ECONOMICS OF HEALTH AND MEDICAL CARE

SIXTH EDITION

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Contents

New to This Edition

Throughout the 6th edition, data have been updated to reflect changes that have occurred in the economy and in the healthcare system. Also, the bibliographies at the end of each chapter have been updated and expanded, providing additional resources for the users. The glossary at the end of the book has also been updated and expanded to incorporate new and additional terminology in health care, as well as provide additional definitions of basic economic terminology.

The Medicare program has been expanded, and so additional information on the new Part C and Part D components of Medicare have been included, as has discussion of the conversion of the original Diagnosis-Related Group (DRG) classification system to the new Medicare Severity Diagnosis Related Groups (MS-DRG) system. The information on Medicaid has been updated to incorporate the implications of healthcare reform on the programs and on the states. High-risk pools have been incorporated into the discussion of insurance, and the discussion of employer-based insurance has been expanded. A section on the theory, conditions, and role of insurance markets has also been included, along with an expanded discussion of moral hazard, including Nyman's model.

On the topic of demand, additional information has been included on normal and inferior goods, expectations, and on substitution effects. In addition, the implications of being uninsured have been included and additional discussion of rationing was added. On the topic of supply, the type of ownership relative to its performance is now included. The terms *not-for-profit* and *for-profit* have been replaced with the terms *tax-exempt* and *investor-owned*, respectively, to transition to current use in the field.

With respect to provider payment, a discussion of critical access hospitals is included, as is an analysis of the shift to nonpatient revenues and the factors impacting the shift. The type of ownership relative to performance is also discussed. The impact of the Patient Protection and Affordable Care Act of 2010 on bundled payments is included, and the discussions on capitation and salaried physicians were expanded. Discussion of the DRG payment system for hospitals, including an example of calculations, Resource-Based Relative Value Scale (RBRVS) payment system for physicians, and Resource Utilization Groups IV (RUGs-IV) system for long-term care are included. A discussion of Medicare's pay-for-performance program has also been included.

The previous chapter on economic evaluation of health services has been moved up in the text to introduce the concepts and methods of economic evaluation earlier to the student. The chapter now includes a section on the steps in performing any economic analysis, and the Incremental Cost-Effectiveness Ratio (ICER) method of evaluation is included. There is also expanded discussion on the net–benefit approach and the benefit–cost ratio approach, as well as a discussion of life tables.

A new chapter has been added at the end, examining the evolving issues in health care. A number of current issues are introduced and their implications for efficiency in the production and consumption of healthcare services are mentioned in more detail. The impact of focusing on value-added services in health care is described, as is the potential implications of the healthcare system incorporating consumer engagement in the delivery of care.

Acknowledgments

I would like to thank the authors of the previous editions, Philip Jacobs and John Rapoport, for allowing me to revise and update their book. The organization and structure of the earlier edition provided a strong base for this edition.

I would also like to thank two staff members who converted my writing and additions into a polished manuscript for submission. Thank you Veronica Kramer and Margaret Rossano for your assistance on this undertaking, especially during the changes occurring in our department.

About the Author

Lanis L. Hicks, PhD, Professor and Associate Chair in the Department of Health Management and Informatics, University of Missouri, School of Medicine, is a health economist. Her research interests are rural health, workforce requirements, and economic evaluations. She has focused on evaluating the cost-effectiveness of technologies in the delivery of health care, evaluating the economic impact of healthcare policies, and has been involved with a multidisciplinary team identifying and evaluating measures of quality in nursing homes and the relationship between cost and quality. Currently, she is Principle Investigator and Director of the Missouri Health Information Technology Assistance Center, which provides assistance to healthcare professionals and hospitals to enable them to adopt, implement, and achieve meaningful use of electronic health records. She has been on faculty at the University of Missouri since 1978. In recognition of her contributions, Dr. Hicks was the recipient of the 1999 National Rural Health Association's Distinguished Researcher award.

Introduction

This book is an introduction to the economic approach to understanding healthcare issues and problems. The approach is based on the identification of scarcity as a major cause of many of today's healthcare problems. Scarcity can be defined as a deficiency in the quantity and/or quality of available goods and services compared with the amounts that people desire. Perhaps the most glaring deficiency in the United States today is the lack of health insurance coverage on the part of roughly 50 million people, many of whom consequently have difficulty obtaining adequate care, especially primary care. Although there are others as well who have inadequate access to care, the size of the uninsured population has become a bellwether of the access problems in the U.S. healthcare system.

