

WHY HEALTH ECONOMICS?

Learning Objectives

After reading this chapter, students will be able to

- describe the value of economics for managers,
- identify major challenges for healthcare managers,
- find current information about health outcomes, and
- distinguish between positive and normative economics.

Key Concepts

- Economics helps managers focus on key issues.
- Economics helps managers understand goal-oriented decision-making.
- Economics helps managers understand strategic decision-making.
- Economics gives managers a framework for understanding costs.
- Economics gives managers a framework for understanding market demand.
- Economics gives managers a framework for assessing profitability.
- Economics helps managers understand risk and uncertainty.
- Economics helps managers understand insurance.
- Economics helps managers understand asymmetric information.
- Economics helps managers deal with rapid change.

1.1 Why Health Economics?

Why should working healthcare managers study economics? This simple question is really two questions: Why is economics valuable for managers? What special challenges do healthcare managers face? These questions motivate this book.

Why is economics valuable for managers? There are six reasons. We will briefly explore them here to highlight themes that we will develop in later chapters.

cost
The value of a resource in its next best use.

1. Economics helps managers focus on key issues. Economics helps managers wade through the deluge of information they confront and identify the data they need.
2. Economics outlines strategies for realizing goals given the available resources. A primary task of economics is to carefully examine the implications of rational decision-making.
3. Economics gives managers ground rules for strategic decision-making. When rivals are not only competing against them but also watching what they do, managers must be prepared to think strategically.
4. Economics gives managers a framework for making sense of **costs**. Managers need to understand costs because they are likely to make poor decisions without this knowledge.
5. Economics gives managers a framework for thinking about value. Successful organizations provide goods and services to customers that are worth more than the costs of producing them. So, good decisions demand an understanding of how customers perceive value.
6. Most important, economics sensitizes managers to fundamental ideas that affect the operations of every organization. Effective management begins with the recognition that consumers are sensitive to price differences, that organizations compete to advance the interests of their stakeholders, and that success comes from providing value to customers.

1.2 Economics as a Map for Decision-Making

Economics provides a map for decision-making. Maps do two things: they highlight key features and suppress unimportant features. For example, to drive from Des Moines, Iowa, to Dallas, Texas, you need to know how the major highways connect. You do not want to know the name and location of each street in each town you pass through. Of course, what is important and what is unimportant depend on the task at hand. If you want to drive from West 116th Street and Ridgeview Road in Olathe, Kansas, to the Truman homestead in Independence, Missouri, a map that describes only the interstate highway system will be of limited value to you. You need to know which map is the right tool for your situation.

Using a map takes knowledge and skill. You need to know what information you need, or you may choose the wrong map and be swamped in extraneous data or lost without key facts. Having the right map is no guarantee that you can use it, however. You need to practice to be able to use a map quickly and effectively. In the same sense, economics is a map for decision-making.

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Like a map, economics highlights some issues and suppresses others. For example, economics helps managers focus on **marginal** or **incremental costs**, which makes understanding and managing costs much simpler. (A **marginal** or **incremental change** is a small change.) However, economics has little to say about the belief systems that motivate consumer behavior. If you are seeking to make therapeutic regimens easier to adhere to by making them more consistent with consumers' belief systems, economics is not a helpful map. If, on the other hand, you want to decide whether setting up an urgent care clinic is financially feasible, economics helps you focus on how your project will change revenues and costs.

Economics also gives managers a framework for understanding **rational decision-making**. Rational decision-making means making choices that further one's goals given the resources available. Whether those goals include maximizing profits, securing the health of indigent patients, or other objectives, the framework is much the same. It entails looking at benefits and costs to realize the largest net benefit. (We will explore this question further in section 1.5.)

Managers must understand costs and be able to explain costs to others. Confusion about costs is common, so confusion in decision-making is also common. Confusion about benefits is even more widespread than confusion about costs. As a result, management decisions in healthcare often leave much to be desired.

