

Understanding Public Health

Introduction to Health Economics

Second Edition

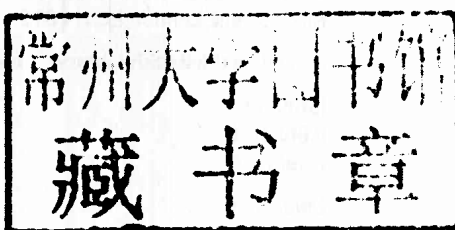


Edited by
Lorna Guinness & Virginia Wiseman

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Dedications

For John, Thomas and Theo

LG

I would like to dedicate this book to my parents, Kaye and Don, for their enduring support. I also dedicate it to my children, Franklin, Myrtle and Rose who have always reminded me of the importance of play as well as work. Finally, to my husband, Steve, who has the patience of a saint.

VW

The editors

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Introduction

Cigarette consumption among the young, access to anti-retroviral therapy for AIDS patients, the increasing prevalence of obesity, rising health care costs and international shortages of key health care workers are just some of the challenges facing public health policy-makers and practitioners at the start of the twenty-first century. Economics has a central role to play in helping resolve these problems.

This book will introduce you to economic techniques that can be used in public health. It will help you understand the specific features that distinguish demand for health care from demand for other goods and services. It will provide insight into the economic methods that are being used to promote public health policies, analyse health care delivery and shape health sector reforms. You will be better able to make use of information on the economic evaluation of health care interventions and you will better understand the strategic debates on the use of market elements to improve health service performance and the use of financial strategies to promote the health of the public.

As you read through this book, you will soon discover that economists like their jargon and that they do not always agree with each other! You will also discover that there is often a gap between theoretical concepts and political implementation. Moreover, economic policies that work in one country don't necessarily work in a different cultural context. This book does not shy away from such issues; instead emphasis is placed on evoking a critical understanding of issues by describing different views held on the subject, rather than imposing a single view. Throughout this book effort has been put into presenting relevant empirical evidence on each topic and providing case studies and examples that help to demonstrate how economic advice works in practice in low, middle and high income countries.

If you don't have a background in economics you may find the language economists use and the way they explain their theories challenging. Don't panic. This book tackles economic issues from first principles and has been designed for students who have no previous knowledge of economics. A certain amount of economic theory is indispensable to understanding the strength and limitations of economic concepts as applied to health and health care. Wherever possible, we have tried to visualize complex economic concepts by using graphs rather than equations and by giving examples from a wide range of regions and health care settings. Lists of key terms also help to clarify new concepts and terminology. If you don't understand something, don't worry. You may proceed and come back to the problem later. You will find plenty of case studies and some self-assessment exercises to guide you through difficult issues and allow you to compare and contrast what you have learned with your own experience.

Why study health economics?

You may ask yourself what economics has to do with health and health care. Should health and health care, as fundamental concerns, not have an absolute priority? You may,

however, already know the answer. Resources are inevitably scarce and choices have to be made about their allocation. Health economics, as you will see in this book, is about the optimization of health relative to other activities and making choices to employ resources in a way that improves health status and service delivery within the limited resources available. Although economics is a relatively old discipline, its systematic application to the health sector is fairly new. It is only during the last 30 or 40 years that health economics has established itself as a sub-discipline of economics and gained influence in the health sector.

Managers and policy-makers rely increasingly on economic analysis. Economic thinking has gained in its influence on decision-making and economic ideas have fuelled health sector reforms. These changes are part of a larger process of public sector reform since the 1980s, which has been shaped by economic ideas. In pursuit of these reforms, multilateral agencies, such as the World Bank, have been aiming to redefine the relationship between the state and the private sector; to promote slimmer government services and an increased engagement of the private sector. A growing number of countries are using economic techniques to prioritize health services and to evaluate new health care technologies. The pharmaceutical industry has started to provide information on cost-effectiveness as this may provide a competitive advantage in promoting their products. But you should be aware that for most health care interventions, information on effectiveness and efficiency is not available. Health economics is still a developing discipline which is increasingly gaining acceptance of its methods.