Yet the fundamental difficulty is not merely that there is "not enough" to go around. Side by side with problems of scarcity are problems of "too much." In 2010, total expenditures on health care in the United States reached over $2.6 trillion, over 7.5% of the gross national product (GNP), the dollar sum of all final goods and services produced. In 1965, healthcare expenditures were only 5.6% of the GNP. Included in these expenditures are high-cost services whose impact on health has been questioned, including large-volume "little ticket" items, such as radiographs and lab tests, which make up about a quarter of all hospital costs (Angell, 1985); high-cost procedures, such as coronary artery bypass grafting and transplants, costly intensive care services, and new drugs, whose effectiveness is often still undocumented; and some hospital services for the terminally ill, which consume a disproportionate share of the healthcare dollar (Zook and Moore, 1980; Long, et al., 1984). A number of commentators have asserted that a considerable amount of "flat of the curve" medicine, that is, medical care that produces little or no improvement in health, is being practiced (Enthoven, 1980). Accusations of "too much," when uttered side by side with cries of "not enough," point to the importance of studying the entire resource allocation process in health care.

Economics is the science that deals with making choices and the consequences of resource scarcity; health economics addresses the consequences of resource scarcity in the healthcare industry. Because of its broad scope,

economics does not provide a body of rigid doctrines about scarce resources. Rather, economics offers an overall viewpoint intended to help in understanding the many problems related to various types of scarcity.

This book focuses on how to *do* economics; that is, how to think about economic problems in a systematic way. It divides the discipline into three separate areas, which can be regarded as the three main tasks of economics: description, explanation, and evaluation. The exposition of these tasks in a health context is the objective of this book; the performance of these tasks should be regarded as the objective of the reader.

Accomplishing these tasks involves asking specific questions and searching for answers to them. It should be stressed that searching for relevant questions is as critical a part of the process of analyzing economic problems as searching for answers. By formulating a problem in the context of scarcity, a deeper understanding of it can be obtained, and discovery of a solution or a means of accommodation might be the end result.

THREE MAJOR TASKS OF ECONOMICS

The three major tasks of economics covered in this book—description, explanation, and evaluation—will usually not be performed in isolation from one another. Rather, descriptive economics will be used to complement explanations and evaluations of events. But even though these tasks may be intermingled in economic analysis, the specific task being performed should be kept clearly in mind.

Descriptive Economics

Description involves the identification, definition, and measurement of phenomena. By performing this task, we obtain some notion of existing facts. It should be pointed out that this task basically amounts to fact-finding. There is, at this stage, no explanation of why the facts are what they are and no evaluative pronouncement or judgment. Of course, the selection of which phenomena to describe is usually motivated by an ultimate explanatory or evaluative purpose.

For example, the statement that, in 2008 Americans 65 years and older visited physicians' offices 6.9 times per year on average, while those in the 18- to 44-year-old age group paid 2.2 visits per year (National Center for Health Statistics, 2011), falls within the realm of description.

Explanatory Economics

The second task of economics is explaining and predicting certain phenomena. This task involves conducting a cause-and-effect analysis. In undertaking such a task, we are moving one step beyond description; we are now identifying the causes of certain events that have occurred. This task is performed with the aid of models that classify various causal factors (assuming there is more than one) in a systematic framework. Based on this framework, hypotheses are developed about the net effect of each causal factor on the

phenomena we want to explain. We do not do any further analysis at this stage. That is, we do not pass judgment on whether the phenomena we have observed are present in the desired amounts.

As an example of an explanation, suppose we want to determine why those in the 65-year-old and above age group utilized more medical care than those in the 18- to 44-year-old age group. First, we would develop a framework that incorporates the major causal factors relevant to this phenomenon. Let us say that our framework contains two essential causal factors: (1) the health status of each group and (2) the price paid by the members of each group for their medical care. Using these causal factors, we might then hypothesize that quantity of medical care demanded will increase when health status is lowered and when consumers pay less for their medical care. These causal factors relate to our example because (1) the health status of the older group is lower and (2) government-sponsored health insurance for the elderly reduces the amount the older group pays for medical care. Assuming these facts to be true, our hypothesis would predict that the older group will demand medical care in greater quantities. Should these increased quantities also be available, then the older group will utilize more medical care.

Evaluative Economics

The third task of economics is evaluation. This task involves judging or ranking alternative phenomena according to some standard or relative position of alternatives. An acceptable standard is chosen, then used to rank alternative ways of distributing scarce resources. In choosing the standard, one major criterion is acceptability. Standards are easy to come by; however, many are controversial, and the standard chosen should have some degree of acceptability.

Alternative quantities of economic variables can be evaluated using a standard; that is, alternative uses of scarce resources. For example, if we choose a standard that says that the more medical care one has the better off one is, then, according to this standard, the older group in our example is better off than the younger group. Furthermore, any measure that raises the utilization of the younger group (by lowering the price paid by this group and by increasing the resources available for use by this group) would, according to our standard, improve the well-being of the younger group (Hemenway, 1982). Evaluative economics is also used to compare alternative uses of resources in order to achieve an identified goal or to allocate resources more efficiently in the achievement of alternative goals.

