drivers of health care costs?
3. What is meant by the term *health care food chain*?
4. What does the term *value-based purchasing* mean?
5. How can physician leaders become involved in cost control? Why is it important for them to do so?

Suggested Cases

Boise Park Health Care Foundation (A)

Conglomerate, Inc. (A)

Conglomerate, Inc. (B)

Determination of Need Program

Heartbreak of DRGs

Hilda Cook

Wheeling Cardiology Associates

PRACTICE CASE

CENTRAL VALLEY PRIMARY CARE ASSOCIATES

I've got a week to finish this proposal. The information the hospital gave me on inpatient utilization was incomplete and so detailed that I had to have it summarized. Even so, I don't know if I'll be able to use it. How am I supposed to work with information like this to come up with a reasonable capitation rate for Continental?

The speaker was Maria Lopez, MD, board member of Central Valley Primary Care Associates (CVPCA) and chair of its subcommittee on finance, compensation, and risk. CVPCA was an independent practice association comprising 130 primary care pediatricians who worked in thirty-nine small group practices, located at fifty-seven sites. It worked closely with the Valley Children's Medical Center (VCMC) physician-hospital organization (PHO).

Background

VCMC was a teaching and research institution (with over 200 beds) that was considered to be one of the leading children's hospitals in the country. However, although it had a

national reputation and was the only children's hospital in the three-state area surrounding the Central Valley region, it was not the only institution providing pediatric services. Several general hospitals were located nearby, each of which had a small (ten- to thirty-bed) pediatrics department. Moreover, whereas VCMC had both a residency program and an active research agenda, none of the other hospitals was engaged in either teaching or research. Patients in these other hospitals' had relatively uncomplicated diagnoses, requiring fairly standard treatment or procedures. Patients with complicated diagnoses or severe conditions generally were taken directly to VCMC or transported there shortly after admission to one of the other hospitals.

Central Valley Primary Care Associates

CVPCA had been formed several years ago. Its mission was to develop a comprehensive, integrated, primary health care delivery system to ensure quality and cost-effective care. Together with VCMC, it aimed to meet the total health care needs of children and adolescents in the tristate area. Dr. Lopez's subcommittee was one of six. Its charge was to "develop minimally acceptable capitation fees and fee-for-service compensation packages that directly correspond to the contractually covered services, and to outline acceptable risk components that may be included in the physician compensation program, such as withholds, risk pool sharing, and maximum stop-loss coverage."

Continental Health Care Request for Proposals

CVPCA originally had planned to contract with the PHO to provide community physicians for primary care. Recently, however, it had received a request for proposals from Continental Health Care, a large managed care plan, indicating that Continental intended to do business with primary care providers on a capitation basis rather than using the traditional fee-for-service approach. All primary care groups in the region had been asked to submit bids specifying the per member, per month amount they would charge Continental for a full-risk contract—that is, a contract that included the cost of all primary care, specialty care, and inpatient hospitalization care. Follow-up home health care and specialized services, such as occupational therapy, were excluded. The full range of inpatient services was to be included, however, including such traditionally expensive procedures as bone marrow transplants.

Continental had made it clear that it would not be awarding contracts to all groups in the area. Instead, it had said that it would focus its business on the groups that offered the best PMPM rates. Inasmuch as Continental currently had contracts that covered some 40 percent of the employees and their families in the region and was growing rapidly, failure to secure a contract would have serious financial implications for a physician group.

Analysis

In an effort to develop a budget and, ultimately, a PMPM rate, Dr. Lopez had asked her staff assistant, Tim Matthews, to gather all the relevant data that she would need to prepare a bid. She had decided to focus her efforts on a small subset of the total analysis, work out the methodology, and then instruct Mr. Matthews to use that methodology for the rest of the analysis. She commented on the rationale for her approach:

I have to keep the job manageable. Any time I spend on this is time away from seeing patients. Also, I'm not an accountant, and have no desire to be one. However, Tim doesn't have the clinical knowledge he needs to figure out a methodology. So I decided to focus on children in the five- to eleven-year age group and to analyze the cost of their care for the three most frequent outpatient diagnoses and the three most frequent inpatient diagnoses. I figure that if I can develop a methodology for this set of children and activities, it'll be a relatively simple matter for Tim to extend the analysis to the whole practice.