Economists typically speak about economics at a theoretical level, using "perfectly competitive markets" (which are, for the most part, mythical social structures) as a model, which makes the application of economics difficult for managers competing in real-world markets. Yet, economics offers concrete guidance about pricing, contracting, and other quandaries that managers face. Economics also offers a framework for evaluating the strategic choices that managers must make. Many healthcare organizations have rivals, so good decisions must take into account what the competition is doing. Will being the first to enter a market give your organization an advantage, or will it give your rivals a low-cost way of seeing what works and what does not? Will buying primary care practices bring you increased market share or buyer's remorse? Knowing economics will not make these choices easy, but it can give managers a plan for sorting through the issues.

marginal or incremental cost
The cost of producing an additional unit of output.

marginal change
A small change.

incremental change
A small change.

rational decision-making
Choosing the course of action that offers the best outcome, given the existing constraints.

1.3 Special Challenges for Healthcare Managers

What special challenges do healthcare managers face? Healthcare managers face five issues that are particular to their position:

1. The central roles of risk and uncertainty
2. The complexities created by insurance

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3. The perils produced by asymmetric information
4. The special challenges posed by not-for-profit organizations
5. The rapid and confusing course of technical and institutional change

Let's look at each of these challenges in more depth.

1.3.1 Risk and Uncertainty

Risk and uncertainty are defining features of healthcare markets and healthcare organizations. Both the incidence of illness and the effectiveness of medical care should be described in terms of probabilities. For example, the right therapy, provided the right way, usually carries some risk of failure. A proportion of patients will experience harmful side effects, and a proportion of patients will not benefit from the therapy. As a result, management of costs and quality presents difficult challenges. Did a provider produce bad outcomes because they were unlucky and had to treat an extremely sick panel of patients, or because they encountered a panel of patients for whom standard therapies were ineffective? Did their colleagues let them down? Or was the provider, sloppy, or lazy? The reason is not always evident.

1.3.2 Insurance

Because risk and uncertainty are inherent in healthcare, most consumers have health insurance, and healthcare organizations have to contend with the management problems that insurance presents. First, insurance creates confusion about who the customer is. Customers use the products, but insurance plans often pay most of the bill. Moreover, most people with private medical insurance receive coverage through their employer (largely because of tax breaks). Although economists generally agree that employees ultimately pay for insurance through wage reductions, most employees do not know the costs of insurance alternatives (and unless they are changing jobs, they have limited interest in finding out). As a result of the employer plan default, employees remain unaware of the true costs of care, and they are not eager to balance cost and value. If insurance is footing the bill, most patients will choose the best, most expensive treatment—a choice they might not make if they were paying the full cost.

In addition, insurance makes even simple transactions complex. Most transactions involve at least three parties—the patient, the insurer, and the provider—and many involve more. To add to the confusion, most providers deal with a wide array of insurance plans and face a blizzard of disparate claim forms and payment systems. Increasing numbers of insurance plans have negotiated individual payment systems and rates, so many healthcare providers look wistfully at industries that simply bill customers to obtain revenues. The complexity of insurance transactions also increases opportunity for error and fraud. In fact, both are fairly common.

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Despite the bewildering array of insurance plans, many providers still rely on a few plans for their revenue (a circumstance most managers seek to avoid). For example, most hospitals receive at least a third of their revenue from Medicare. As a result, changes in Medicare regulations or payment methods can profoundly alter a healthcare organization's financial prospects. Overnight, changes to reimbursement terms may transform a market that is profitable for everyone into one in which only the strongest, best-led, best-positioned organizations can survive.

1.3.3 Asymmetric Information

Information asymmetries are common in healthcare markets and create a number of problems. **Asymmetric information** occurs when one party in a transaction has less information than the other party. In this situation, the party with more information has an opportunity to take advantage of the party with less information. Recognizing that they are at a disadvantage, the party with less information may become skeptical of the other party's motivation and decline a recommendation that would have been beneficial to them. For example, physicians and other healthcare providers usually understand patients' medical options better than patients do. Unaware of their choices, patients may accept recommendations for therapies that are not cost-effective, or, recognizing their vulnerability to physicians' self-serving advice, they may resist recommendations made in their best interest.