TOOLS USED IN ECONOMIC ANALYSIS

Several tools are used in economic analysis. One general tool is graphic analysis. The purpose of graphic analysis is to illustrate relationships among economic variables. Also helpful are models that allow us to draw inferences about the relationships we might expect to occur when specific underlying conditions are present. Such tools help us to be explicit about the underlying factors that are present in the workings of the resource allocation process.

Economic Variables

An economic variable is an economically relevant phenomenon whose value or magnitude may vary. Examples of economic variables include prices, costs, incomes, and quantities of commodities. An economic variable can be measured along a scale, once appropriate units of measurement have been chosen. For example, price can be measured in cents or dollars per unit, and quantities can be expressed in terms of number of visits, number of hospital days, number of hospital beds, and so on. Two examples of units of measurement are shown in **Figure I-1**. Along the vertical axis, values of the price of medical care are shown. The price per visit to a physician, which is the economic variable being examined, is expressed in terms of dollars. Along this axis, the price can be 0, 100, 200, 300, and so on.

Along the horizontal axis are alternative values of the quantity of visits to a physician's office. These are measured in terms of number of visits.

Relationship Between Economic Variables

The next step, after the identification and measurement of economic variables, is to determine the relationship between these variables. The relationship shows how one variable changes with respect to another variable.

These relationships can be causal or noncausal. For example, we can state that one variable (total healthcare costs) has increased, while another

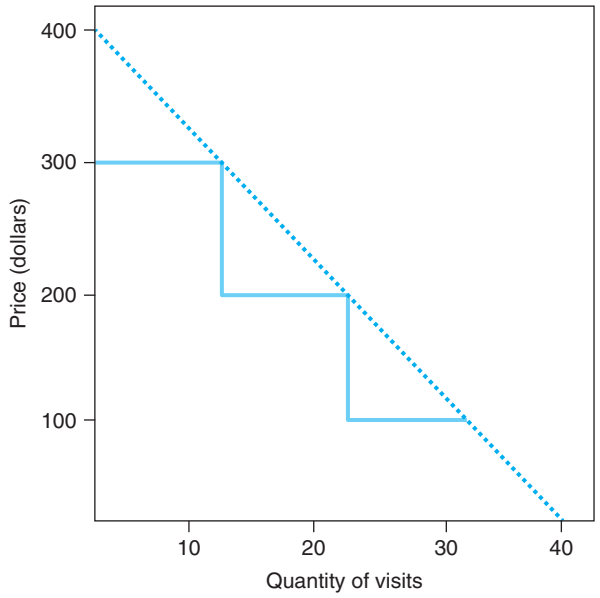

Figure I-1 Relationship Between Price and Quantity of Visits. The dashed line shows continuous values, and the solid line shows discrete values.

variable (time) has also increased. This is an example of a noncausal relationship, because it is not time itself that has caused the costs to increase. As time has passed, other influencing variables have changed, and these have caused the healthcare costs to increase.

In a causal relationship, when the value of one economic variable changes, the value of a second economic variable also changes as a result. For example, if the price falls for a visit to the doctor, the lower price causes more visits to be demanded. Causal relationships are usually expressed in the form of hypothetical statements (e.g., "If price falls, then the quantity demanded will increase").

Graphic Representation of Relationships

Let us start with a simple relationship between price and quantity of visits: When the price is $400, the quantity of visits is 0; when the price is $300, the quantity of visits is 10; when the price is $200, the quantity of visits is 20; and when the price is $100, the quantity of visits is 30. Associated with each price is a specific quantity: 0 visits with $400, 10 visits with $300, and so on. Each of the associations can be represented by a point, as shown in Figure I-1. All these points together form the relationship. If we knew only these values, we could draw this relationship diagrammatically as the solid line in Figure I-1. This solid line is known as a step function and relates only to the values specified. However, we could go further and generalize about the nature of our function by saying that the values between $0 and $100 (or $100 and $200) and between 0 and 10 visits (or 10 and 20 visits) could also be specified as part of the relationship. We could draw a continuous curve joining all the points specified in the relationship in order to represent the values not explicitly expressed, such as $155, 5 visits, and so on (consider the dashed line in Figure I-1). Once we have drawn a continuous curve, we have a more complete specification of the relationship between price and quantity. Any value of price, within our specified ranges, has an associated quantity of visits.

The Direction of Relationships

We can now be more specific about the nature of the relationship between the two variables. The first characteristic to be examined is the direction of the relationship. A relationship can have four possible directions, as shown in **Figure I-2**. First, the relationship may be positive, as shown by curve *B*. Here higher values of price are associated with higher values of quantity of visits. If there was a causal relationship between them, and if the direction of causation ran from price to quantity, we would hypothesize that as price increases, so does quantity. The opposite type of relationship is shown by curve *D*. The relation is a negative—the greater the price, the smaller the quantity. Thus, higher values of price are associated with lower values of quantity of visits. The remaining cases show where variables are unrelated. For curve *C*, whatever the quantity of visits, the price stays the same (i.e., $200). Curve *A* shows that the quantity of visits will remain the same (i.e., 30 visits) no matter the price.