Equity is another important area of economic analysis because of its usual prominence as a policy objective, its comparison with efficiency objectives and the implications it has for the allocation of resources. For instance, economists (as well as others) have shown that while imposing user fees can address the problem of consumer moral hazard by deterring the frivolous use of health services, this often comes at a high price by imposing heavy burdens on poorer groups. Another example is the use of 'weightings' within resource allocation formulae to reflect the higher health needs of particular population groups such as indigenous people or rural vs. urban populations. Almost all the chapters of this book will have something to say about equity.

Structure of the book

This book follows the conceptual outline of the 'Introduction to health economics' module taught at the London School of Hygiene & Tropical Medicine. The original edition was based on the materials presented in the lectures and seminars of the taught course, which had been adapted for distance learning. This revised edition places a greater emphasis on the practical application of economic theories and concepts to the formulation of health policy and planning. This is principally achieved through the extended use of new examples, case studies and activities. For instance, in Chapter 17 ('Promoting equity and the role of government'), case studies are presented from South Africa and Cambodia to illustrate how policies have been designed to address vertical equity concerns in these countries. Similarly, in Chapter 16 ('Economic evaluation and decision-making'), new examples show how the results of economic evaluations have been used by groups such as the National Institute for Health and Clinical Excellence (NICE) in the UK and by the Copenhagen Consensus Project to set priorities on health care spending. The book also provides an update in terms of current thinking. Some important policy shifts have taken place since

the first edition was published in 2005: the rise of performance-based funding in health care, increased evidence about the impact and cost of achieving universal health care coverage and the growing impact of globalization and international trade on the health sector are just a few examples. The book introduces some completely new chapters covering topics such as macroeconomics and health, provider payments and countering market failure.

The book is structured around a simple conceptual framework. It starts by introducing you to economics and goes on to consider the concepts of supply, demand and markets. You will then learn about how health systems can be financed. Next we consider how health care interventions can be evaluated using economic analysis and how such economic information can be used in policy-making. Finally, you will look at the issue of equity and the economic argument for the role of government in health services.

The six sections, and the 17 chapters within them, are shown on the book's contents page. Each chapter includes:

- an overview;
- a list of learning objectives;
- a list of key terms;
- a range of activities;
- feedback on the activities;
- a summary;
- references and a list of suggested further reading.

The following briefly summarizes the book as a whole.

Economics and health economics

Chapter 1 defines economics as well as a range of key concepts commonly used by economists. Health economics is then introduced along with examples of the type of policy questions that this sub-discipline can help to address. In Chapter 2 you will learn about the macroeconomics of health and health care including the relationship between trade and health and health systems.

Demand and supply

This section provides the foundations for exploring how individual markets function, how market forces operate in health care and how they influence output and price for health services. It starts by considering the concept of demand in Chapter 3 and then goes on to explore the measurement of demand and the notion of price elasticity of demand in Chapter 4. You will start to explore the concept of supply in Chapter 5 by looking at production and the inputs to production. In Chapter 6 you will look at the costs of production.

Markets

Your attention will then turn to the interaction of demand and supply and the concept of markets in Chapter 7. This chapter focuses on markets and the conditions under

which markets operate well. You go on to learn the reasons for market failure in health care in Chapter 8.

Health care financing

Chapter 9 provides a framework for assessing health care financing systems. It looks at the different sources and uses of funds and provides a brief history behind health systems development. In Chapter 10 you will explore the different methods of paying health care providers and how these might influence health care delivery. You then go on to look at private health insurance (Chapter 11) and the topic of achieving universal coverage (Chapter 12).

Economic evaluation

The penultimate section starts with an exploration of the key concepts behind economic evaluation, the different possible economic evaluation techniques and their uses (Chapter 13). Methods to determine the costs of health care interventions are discussed in Chapter 14 and the methods to determine the benefits of health care interventions are explored in Chapter 15. The final chapter in this section provides an overview of how economic evaluation is applied in practice.

