



# *Essentials of* Health Economics

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# Dedication

*To the two most influential women in my life:  
The mother who raised me and the sister who inspired me.  
Elizabeth W. Dewar  
Christina E. Clothier*





# Acknowledgments

As the sole author of this book, I take full responsibility for its contents. However, a project of this size could not be completed by a single person. I owe a great deal to my colleagues in the Writer's Club at the School of Public Health at the University at Albany, for their patience and constructive criticisms of the earlier drafts of this work. Also, the support of the other authors in the *Essential Public Health Series*, as well as the Series Editor, Richard Riegelman of The George Washington University, who gave me the inspiration to complete the project. I am additionally appreciative of the anonymous reviewers' comments. They were all invaluable in the book's development.

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## ABOUT THE EDITOR:

Richard K. Riegelman, MD, MPH, PhD, is Professor of Epidemiology-Biostatistics, Medicine, and Health Policy, and Founding Dean of The George Washington University School of Public Health and Health Services in Washington,

DC. He has taken a lead role in developing the Educated Citizen and Public Health initiative which has brought together arts and sciences and public health education associations to implement the Institute of Medicine of the National Academies recommendation that “. . .all undergraduates should have access to education in public health.” Dr. Riegelman also led the development of George Washington’s undergraduate major and minor and currently teaches “Public Health 101” and “Epidemiology 101” to undergraduates.



# Prologue

Money talks and we need to listen if we are going to improve our health system. To understand what is being said, students in public health, health administration, clinical health professions, as well as undergraduates trying to understand these fields, need to appreciate the basic principles of economics and their applications.

*Essentials of Health Economics* provides a step-by-step approach to appreciating the key principles and applications of economics. This book introduces you to the principles of economics as they apply to health systems. It then applies these principles to current issues of health care and public health. You come away with the tools and concepts you need to understand the debates about the future of our health system.

Dr. Dewar's style is approachable and intuitive. It does not require complicated mathematical formulae and emphasizes common sense explanations. It does not require previous courses in economics or mathematics. It does require an interest in understanding how the world really works and how we can use principles of economics to improve our health system. You will take away an enduring understanding that will serve you well whether you become a public health professional, a healthcare administrator, a clinician, or an educated and interested citizen.

I am pleased that *Essentials of Health Economics* has joined our *Essential Public Health* book series. It complements our growing list of books designed to cover the spectrum of introductory courses to help students understand and hopefully improve our health system.

Health economics is not the dismal science that once described economics. It is an everyday tool that will help you find your way through the maze of public health and healthcare issues. Give it a try—it's well worth your time.

Richard Riegelman, MD, MPH, PhD  
Series Editor





# Preface

This book addresses the important economic and public health policy issues that serve as the background for the healthcare debate concerning access to a healthcare system dominated by managed care.

The primary goals of this book are to enable undergraduate students to:

1. recognize the relevance of economics to health care and to apply economic reasoning to better understand health care and health-related issues
2. understand the mechanisms of healthcare delivery in the United States and other countries within broad social and economic contexts
3. explore the changing nature of health care, health-related technology, and workforce planning, and their implications for medical practice and public health policy
4. analyze public health policy issues in the healthcare sector from an economic perspective

To accomplish these goals, the book's 17 chapters are organized into the following six parts:

## What Is Health Economics?

The text begins with a basic overview of the United States healthcare system emphasizing economic issues that affect healthcare delivery and finance. Chapter 1 examines the main system level issues and the organization of the system. Chapter 2 demonstrates the usefulness of economics in understanding healthcare issues, including matters of life and death.

## Demand

Part II examines the demand side of the healthcare economy. Chapters 3 and 4 present the factors that influence the demands for health and health care. It explores the observed patterns in the quality and price of health care. Chapter 5 discusses the market for health insurance, including the private and social insurance models.

## Supply

Part III discusses various aspects of the supply side of the healthcare economy. Chapter 6 describes the factors that influence the production, costs, and supply of services. Chapter 7 presents the market for healthcare personnel, namely physicians and nurses, as well as the factors that influence the behavior of healthcare personnel. Chapter 8 explores the role of technological innovation and diffusion in the healthcare sector, and the reasons why technology is a major factor in the rising costs of health care.