Because physicians in the group frequently used VCMC's facilities and specialists for outpatient care, Dr. Lopez and Mr. Matthews had assumed that the hospital would be able to supply them with both outpatient and inpatient information. Indeed, Matt Barberi, the manager of marketing services for the hospital, had been extremely cooperative. He had supplied them with information on outpatient and inpatient diagnoses by age group; a fee schedule for the division of general pediatrics; and nursing wages and hospital charges and costs (contained in exhibits 1.1 through 1.4). He also gave them a list of the laboratory tests, radiology procedures, and pharmacy prescriptions that were associated with each inpatient diagnosis.

There were two complications with the data Mr. Barberi had submitted. First, the list of tests, procedures, and prescriptions totaled ten to fifteen pages per diagnosis. Dr. Lopez realized that working with such a long list for more than a few diagnoses would be extremely cumbersome. Under her guidance, Mr. Matthews had summarized the information according to the categories shown in exhibit 1.5.

The second complication was that Mr. Barberi had sent a letter along with the data that had not been especially encouraging. It read, in part:

As you'll notice, there are some limitations to the data we have readily available. For example, on the outpatient side, we currently cannot tie diagnosis codes with resource utilization. Also, we cannot tie diagnosis with the kind and number of specialist referrals or consults.

It was this letter that prompted Dr. Lopez's comment at the beginning of the case, and that led her to conclude that whatever analysis she did would be based on a wide variety of assumptions. Nevertheless, she saw no alternative other than to push ahead.

Assignment

1. What are the salient strategic issues for Dr. Lopez to consider in her decision making?
2. How should Dr. Lopez approach the development of a budget for the expenses associated with CVPCA's five- to eleven-year-old patients?

Note: You do not need to prepare a budget, but rather should outline an approach for Dr. Lopez to follow. To do so, you should structure the information available to Dr. Lopez in such a way that it is useful to her, identifying those places where she will need to obtain additional information.

3. What additional data are needed to complete the budget? How should Dr. Lopez obtain them? Where will she need to make assumptions?
4. How should Dr. Lopez translate her budget into a capitation rate that she can propose to Continental? What other issues should she consider in her proposal to Continental?
5. What issues should Dr. Lopez consider in working with the PHO, the hospital, and the specialists needed to care for pediatric patients so that she can increase the probability of meeting her budget?

EXHIBIT 1.1 Top 3 Outpatient Diagnoses for Ages 5 to 11 for the First 6 Months of the Current Fiscal Year*

Diagnosis	Cases	Percentage of Total
ROUTINE CHILD HEALTH EXAM	1,435	1.80%
CHR OTITIS MEDIA NOS/NEC	1,160	1.45%
ABN CLINICAL FINDING NEC	<u>1,104</u>	<u>1.38%</u>
TOTAL	3,699	4.63%

*Do not worry about the meaning of the diagnoses.

EXHIBIT 1.2 Top 10 Primary Inpatient Diagnoses for Ages 5 to 11 for the Last Fiscal Year*

	Diagnosis	Cases	Days	Charges
493.91	ASTHMA W STATUS ASTHMATIC	384	942	\$1,509,616
486.00	PNEUMONIA, ORGANISM NOS	124	364	517,973
780.30	CONVULSIONS	97	239	393,685
540.90	ACUTE APPENDICITIS NOS	78	137	324,798
V58.10	MAINTENANCE CHEMOTHERAPY	74	246	670,878
519.10	TRACHEA/BRONCHUS DIS NE	61	150	243,505
313.81	OPPOSITIONAL DISORDER	52	570	319,344
540.00	AC APPEND W PERITONITIS	47	424	681,175
478.74	STENOSIS OF LARYNX	40	209	430,011
277.00	CYSTIC FIBROS W/O ILEUS	39	377	718,623
TOTAL		996	3,658	5,809,608
ALL OTHER DIAGNOSES		<u>2,243</u>	<u>12,464</u>	<u>21,921,307</u>
TOTAL REPORT		3,239	16,122	\$27,730,915

*Do not worry about the meaning of the diagnoses.