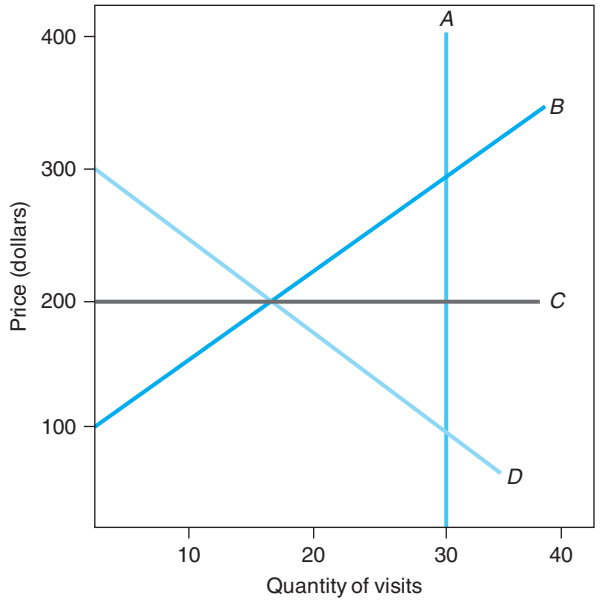

Figure I-2 Direction of Relationships: Curve *A*, constant quantity of visits for all prices; Curve *B*, price and quantity positively related; Curve *C*, constant price; and Curve *D*, price and quantity negatively related.

The Slope of Relationships

The slope of a geometric relationship shows how much of a change in one variable is associated with a given change in a related variable. In causal terms, slope can be expressed as the magnitude of response. Several examples are shown in **Figure I-3**.

Curve *F* touches the price axis where the price equals $200. This price is associated with a quantity of visits of 0. If we raise the price by $50 to a level of $250, the associated new quantity of visits is 10, as shown by *F*. A $50 increase in the price is associated with a 10 visit increase in quantity. The slope of *F* is thus 50/10 with regard to the quantity axis (or 10/50 with regard to the price axis). Because *F* is a straight line, the slope remains constant at every point on the line. (Some nonlinear relationships are presented later.)

Line *E* also has a positive slope. As can be seen in Figure I-3, *E* shows a greater change in price associated with a given change in quantity than does *F*. From the initial price of $200 and 0 visits, a quantity change of 10 visits is associated with a price change from $200 to $300. The slope is thus 100/10 with regard to the quantity axis (or 10/100 with regard to the price axis). Comparing *E* and *F*, we can say that for the same quantity change, the price change in *E* must be double that in *F*.

Lines *G* and *H* can be regarded in a similar manner, but now the direction of these relationships is such that a higher price is associated with a lower

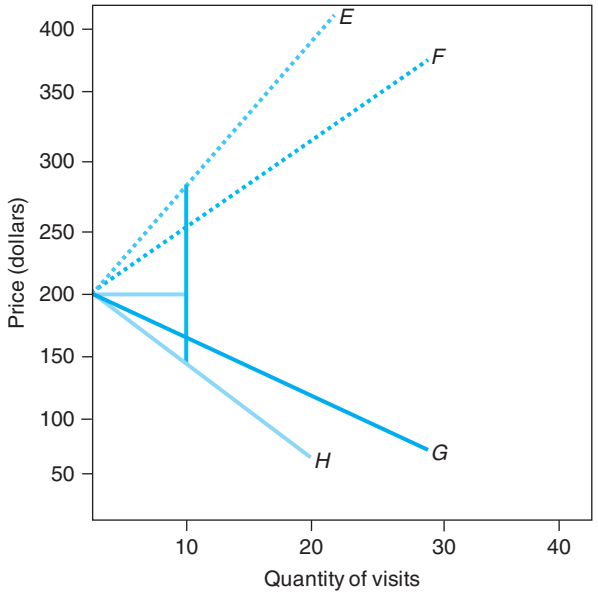

Figure I-3 Slope of Relationships. In relationship *E*, the price increases more than in relationship *F* for a given increase in quantity. In relationship *H*, the price decreases more than in relationship *G* for a given increase in quantity.

quantity. In the relationship represented by line *G*, a fall in price of $50 is associated with an increase in quantity of 10 visits. The slope is, thus, the same as the slope of *F*, but in the opposite direction. Line *H* shows a change in price of $100 associated with a quantity change of 10—the same as line *E*, except the slope is in the opposite direction. Where the two variables change in the same direction (as occurs in curves *E* and *F*), the slope is considered to be positive; where the change is in the opposite direction (as occurs in lines *G* and *H*), the slope is considered to be negative.