From a manager's perspective, asymmetric information means that providers have a great deal of autonomy in recommending therapies. Because providers' recommendations largely define the operations of insurance plans, hospitals, and group practices, managers need to ensure that providers do not have incentives to use their superior information to their advantage. Conversely, in certain situations, patients have the upper hand and are likely to forecast their healthcare use more accurately than insurers. Patients know whether they want to start a family, whether they will seek medical attention whenever they feel ill, or whether they have symptoms that indicate a potential condition. As a result, health plans are vulnerable to **adverse selection**.

1.3.4 Not-for-Profit Organizations

Most not-for-profit organizations have worthy goals that their managers take seriously, but these organizations can create problems for healthcare managers as well. For example, not-for-profit organizations usually have multiple stakeholders. Multiple stakeholders mean multiple goals, so organizations become much harder to manage, and managers' performance becomes harder to assess. The potential for managers to put their own needs before their stakeholders' needs exists in all organizations, but it is more difficult to detect in not-for-profit organizations because they do not have a simple bottom line. In addition, not-for-profit organizations may be harder to run well.

asymmetric information

A situation in which one party in a transaction has less information than the other party.

adverse selection

A situation that occurs when buyers have better information than sellers. For example, high-risk consumers are willing to pay more for insurance than low-risk consumers are. (Organizations that have difficulty distinguishing high-risk from low-risk consumers are unlikely to be profitable.)

They operate amid a web of regulations designed to prevent them from being used as tax-avoidance schemes. These regulations make setting up incentive-based compensation systems for managers, employees, and contractors (the most important of whom are physicians) more difficult. Further, when a project is not successful, not-for-profit organizations have greater difficulty putting the resources invested in the failed idea to other uses. For example, the trustees of a not-for-profit organization may have to get approval from a court to sell or repurpose its assets. Because of these special circumstances, managers of not-for-profit organizations can always claim that substandard performance reflects their more complex environment.

1.3.5 Technological and Institutional Change

This fifth challenge makes the others pale in comparison. The healthcare system is in a state of flux. Virtually every part of the healthcare sector is reinventing itself, and no one seems to know where the healthcare system is headed. Leadership is difficult to provide if you do not know where you are going. Because change presents a pervasive test for healthcare managers, we will examine it in greater detail.

1.4 Flux in the Healthcare System

Why is there so much change in the US healthcare system? One explanation is common to the entire developed world: rapid technical change. The pace of medical research and development is breathtaking, and the public's desire for better therapies is manifest. These demands challenge healthcare managers to regularly lead their organizations into unmapped territory. To make matters more complicated, changes in technology or changes in insurance can quickly affect healthcare markets. In healthcare, as in every other sector of the economy, policy changes can create winners and losers. For example, during the COVID-19 pandemic, Medicare and other insurers started routinely paying for telehealth visits, and the number of such visits skyrocketed (Levey 2021). Products or services that appear unprofitable today may be profitable tomorrow if technology, competition, rates, or regulations change.

The Affordable Care Act (ACA) resulted in a wave of innovations by providers, insurers, employers, and governments. (See chapter 6 for more detail.) Which of these innovations will succeed still remains unclear. In addition, some healthcare organizations have thrived in the new environment, and some have failed. The passage of the ACA appears to have been transformative, but the innovations it spurred may already have become part of the status quo.

1.4.1 The Pressure to Reduce Costs

The economics of high healthcare costs are far simpler than the politics. To reduce costs, managers must reallocate resources from low-productivity uses to high-productivity uses, increase productivity wherever feasible, and reduce prices paid to suppliers and sectors that have excess supply. They also must recognize that cost cutting is politically difficult. Reallocating resources and increasing productivity will cost some people their jobs. Reducing prices will lower some people's incomes. These steps are difficult for any government to take, and many of those who will be affected (physicians, nurses, and hospital employees) are politically well organized.

CASE 1.1

Why Is the Pressure to Reduce Healthcare Costs So Strong?

The United States spends far more than other wealthy industrialized countries, but it has poorer health outcomes. Healthcare spending per person in the United States is more than double that in Canada, France, Japan, and the United Kingdom (see exhibit 1.1). Differences of this magnitude should be reflected in the outcomes of care.

