

## **WEEK 4 ECONOMICS AND HEALTH POLICY - THE SOCIAL WELFARE APPROACH TO HEALTH SYSTEMS**

### **Objectives/learning outcomes**

Students will be able to:

Recognise and understand basic economic concepts – efficiency, social welfare and utility; opportunity cost, competition and moral hazard.

Critically examine economic analysis from the perspective of health policy.

### **Seminar: Is orthodox economics pro-market?**

A class discussion of a recent article by Alan Brett, “American Values” – A Smoke Screen in the Debate on Health Care Reform (N Engl J Med 2009;361: 440-1).

Come prepared to discuss the following questions:

- What role does ‘choice’ play in the US health care reform debate?
- What according to Brett is the connection between ‘choice’ and markets?
- How does Brett rebut the choice argument?
- What alternative approach does he suggest?

### **Lecture: The economic perspective**

Economic analysis has played an important role in addressing policy questions about the relative roles of public and private sectors and the cost efficiency of health systems.

In this lecture we review what economists mean by ‘efficiency’ and market competition. The limitations of this perspective are explored.

### **Set reading**

Palmer G and Ho M (2009) *Health economics*. London: Palgrave. Essential course reading. Very simple and clear.

Jeff Muschell. Health economics: technical briefing note : privatization in health. WHO Task Force on Health Economics, 1995.

### **Lecture summary**

The “health and wealth” approach (lecture 2) is an example of a social welfare analysis because it is concerned with balancing the costs and benefits to society of universal health coverage. Social welfare analysis is a branch of health economics. It attempts to identify which allocation of resources will lead to the greatest welfare or “utility” in society. That allocation is said to be the most “efficient”.

Efficiency is a fundamental concept in economics. It has two technical senses. When welfare or normative economists talk about an improved (or more ‘efficient’) state of affairs they are referring to a state in which there is a higher

level of utility (allocative efficiency) or one in which there is higher productivity (technical efficiency).

Economic analysis has played an important role in answering policy questions about the relative roles of public and private sectors and subsidiary questions such as the appropriate reward structures for medical professionals, the efficiency of insurance markets, how to contain costs, and the role of markets in resource allocation.

The choice agenda, market competition and privatisation all have economic rationales. These policies are briefly examined and we ask whether the frame of reference means that economics is pro-market.

## **Lecture**

### **Introduction**

In most of the developed world, public health policy makers have developed a set of mechanisms for sharing the risks and costs of health care across populations in order to ensure that access to health care is universal.

However, the case for universality has been challenged by the rise of markets. Forty years ago it was widely accepted that markets must always fail to deliver essential services such as health care. But today the argument has taken root that it is governments not markets that fail. Economic analysis, or more particularly, microeconomic analysis has contributed an important intellectual component to that reversal. One of the founding ideas of modern economic theory is the belief that markets are social coordinating mechanisms which, under certain specific conditions, generate social benefits without outside (i.e. government) intervention. This central proposition, which is based on supply and demand analysis constitutes the famous 'invisible hand' of the market.<sup>1</sup>

In this lecture we will examine the principles of microeconomics that have proved so influential and suggest some limitations of the perspective.

### **Defining economics and economic analysis**

Economics is frequently defined as the science that deals with choices under conditions of scarcity (Bowling, 2002: 90). **Positive economics** involves predictions about the responses of economic actors (consumers and suppliers) to prices, the mechanism by which choices are expressed. **Normative or welfare** economics involves evaluation of the resulting resource allocation. In general economics seeks to determine the most 'efficient' allocation.

Palmer and Ho (2009: 3) draw a distinction between two main types of analysis in health economics. The first type of analysis covers policy questions that are concerned with the efficiency of the health care system and in particular with the question of how actors in the system (such as institutions like hospitals and

---

<sup>1</sup> **Neoliberal** is the term generally applied to political movements that extol the virtues of 'free' markets and though it derives its central insights from neoclassical economic it is not itself an economic theory.

professionals like doctors) respond to financial incentives (such as prices). Health care systems vary enormously, ranging from publicly delivered, tax-funded systems to privately funded and delivered systems. Most systems combine public and private elements and there is therefore a potentially huge range of incentives operating among health systems.