### Healthcare Markets

Part IV examines the competitive market in Chapter 9, as well as the role of government interventions to correct for failures in the competitive market in Chapter 10.

### Issues in Health Economics

Part V discusses three aspects of the healthcare system: the role of socioeconomic factors in the demands on the healthcare system (Chapter 11), the significant impact of the hospital sector on the health economy (Chapter 12), and the current status of the biopharmaceutical industry (Chapter 13). All of these issues have a large impact on the actual growth of the health economy, as well as the perceptions of what is included in the growth of this sector.

### Evaluating the Healthcare System

This final part explores analytical methods of evaluation, as well as the role of healthcare reform in the attempt to contain costs in the healthcare economy. Chapter 14 presents the models for economic evaluation, and Chapter 15 compares the healthcare systems of the United States, Canada, Germany, the United Kingdom, as well as Singapore via a case study. Chapter 16 discusses healthcare reform motivations and initiatives at the state and national levels. Chapter 17 summarizes the major lessons learned from the economic approach to public health policy and makes recommendations for reform of the healthcare system.

### *Pedagogical Features and Level*

There is tremendous excitement in the healthcare field, such as the transformation of organizational arrangements, medical technology advances, the development of new healthcare financing mechanisms, and the evaluation of the healthcare system policies that lend themselves to economic analysis. This book takes a timely approach to the study of the public healthcare system through the lens of economics. Students and faculty will be able to grasp the importance and relevance of health economics, as well as how it relates to more general analysis of health policy issues, from numerous examples throughout the text. This book has widespread appeal among students of public health and health administration, since it conveys the essence of the economic issues at hand while avoiding complicated methodological issues that would interest only students of economics.

It is written with the nonspecialist in mind, while focusing on descriptive, explanatory, and evaluative economics in a systematic way. This book is accessible to undergraduates who do not have much prior knowledge of health economics or mathematics. It will be a useful introductory health economics text that does not require any other economics prerequisites. The text would be appropriate for students in the following areas: in a school of public health, as an introductory course in health economics in an economics department, in a medical, nursing, or pharmacy school, or in a health administration program.

Diane M. Dewar, PhD



# About the Author

Diane M. Dewar, PhD, is an associate professor in the Department of Health Policy, Management, and Behavior of the School of Public Health, and the Department of Economics at the University at Albany, State University of New York. She has over 15 years of teaching experience which includes graduate courses in health economics, health policy and economic evaluation methods, as well as undergraduate courses in microeconomics, macroeconomics, econometrics, health economics, comparative health policy, introductory sociology, and introductory psychology.

Professor Dewar received her PhD in economics from the University at Albany, with concentrations in health economics and econometrics. She is a recipient of the William Waters Research Award from the Association of Social Economists, received an honorable mention for the Aetna Susan B. Anthony Award for Research on Older Women from the Gerontological Section of the American Public Health Association, and is a member of the Public Health Honor Society, Delta Omega, Alpha Gamma Chapter. She has been a principal investigator or co-investigator on grants from the Agency for Healthcare Research and Quality, the Robert Wood Johnson Foundation, the Kaiser Family Foundation, and the Centers for Disease Control and Prevention. She is the past Chair of the National Fellowship Panel of the American Association of University Women, has served on Agency for Healthcare Research and Quality grant review study groups, and serves on the Health Economics Committee of the Medical Care Section of the American Public Health Association.

Professor Dewar has provided extensive service to the University community. She served on numerous departmental, school, and university committees, such as belonging to the departmental and university curriculum committees, chairing the School of Public Health Council, chairing the University Council on Promotion and Continuing Appointments, serving as a University Senate Chair, chairing the School of Public Health Student Affairs Committee, and working on an undergraduate minor in public health policy and economics. For these efforts, she is the recipient of the University at Albany Excellence in Academic Service Award, as well as the State University of New York Chancellor's Award for Academic Excellence.

Professor Dewar is also an ad hoc reviewer for journals that include: *Medical Care*, *Annals of Internal Medicine*, *CHEST*, and *Critical Care Medicine*. She has authored or co-authored many articles and book chapters regarding technology assessments for those with respiratory diseases, health insurance access, and the social economy of medical care. She is also a two-time recipient of letters of commendation from the *Annals of Internal Medicine* and *CHEST* for her service as a referee for those journals.