EXHIBIT 1.3 Fee Schedule for the Division of General Pediatrics for the Current Fiscal Year (All Amounts in Dollars)

	Facility Fee	Professional Fee	Total
Well Child Care			
New visit	46.00	80.00	126.00
Subsequent visit	36.00	50.00	86.00
Anticipatory guidance (15 minutes)	0.00	30.00	30.00
Anticipatory guidance (30 minutes)	0.00	45.00	45.00
Anticipatory guidance (45 minutes)	0.00	60.00	60.00
Anticipatory guidance (60 minutes)	0.00	75.00	75.00
Sick Child Care			
New Visit			
Problem focused (10 minutes)	17.00	45.00	62.00
Expanded problem focused (20 minutes)	26.00	60.00	86.00
Detailed (30 minutes)	36.00	75.00	111.00
Comprehensive (45 minutes)	43.00	90.00	133.00
Expanded comprehensive (60 minutes)	50.00	125.00	175.00
Subsequent Visits			
Problem focused (10 minutes)	26.00	40.00	66.00
Expanded problem focused (15 minutes)	36.00	60.00	96.00
Detailed (25 minutes)	43.00	80.00	123.00
Comprehensive (40 minutes)	50.00	105.00	155.00

EXHIBIT 1.4 Wages and Prices for the Current Fiscal Year

	LPN	RN
Nursing Wages	\$15 per hour	\$25 per hour
	Charges	Cost
Day of Stay in Hospital	\$1,800–\$2,000	\$1,000–\$1,800

EXHIBIT 1.5 Tests and Procedures for the Top 3 Inpatient Diagnoses for Ages 5 to 11 for the Last Fiscal Year*

	Asthma		Pneumonia		Convulsions	
	Units	Charges (in Dollars)	Units	Charges (in Dollars)	Units	Charges (in Dollars)
Labs						
2669 TOTAL SPECIAL COAG	0	0	11	1,425		
92501 CBC	33	520	123	1,937	45	709
92503 DIFFERENTIAL	22	173	107	843	32	252
Several other items						
2702 TOTAL HEMATOLOGY	78	1,044	364	4,983	157	2,230
101503 POTASSIUM SERUM	34	536	0	0		
101508 GLUCOSE, BLOOD	126	1,985	21	331	34	536
102328 ARTERIAL BLOOD GAS	232	18,270	32	2,520	5	394
Several other items						
2703 TOTAL CHEMISTRY	1,607	41,992	713	11,001	960	17,094
2704 TOTAL MICROBIOLOGY	79	2,204	190	7,191	46	1,632
2705 TOTAL PATHOLOGY	5	243	17	997	6	497
2709 TOTAL LAB PROCESSING	0	5	307	8	458	
2710 TOTAL BLOOD BANK	0	112	4,033	0		
2717 TOTAL VIROLOGY	17	811	40	1,990	20	1,000
2801 TOTAL ENDOCRINOLOGY	1	42	0			
2805 TOTAL ENZYMOLOGY	0	0	9	908		
2806 TOTAL NEPHROLOGY	21	528	3	360	7	409
2812 TOTAL CRC LABS	1	30	3	113	0	
Radiology						
2697 TOTAL VASCULAR	0	4	257	10		1,369
160100 PORTABLES	67	1,829	39	1,065	8	218
170109 CHEST	238	13,745	159	9,180	16	924
Several other items						
2721 TOTAL RADIOLOGY	346	18,180	230	12,695	76	6,121
2722 TOTAL NUCLEAR MEDICINE	2	420	3	919	4	1,092
2806 TOTAL ULTRASOUND	2	331	6	789	1	164
2724 TOTAL CT SCANS	2	945	8	3,525	21	9,923
2725 TOTAL MRI	0	1	856	20	17,115	
Pharmacy (Several Pages of Items)						
2730 TOTAL PHARMACY	10,175	129,986	6,375	80,374	2,959	24,851

*Do not worry about the meaning of the various tests and procedures.