Country	2011	2018
Canada	\$4,248	\$5,287
France	\$4,031	\$5,154
Germany	\$4,588	\$6,224
Switzerland	\$6,048	\$7,280
United Kingdom	\$3,084	\$4,290
United States	\$8,145	\$10,637

Source: Data from OECD (2021).

Note: Spending has been converted into US dollars.

As you can see in exhibit 1.2, of the six countries listed, the United States has the shortest life expectancy at birth. In part, this is because the United States invests relatively little in improving the **social determinants of health** and reducing inequality. Sanchez-Romero, Lee,

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EXHIBIT 1.1 Healthcare Spending per Person

social determinants of health
Factors that affect health independently of healthcare, such as education and housing.

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CASE 1.1 (continued)

and Prskawetz (2020) note that the life expectancy of 50-year-old men at the bottom of the income distribution is 12.7 years shorter than for men at the top of the income distribution. Greater spending should not produce these results.

EXHIBIT 1.2 Life Expectancy at Birth, 2018

Country	Males	Females
Canada	79.9 years	84.1 years
France	79.7 years	85.9 years
Germany	78.6 years	83.3 years
Switzerland	81.9 years	85.7 years
United Kingdom	79.5 years	83.1 years
United States	76.2 years	81.2 years

Source: Data from OECD (2021).

Discussion Questions

- Why is spending so much more on healthcare than other countries a problem?
- What can Americans not buy because of high spending on healthcare?
- What factors other than healthcare affect a population's health?
- Does this evidence suggest that the American healthcare system is not efficient?
- What are social determinants of health?

1.4.2 The Fragmentation of Healthcare Payments

The fragmented payment system compounds the political problem. Most Americans see only a fraction of their total healthcare spending. Typically, Americans pay for their care through a mixture of direct payments to providers; payroll deductions for insurance premiums; lower wages; higher prices for goods and services; and higher federal, state, and local taxes. Because so much of the payment system is hidden, few can track healthcare costs. Those

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that can—notably, employers that write checks for the entire cost of insurance policies and the trustees of the Medicare system—understand the need to reduce costs.

1.5 What Does Economics Study?

What does economics study? Economics analyzes the allocation of **scarce resources**. Although this answer appears straightforward, several definitions are needed to make this sentence understandable. Resources include anything that is useful in consumption or production. From the perspective of a manager, resources include the flow of services from supplies or equipment that the organization owns and the flow of services from employees, buildings, or other entities the organization hires. A resource is scarce if it has alternative uses, which might include another use within the organization or use by another person or organization. Most issues that managers deal with involve scarce resources, so economics can be useful for nearly all of them.

Economics focuses on rational behavior—that is, individuals' efforts to best realize their goals given the resources that are available. Because time and energy spent collecting and analyzing information are scarce resources (i.e., time and energy have other uses), complete rationality is irrational. Everyone uses shortcuts and rules to make certain choices, and doing so is rational, even though better decisions are theoretically possible.

Much of economics is positive. **Positive economics** uses objective analysis and evidence to answer questions about individuals, organizations, and societies. Positive economics might describe the state of healthcare in terms of hospital occupancy rates over a certain period. Positive economics also proposes hypotheses and assesses how consistent the evidence is with them. For example, one might examine whether the evidence supports the hypothesis that reductions in direct consumer payments for medical care (measured as a share of spending) have been a major contributor to the rapid growth of healthcare spending per person. Although values do not directly enter the realm of positive economics, they do shape the questions that economists ask (or do not ask) and how they interpret the evidence.

Normative economics often addresses public policy issues, but not always. A manager of a healthcare organization who can identify additional services or features that customers are willing to pay for is demonstrating normative economics. Likewise, a manager who can identify services or features that customers do not value is also demonstrating normative economics.

scarce resources
Anything useful in consumption or production that has alternative uses.

positive economics
The use of objective analysis and evidence to answer questions about individuals, organizations, and societies.

normative economics
The use of values to identify the best options.