The Position of Relations

The next characteristic of a relationship is its position. In **Figure I-4**, two lines, *J* and *K*, are shown with similar slopes but different positions. Each line exhibits a $100 change in price associated with a change of 10 visits. Line *J* shows no visits at a price of $300, 10 visits at a price of $200, and so on. By comparison, *K* shows 10 visits at a price of $300, 20 visits at a price of $200, and so on. The essential point of this figure is to show how the two lines are positioned with respect to each other. Line *K* is higher than *J* in the sense that, at any specific price, the related quantity of visits for *K* is greater than the related quantity for *J*.

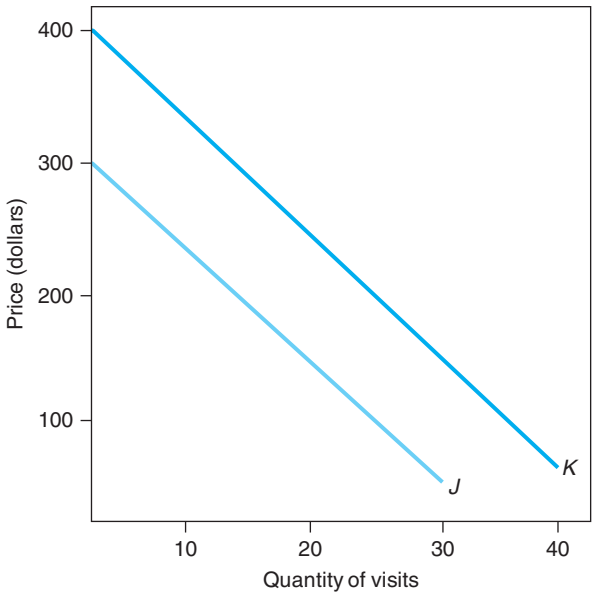

Figure I-4 Position of Relationships. *K* shows a greater quantity of visits than *J* for any given price.

The Shape of Relationships

The examples so far have involved only linear relationships, in which the change in one variable with regard to a given change in another variable is fixed. This is not the only type of relationship, however. Sometimes we also encounter nonlinear relationships. For this type of relationship, the magnitude of the response will vary along the curve. Lines *L* and *M* in **Figure I-5** are both nonlinear relationships.

M indicates the correspondence between the total cost of production of lab tests and the number of tests produced. At a quantity of 0, the total cost is $10; at a quantity of 1, it is $11; at a quantity of 2, it is $14; and at a quantity of 3, it is $19. The slope of the relationship changes as more lab tests are produced. For the first test, the slope is such that a $1 change in cost is associated with a change of one lab test. The next change of one lab test is associated with a $3 change in cost, and the next with a $5 change in cost. The slope with reference to the lab test axis increases as the number of lab tests increases. *M* is a smoothed-out version of this relationship.

Line *L* shows declining slopes with increasing production. A total cost of $0 is associated with a 0 level of output. An output level of 1 is associated with a cost of $5, an output level of 2 is associated with a cost of $8, and an output level of 3 is associated with a cost of $9. The slope of the relationship between 0 and 1 units of production, with regard to the production axis, is 5/1; for the next unit of production, it is 3/1; and for the next it is 1/1.

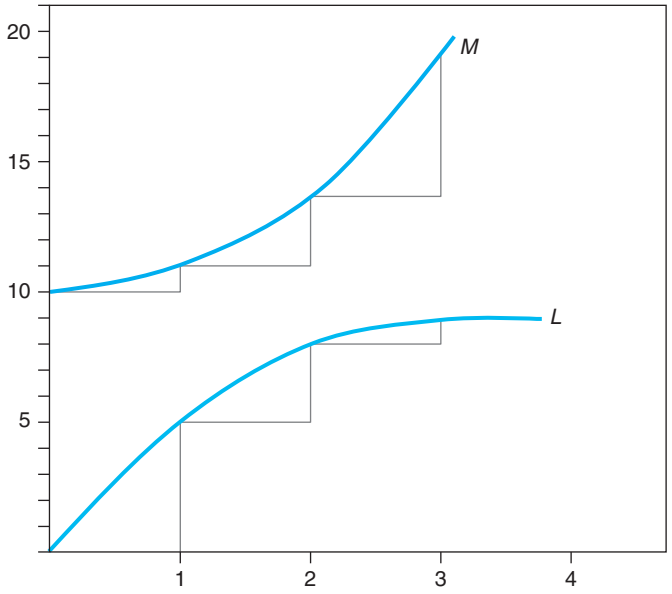

Figure I-5 Shape of Relationships. *M* shows higher additional costs at successively higher levels of lab tests produced. *L* shows lower additional costs at successively higher levels of tests.