Notes

1. Medicare is a federal insurance program in the United States that pays for the health care costs of individuals sixty-five years old and older.
2. "DGA Analysis of the Kaiser Family Foundation's *Update on Medicare Spending and Financing Highlights from the 2009 Medicare Trustees' Report*, May 2009," *Healthcare Financial Management*, July 2009.
3. Robert Pear, "Consumer Risks Feared as Health Law Spurs Mergers," *New York Times*, November 20, 2010.
4. It is important to note that there are variations not only in the types of cases but also in severity (or acuity) within any given case type.
5. The Centers for Medicare & Medicaid Services, previously known as the Health Care Financing Administration, is a federal agency within the US Department of Health and Human Services that administers the Medicare program and works in partnership with state governments to administer Medicaid, the State Children's Health Insurance Program, and health insurance portability standards. For details, see www.cms.gov.
6. See "Tracking the Care of Patients with Severe Chronic Illness," *The Dartmouth Atlas of Health Care*, 2008, www.dartmouthatlas.org/downloads/atlas/2008_Chronic_Care_Atlas.pdf.
7. It is worth noting that only about one-third of all health care spending is for hospital care. The remainder is for other forms of care, including outpatient services, home health care, long-term care, rehabilitation care, and a variety of others.
8. Thomas Bodenheimer and David West, "Low-Cost Lessons from Grand Junction, Colorado," *New England Journal of Medicine* 363 (October 2010): 1391–1393.
9. Part of knowing the relevant cost implications is considering the clinical consequences before reducing resources per case. For a discussion of some of the related issues, see Peter J. Neumann and James D. Chambers, "Medicare's Enduring Struggle to Define 'Reasonable and Necessary' Care," *New England Journal of Medicine* 367 (November 2012): 1775–1777.
10. For a discussion of how ABC can be used in a health care setting, see Seema Pandey, "Applying the ABCs in Provider Organizations," *Healthcare Financial Management* 66 (November 2012): 112–116, 118, 120.
11. Michael E. Porter, *Competitive Advantage: Creating and Sustaining Superior Performance*. (New York: Simon and Schuster, 1985).
12. See, for example, David W. Young et al., "Toward a Value-Based Healthcare System," *American Journal of Medicine* 110 (February 2001): 158–163; David W. Young et al., "Value-Based Partnering in Health Care: A Framework for Analysis," *Journal of Healthcare Management* 46 (March–April 2001): 112–132; David W. Young et al., "Beyond Health Care Cost Containment: Creating Collaborative Arrangements among the Stakeholders," *International Journal of Health Planning and Management* 16 (July–September 2001): 207–228.

- These publications extend the concept of value-based *purchasing* to value-based *partnering*. As they discuss, the distinction is important.
13. See Lawton R. Burns and Wharton School Colleagues, *The Health Care Value Chain: Producers, Purchasers, and Providers* (San Francisco: Jossey-Bass, 2002). See also <http://pdfcast.org/pdf/the-wharton-school-study-of-the-health-care-value-chain>
 14. See Michael E. Porter and Elizabeth Olmsted Teisberg, *Redefining Health Care: Creating Value-Based Competition on Results* (Boston: Harvard Business School Press, 2006).
 15. For additional thinking on the transition to value-based purchasing as well as some concerns about how the process may evolve, see Donald Berwick, “On Transitioning to Value-Based Health Care,” *Healthcare Financial Management* 67 (May 2013): 56–59.
 16. Peter R. Orszag and Ezekiel J. Emanuel, “Health Reform and Cost Control,” *New England Journal of Medicine* 363 (August 2010): 601–603, doi:10.1056/NEJMp1006571.
 17. Robert Mechanic and Christopher Tompkins, “Lessons Learned Preparing for Medicare Bundled Payments,” *New England Journal of Medicine* 367 (November 2012): 1873–1875, doi:10.1056/NEJMp1210823.