Equity and the role of government

The final chapter begins by describing the relationship between equity and equality and exploring a number of different ways in which equity has been conceptualized and applied in health care. Potential trade-offs between equity and efficiency are considered, along with the pros and cons of government intervention in the health care sector.

A variety of activities are employed to help your understanding and learning of the topics and ideas covered. These include:

- reflection on your own knowledge and experience;
- questions based on reading key articles or relevant research papers;
- analyses of quantitative and qualitative data;
- key terms for each topic defined at the beginning of each chapter for easy reference.

SECTION I

Economics and health economics



Economics and Health Economics

Key concepts in health economics

Virginia Wiseman

I

Overview

This chapter provides an introduction to the discipline of economics and to the sub-discipline of health economics. You will learn about the type of questions that economics is concerned with and some of the key concepts that it uses, particularly as applied to health and health care. If you have not studied economics before, this chapter will introduce many expressions and concepts that may be new to you. If you have problems fully understanding these concepts initially, don't worry! You will find that they are brought up throughout the book in different contexts and in relation to different types of problems. Ultimately what we expect is that, as you progress through the book, so does your understanding of these concepts and their applicability to 'real world' health issues.

Learning objectives

After working through this chapter, you will be able to:

- explain what economics is and the problems that it seeks to solve
- define and apply a number of fundamental economic concepts
- explain why economics is applicable to health and health care

Key terms

Efficiency. A general term used to describe the relationship between inputs and outputs. It is concerned with maximizing benefits with the resources available, or minimizing costs for a given level of benefit.

Goods. These are the outputs (such as health care) of a production process that involves the combining of different resources such as labour and equipment. Goods (including services) are valuable in the sense that they provide some utility (see below) to individual consumers. They are termed 'goods' as they are desirable, as distinct from 'bads' which you will read about later!

Health sector. Consists of organized public and private health services, the policies and activities of health departments and ministries, health-related non-government organizations and community groups, and professional associations.

Health services. The range of services undertaken primarily for health reasons and that have a direct effect on health, including health care programmes such as health promotion and specific disease prevention and treatment.

Marginal analysis. An examination of the additional benefits or costs arising from an extra unit of consumption or production of a 'good'.

Market. A situation where people who have a demand for a good come together with suppliers and agree on a price at which the good will be traded. A necessary condition for properly functioning markets is a system of property rights to ensure that people can participate in good faith.

Opportunity cost (economic cost). As resources are scarce, an individual, in choosing to consume a good, in principle, chooses the good which gives him or her the greatest benefit, and thus forgoes the consumption of a range of alternative goods of lesser value. The opportunity cost is the value of the benefit of the *next best* alternative.

Resources. These represent inputs into the process of producing goods. They can be classified into three main elements: labour, capital and land. Different goods would generally require varying combinations of these elements. Resources are generally valued in monetary terms.

Utility. The happiness or satisfaction an individual gains from consuming a good. The more utility an individual derives from the consumption of a good, all else being equal, the more they would be willing to spend their income on it.

Welfare (or social welfare). The economic criterion on which a policy change or intervention is deemed to affect the well-being of a society. In general, this is assumed to be determined by aggregation of the utilities experienced by every individual in a society.

Types of economic problems in the health sector

The health sector consists of organized public and private health services (from surgery to health promotion programmes to dentistry), the policies and activities of health departments and ministries, health-related non-government organizations and community groups, and professional associations (WHO 1998). Those responsible for determining and managing different areas of a health sector are typically forced to consider questions such as:

- At what level should hospital fees be set?
- Are taxes on cigarettes a useful way of promoting health through reducing the prevalence of smoking?
- Which is the more effective method of increasing the take-up of health services: price controls or subsidies?
- How should doctors be paid?
- Which treatments are the most cost-effective for people with HIV?