The Nature of Economic Propositions

Many statements in this book regarding the resource allocation process in the healthcare field are basically attempts to spell out the consequences of certain conditions. The propositions are hypothetical statements of the form "if . . . then . . . "

For example, we might claim that if certain conditions *x, y,* and *z* hold, then, as a consequence, phenomenon *q* will occur. In making this statement, we essentially make a prediction of what will cause the phenomenon we want to explain. The "if" portions of these statements are called *conditions* or *assumptions*; the "then" portions are *conclusions*, *implications*, or *predictions*.

As an example, let us form a model to explain how much medical care an individual will demand. Our model contains initial assumptions. The first, A1, is that the price of medical care charged to an individual is $5 per visit; this $5 includes all services provided by the doctor, including transfusions, intravenous feedings (should they be needed), and so on. The second assumption, A2, states that the individual has a weekly income of $100 that can be spent on any of a number of goods and services. This assumption brings the example within the realm of economics, since scarcity is now introduced. The third assumption, A3, is about the behavior of the individual; the individual has as an objective the consumption of medical care only; he does not want to consume any other good or service. We also assume that this is entirely feasible.

If the individual does not consume food, for example, he would begin to starve and have to visit a physician, where, for a fee of $5, he could receive nutrition intravenously.

What are the implications of these assumptions? The main implication is that the individual will consume 20 physician's office visits. Given his economic situation, this is all he can afford to consume, and given that he wants only medical care and can survive by consuming this service, then he will not consume less than 20 visits. This implication is a prediction of our model; the prediction is based on the initial conditions or assumptions of the model. Predictions are derivatives of the assumptions and can be regarded as the consequences that would result if the assumptions were to hold.

Let us now replace one of our initial assumptions, A1, with the assumption that the price of medical care is $1 per visit. Now our model implies that the quantity of visits will be 100. With a fall in price, the quantity demanded will increase. This is a prediction of our model when we consider all the assumptions and do a comparative analysis.

We can also predict the consequences that would result if the individual's income increases. Suppose we replace assumption A2 with the assumption that the individual's weekly income is $110. This new assumption, coupled with the original assumptions A1 and A3, yields the conclusion that the quantity of visits demanded will increase. By performing a comparative analysis of the original conditions and the new conditions, we can conclude that an increase in income will lead to an increase in the quantity of medical care demanded.

The mere predicting or deriving conclusions about the resource allocation process is not the end of our task, however. Our conclusions are implications about what would result if the assumptions we have posited in the model are adequate approximations of the conditions that exist in reality. In explanatory economics, implications are tested against actual data to see if what we predicted actually does occur. The true test of an explanatory model is how well it explains or predicts actual phenomena. In evaluative economics, our task is somewhat different—we compare the actual against the ideal set of events. Nevertheless, whether we are deriving explanatory or evaluative principles, we put our propositions into a logical form that allows us to incorporate a number of variables into our analysis simultaneously.

OUTLINE OF CONTENTS

This book introduces the analysis of healthcare economics in the context of the three tasks mentioned above: description, explanation, and evaluation. Part I, which consists of Chapters 1 and 2, describes the economic dimensions of the healthcare field. Part II, consisting of Chapters 3–11, presents explanatory analyses of a number of health-related issues. Part III, which consists of Chapters 12–18, develops evaluative analyses of several important aspects of healthcare resource use. The analyses in the book focus on three distinct markets: the medical care market, the health insurance market, and the labor market. Throughout the book, tools are developed to analyze the economic behavior of all three markets.

Chapter 1 contains a discussion of the output of the healthcare sector. Three types of output are identified: (1) health care, which consists of activities designed to improve health; (2) health itself; and (3) health insurance coverage. Types of input, such as the hiring of healthcare personnel, are also discussed. Measurements of each type of output are presented. In Chapter 2, economic dimensions of the healthcare sector are identified and some measures of these dimensions are presented. In particular, economic flows of the various components of the healthcare system are described, and the concept of cost is analyzed.

Chapter 3, the first explanatory chapter, develops a model to explain the demand for medical care by consumers. A number of separate factors are identified as influences on the demand for medical care. These are incorporated into a single model that allows us to predict the effects of each factor when all other relevant factors are held constant. In this chapter, the demand for medical care is presented as if medical care were an ordinary commodity in the consumer's budget.

However, medical care has several characteristics that, when combined, warrant special treatment. These include the importance of medical care in influencing health status, uncertainty when illness occurs, people's concern about others' health status and healthcare consumption, and the asymmetry in the medical knowledge possessed by providers and consumers. In Chapter 4, a number of these characteristics are introduced and analyzed in light of the standard model developed in Chapter 3.