CASE 1.2**Prices**

The United States spends about 17 percent of its national income on medical care. This figure is nearly double the 9 percent spent by other countries belonging to the Organisation for Economic Co-operation and Development (OECD 2021). (The OECD is a group of high-income, market-oriented countries.) Although healthcare spending in the United States rose from 16.3 percent of national income in 2010 (largely because of increases in insurance coverage resulting from the ACA), rates of inpatient and outpatient service use remained low compared with peer countries (OECD 2021). In short, the United States spends more to buy less care.

What explains this? Higher prices in the United States explain much of the difference. For example, the private price for a normal delivery of a baby in a hospital is more than double the median in seven wealthy countries, and prices are much higher in the United States for drugs, tests, and procedures (Hargraves and Bloschichak 2019). In addition, incentives to use more expensive forms of care (e.g., specialists instead of generalists, inpatient rather than outpatient care) may explain some of the remaining difference, but good comparative data are not available.

Why are prices higher in the United States? One reason is higher prices of inputs. For example, hospital nurses earn 50 to 70 percent more in the United States than the OECD median (OECD 2021). In addition, administrative costs for insurers, hospitals, and physicians are four times higher in the United States than in Canada (Himmelstein, Campbell, and Woolhandler 2020). Still another reason is the weak bargaining position of many purchasers of care. Insurers that cover a small share of the population in a local area usually pay much higher prices than insurers that cover a larger share of the population (Cooper et al. 2019). And health systems that provide a large share of the care in a local area usually get paid higher prices.

Chernew, Hicks, and Shah (2020) note that the prices paid by commercial insurers are considerably higher than those paid by Medicare and Medicaid (which are somewhat higher than the prices in other countries). The authors explore what would happen if everyone paid Medicare prices, and they conclude that average hospital revenues would fall by about 30 percent. They do not forecast what would

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CASE 1.2

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happen to hospital and physician administrative costs, although fewer resources would be needed to manage relationships with private insurers.

Discussion Questions

- Why is healthcare spending measured as a share of national income?
- Is it a problem that the United States spends so much on medical care? Why or why not?
- How could the United States reduce prices for drugs, tests, and procedures? Should it?
- How would lower prices for drugs, tests, and procedures affect you professionally?
- How would reductions in administrative costs affect you professionally?
- How would a 30 percent drop in hospital revenue affect you professionally?

Normative economics can take two forms. In the first, citizens use the tools of economics to answer public policy questions. Usually these questions involve ethical and value judgments (which economics cannot supply) as well as factual judgments (which economics can support or refute). A question such as “Should Medicare eliminate deductibles?” involves balancing benefits and harms. Economic analysis can help assess the facts that underlie the benefits and harms but cannot provide an answer. The second form of normative economics is the basis for this book’s content. This form tells us how to analyze what we *should* do, given the circumstances we face. In this type of normative analysis, market transactions indicate value. For example, we may believe that a drug is overpriced, but we must treat that price as a part of the environment and react appropriately if no one will sell it for less. Most managers find themselves in such an environment.

To best realize our goals within the constraints we face, we can use the explicit guidance that economics gives us:

1. First, identify plausible alternatives. Breakthroughs usually occur when someone realizes there is an alternative to the way things have always been done.
2. Second, consider modifying the standard choice (e.g., charging a slightly higher price or using a little more of a nurse practitioner’s time).

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3. Next, pick the best choice by determining the level at which its *marginal benefit* equals its *marginal cost*. (We will explain these terms shortly.)
4. Finally, examine whether the total benefits of this activity exceed the total cost.

Skilled managers routinely perform this sort of analysis. For example, a profit-seeking organization might conclude that a clinic's profits would be as large as possible if it hired three physicians and two nurse practitioners, but the clinic's profits would be unacceptably low if it did. Profits would fall even further if it increased or decreased the number of physicians and nurse practitioners, so the profit-seeking organization would choose to close the clinic.