Chapters 5–7 focus on the behavior of healthcare providers, such as physicians, hospitals, and laboratories. Chapter 5 discusses the relationships between resource use and output, quality of care and output, and cost of care and output. All these relationships are examined with regard to each individual provider. Chapter 6 presents an analysis of the supply behavior of individual providers and of groups of providers (i.e., market supply). The behavior of investor-owned providers and the behavior of tax-exempt providers are treated separately because tax-exempt and government providers play such an important role in the healthcare field. The chapter also considers a model of the supply behavior of health insurers as well as a model of the demand for labor (which is based on the supply model). Chapter 7 deals with one important aspect of supply analysis—provider payment. In health care, there are many examples of providers being paid by a third party (an insurer or the government). The important economic concept of the principal–agent relationship is introduced and is used to analyze alternative payment schemes for physicians, hospitals, long-term care providers, and health maintenance organizations.

Chapter 8 examines a standard textbook explanation of how the market resource allocation process works. This is the competitive market model, which has drawn a good deal of attention recently. Included in this chapter is an exposition of a phenomenon that has received considerable attention in health economics: supplier-induced demand. Not all market behavior is competitive. Chapter 9 looks at the concept of market power, how it is acquired by suppliers and demanders, and how its acquisition affects market phenomena (e.g., prices, quantity, and quality of output).

Chapters 10 and 11 consider two types of markets whose functioning is closely tied to health care. Chapter 10 describes the market for health insurance, and Chapter 11 presents an analysis of the labor market and of several variants of this market that are associated with health care.

The third part of the book focuses on evaluation and health policy issues. There is a great deal of controversy over whether healthcare markets can ensure that health care is delivered efficiently to consumers. One way to study this issue is to gauge whether specific interventions improve health status in an efficient way. Benefit-cost and cost-effectiveness analyses are two techniques by which we can judge the economic impact of various interventions and policies on health status. Chapter 12 offers an introduction to these tools.

Chapter 13 introduces the topic of evaluation by identifying several alternative standards that have been used in evaluating resource use in the healthcare field. These standards include efficiency and equity. Two frameworks used to evaluate efficiency are presented: the narrower efficiency framework and the broader "extra-welfarist" framework. A set of specific goals for the healthcare system is derived from these welfare analyses.

Chapter 14 discusses alternative types of healthcare finance, such as out-of-pocket payment, health insurance, and taxation. It uses economic models to identify the burden of each type of financing.

Chapter 15 discusses two major public insurance programs, Medicare and Medicaid. It presents specific policy problems and, using the explanatory economic models developed in Chapters 3–11, evaluates the effects of policy measures in light of specific policy goals.

Chapter 16 focuses on methods to reform health insurance and healthcare markets. It discusses various proposals for restructuring the health insurance market so that the preferred risk selection of the health insurers might discriminate less against high-risk individuals, thereby increasing the equity of these markets. Chapter 16 also introduces the emerging concept of "consumerism."

The role of government policy in influencing the performance of the healthcare market is the topic of Chapter 17. Two views of regulation are presented there. According to the first, the public-interest approach, the government establishes regulations to ensure that providers act in the public interest. Evidence of the effectiveness of this approach has not been very convincing. The second view of regulation is based on a wider picture of the market. According to this view, the government is a participant in a marketplace that encompasses both the suppliers and demanders of the exchanged product as well as politicians and regulators. In this marketplace, various regulations and laws that have an impact on the supply–demand situation are "traded." The market outcome is thus influenced by regulation. Faced with discontent over the results of traditional market regulation, some observers have proposed that the medical market should be reshaped in the competitive mold. Also included in Chapter 17 is an analysis of antitrust regulation, a topic of considerable policy interest in recent years.

Chapter 18 includes a brief overview of some of the most important issues facing the healthcare industry in today's environment and the implications of these issues for the efficient functioning of the healthcare system.

HOW TO USE THIS BOOK

There is a considerable amount of material in this book, much more than might be included in a typical introductory course in healthcare economics. As a rough guide, a typical student without any prior economics background should be able to cover a chapter a week. In a 14-week course, perhaps 13 chapters could be covered comfortably. Although more advanced students could handle more, instructors will probably want to be selective in covering the subjects.

This book could be used as the main text for a basic healthcare economics course for public health students as well as for a similar course in which the emphasis is more on health policy, management, and finance. Our suggestions for coverage in each kind of course are listed below.

At the end of each chapter, we have provided a set of questions and problems. The student is encouraged to work through these problems, as it is easier to learn and retain the material by doing actual problems and testing yourself. At the end of the book, we provide the answers to odd-numbered problems. The answers to the other problems are contained in the instructor's manual.

Orientation	**Chapters**
Public health	1–6, 8–9, 11–14, 17
Health finance, management, and policy	1–10, 12–13, 15–16

BIBLIOGRAPHY

Aaron, H. J. and Schwartz, W. B. (1984). *The painful prescription*. Washington, DC: Brookings Institution.

Aaron, H. J. and Schwartz, W. B. (1990). Rationing health care: the choice before us. *Science*, *247*:418–422.

Angell, M. (1985). Cost containment and the physician. *JAMA, 253*:1203–1207.

Arrow, K. H. (1972). Problems of resource allocation in United States medical care. In Kunz, R. M. and Fehr, H. (Eds.). *The challenge of life*. Basel, Switzerland: Birkhauser-Verlag.

Brook, R. H. (2010). What if physicians actually had to control medical costs? *JAMA, 304*(13):1489–1490.

Core, J. E. and Donaldson, T. (2010). An economic and ethical approach to charity and to charity endowments. *Review of Social Economy*, *68*(3):261–284.

Culyer, A. J. and Newhouse, J. P. (2000). *Handbook of health economics*. Vol. 1A and 1B. Amsterdam, Netherlands: Elsevier Publishers.

Debrand, T. and Dourgnon, P. (2010). Building bridges between health economics research and public policy evaluation. *Expert Review of Pharmacoeconomics & Outcomes Research, 10*(6): 637–640.

Dranove E. (2000). *The Economic Evolution of American Health Care*. Princeton, NJ: Princeton University Press.

Earl-Slater, A. (1999). *Dictionary of health economics*. Abingdon, England: Radcliffe Medical Press.

Enthoven, A. C. (1980). *Health plan*. Reading, MA: Addison-Wesley.

Evans, R. G. (1984). *Strained mercy*. Toronto, Canada: Butterworths.

Fein, R. (2010). Values in health policy and health services research. *Health Services Research, 45(*3):851–870.

Feldstein, P. J. (2005). *Health economics*. (6th ed.). Clifton Park, NY: Thomson Delmar Learning.

Folland, S., Goodman, A. C., and Stano, M. (2009). *Economics of health and health care*. (6th ed.). Upper Saddle River, NJ: Prentice Hall.

Fuchs, V. (1998). *Who shall live? Health, economics, and social choice*. Singapore: World Scientific Publishing Company, Ltd. E. Sons.

Getzen, T. E. and Allen, B. H. (2007). *Health economics*. New York: John Wiley.

Greenberg, M. and Lowrie, K. (2010). Kenneth J. Arrow: understanding uncertainty and its role in the world economy. *Risk Analysis*, *30*(6): 877-880.

Hemenway, D. (1982). The optimal location of doctors. *New England Journal of Medicine, 306*:397–401.

Hicks, L. (2011). Making Hard Choices: Rationing Health Care Services. *The Journal of Legal Medicine, 32*:27–50.

Jack, W. P. (2000). *Principles of health economics for developing countries*. New York, NY: Oxford University Press

Littenberg, B. and Newhauser, D. (1981). To hell with economics? *American Journal of Public Health, 71*:363–365.

Long, S. H., Gibbs, J. O., Crozier, D. I., et al. (1984). Medical expenditures of terminal cancer patients during the last year of life. *Inquiry, 21*:315–327.

McPake, B. and Normand, C. (2008). *Health Economics: An International Perspective*. (2nd ed.). New York: Taylor and Francis.

Mooney, G. H., et al. (1986). *Choices for care*. (2nd ed.). London, England: MacMillan Press.

Mooney, G. H. (1994). *Key issues in health economics*. New York, NY: Harvester Wheatsheaf.

National Center for Health Statistics. (2011). Health, United States, 2010: With Special Features on Death and Dying. Hyattsville, MD: U.S. Department of Health and Human Services.

Reinhardt, U. (1985). Future trends in the economics of medical practice and care. *American Journal of Cardiology, 56*:50C–58C.

Reinhardt, U. (1987). Resource allocation in health care. *Milbank Quarterly, 65*:153–176.

Rice T. and Unruh, L. *The Economics of Health Reconsidered*. (3rd ed.). Chicago, IL: Health Administration Press.

Sacristan, J. A., Costi, M., Valladares, A., and Dilla, T. (2010). Health economics: the start of clinical freedom. *BMC Health Services Research, 10*:183.

Senterre, R. E. and Neun, S. P. (2007). *Health economics*. (5th ed.). Mason, OH: South-Western Cengage.

Weisbrod, B. (1975). Research in health economics: A survey. *International Journal of Health Services, 5*:643–661.

Weisbrod, B. A. (1991). The health care quadrilemma: An essay on technological change, insurance, quality of care, and cost containment. *Journal of Economic Literature*, *29*:523–552.

Wilensky, G. R. (2010). Health economics. *Studies in Health Technology & Informatics*, *153*:179–193.

Zook, C. and Moore, F. D. (1980). High cost users of medical care. *New England Journal of Medicine, 302*:996–1002.