Let's back up and define some terms to make this discussion clearer. *Cost*, as noted at the beginning of this chapter, is the value of a resource in its next best use. For example, the cost of a plot of land for a medical office would be the most another user would pay for it, not what it sold for 20 years ago. The next best use of that land might be for housing, for a park, for a store, or for some other use. Usually the next best use of a resource is someone else's use of it, so a resource's cost is the price we would be paid when we sell it or the price we have to pay to buy it. If 30 Lipitor tablets are worth \$80 to another consumer, that will be our cost for the drug.

Benefit is the value we place on a desired outcome. We describe this value in terms of our willingness to trade one desired outcome for another. Often, but not always, our willingness to pay for an outcome is a convenient measure of value.

A marginal or incremental amount is the increased cost we incur from using more of a resource or the increased benefit we realize from a greater outcome. So, if a 16-ounce iced tea costs \$1.49 and a 24-ounce iced tea costs \$2.29, the incremental cost of the larger size is $(\$2.29 - \$1.49) \div (24 - 16)$, or 10 cents per ounce. A rational consumer might

1. conclude that the incremental benefit of the larger soda exceeds its incremental cost and buy the larger size;
2. conclude that the incremental cost of the larger soda exceeds its incremental benefit and buy the smaller size; or
3. conclude that the total benefit of both sizes was less than their total cost and buy neither.

Remember, however, that rational decisions are defined by the goals that underpin them. A consumer with a train to catch might buy an expensive small drink at the station to save time.

1.6 Conclusion

Why should healthcare managers study economics? In short, to be better managers. Economics offers a framework that can simplify and improve managers' decisions. This is valuable for all managers. It is especially valuable for clinicians who assume leadership roles in healthcare organizations.

Managers are routinely overwhelmed with information, yet they lack the key facts that they need to make good decisions. Economics offers a map that makes focusing on essential information easier.

Exercises

- 1.1 Why is the idea that value depends on consumers' preferences radical?
- 1.2 Mechanics usually have better information about how to fix automobiles than their customers do. What problems does this advantage create? Do mechanics or their customers do anything to limit these problems?
- 1.3 A mandatory health insurance plan costs \$4,000. One worker earns \$24,500 in employment income and \$500 in investment income. Another worker earns \$48,000 in employment income and \$2,000 in investment income. A third worker earns \$68,000 in employment income and \$7,000 in investment income. A premium-based system would cost each worker \$4,000. A wage tax-based system would cost each worker 8.5 percent of wages. An income tax-based system would cost each worker 8 percent of income. For each worker, calculate the cost of the insurance as a share of total income.

	Worker 1	Worker 2	Worker 3
E = Employment income	\$24,500	\$48,000	\$68,000
I = Investment income	\$500	\$2,000	\$7,000
P = Premium cost of insurance	\$4,000	\$4,000	\$4,000

Premium as a percentage of income = $P/(E + I)$

W = Wage tax cost of insurance = $0.085 \times E$

Wage tax cost as a percentage of income = $W/(E + I)$

T = Income tax cost of insurance = $0.080 \times (E + I)$

Income tax cost as a percentage of income = $T/(E + I)$

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- 1.4 Which of the plans in exercise 1.3 would impose the largest burden on those with incomes under \$25,000: a mandatory insurance plan financed through premiums, through the income tax, or through a payroll tax?
- 1.5 Which of the plans in exercise 1.3 would be the fairest?
- 1.6 Which of the preceding questions can you answer using positive economics? For which of the preceding questions must you use normative economics?
- 1.7 The following table shows data for Australia, the United Kingdom, and the United States.
 - a. How did female life expectancy at birth change between 2010 and 2018?
 - b. How did expenditure per person change between 2010 and 2018?
 - c. What conclusions do you draw from these data?
 - d. If you were the “manager” of the healthcare system in the United States, what would be a sensible response to these data?

	Life Expectancy (Years)		Expenditure per Person	
	2010	2018	2010	2018
Australia	81.8	82.8	\$3,893	\$4,965
United Kingdom	80.6	81.3	\$3,281	\$4,290
United States	78.6	78.7	\$8,559	\$10,637

Source: Data from OECD (2021).

Note: Expenditure per person has been translated into US dollars and adjusted for inflation.

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