Economic analysis of this type has played an important role in answering policy questions about the relative roles of public and private sectors and subsidiary questions such as the appropriate reward structures for medical professionals, the efficiency of insurance markets, how to contain costs, and the role of markets in resource allocation. (McGuire et al, 1989)

The second type of analysis is concerned with evaluating health interventions, that is, say whether they are worth their cost. The main challenge in this case is to put an economic value on the costs and outcomes of health care activities so that they can be assessed from an economic perspective. The National Institute of Clinical Excellence (NICE) is the UK's public agency that undertakes these evaluations for the NHS. There is extensive debate in the USA about its usefulness.

### **The economic frame of reference – utility and efficiency**

Economic analysis begins with an idealised view of the world where goods and services are freely exchanged or traded by fully-informed and equally powerful buyers (who provide a 'demand') and sellers (who provide a 'supply'). Buyers and sellers negotiate prices. Both parties in the market behave according to a specific rationality: buyers maximise their preference satisfaction (wants or utility), whilst sellers seek to maximise their profits. The market price reached under these conditions has the crucial characteristic that it represents the best or most efficient outcome for society by ensuring that consumer utility (or welfare) is maximised.

Economists' understanding of the key terms in this account is therefore crucial to our account. I will consider each in turn.

#### *Utility*

Economic analysis begins with the concept of **utility**. Utility is used to refer either to preference satisfaction or 'preference orderings of states of the world' (where preferences are deemed to be more satisfied as higher ranking states are reached); or it can refer to 'desirable or agreeable state of consciousness' (that is, to the subjective state of economic actors). Brouwer, 2008)

Utility is usually expressed numerically as ORDINAL UTILITY. That is, numbers are used to represent individuals' *preference ordering* over bundles of goods or states of the world.<sup>2</sup> So when welfare or normative economists talk about an improved (or more efficient) state of affairs they are often referring to a state in which there is a higher level of utility. As Brouwer points out, however, they are not concerned with 'how these preferences may have come about nor do they

---

<sup>2</sup> 'Ordinal' means that utility measurement is relative – better or worse – and not an absolute quantity. Absolute measurement is referred to as CARDINAL UTILITY.

judge them on grounds of decency, ethics, aesthetics or any other ground.' That is to say, they are not concerned with, among other things, the relationship between utility and human needs. Indeed, a fundamental orientation of this conceptual approach is that utility (or demand) is the object of analysis, not needs.

The approach from utility, which is common to much health economics and to neoclassical welfare economics, involves four key assumptions that have considerable methodological and normative implications (Hurley, 1999):

(i) *Utility maximisation*

The assumption that individuals choose rationally and that provided with a set of competing options will rank the options and choose among them according to defined notions of consistency, namely the maximisation of their utility or preference satisfaction.

(ii) *Consumer sovereignty*

The assumption that welfare is idiosyncratic (i.e. a private phenomenon). It is the individual (and not a third party) who is best placed to judge his or her own welfare and the choices of activities that promote it.

(iii) *Consequentialism*

The proposition that choices and actions can only be judged in terms of their consequent effects. Action is viewed as instrumental and the emphasis is upon outcomes rather than processes.

(iv) *Welfarism*

The maxim that the 'goodness' of an action is to be judged solely on the basis of the utility level of individuals undertaking that action.

*Efficiency*

**Allocative efficiency** is defined as the resource allocation in which the most consumer satisfaction (relative to alternative possible allocations) is achieved. It means that an optimal mix of commodities has been achieved, usually with reference to consumer preferences.

It is distinguished from **productive or technical efficiency** which is defined as the maximisation of output from a given set of inputs.

However, not all economists hold that utility is the object of allocative efficiency (that which is maximized). There is a long tradition in economics of questioning the objective or **social welfare function** that is being maximised in resource allocation decisions. As we have seen, utility (that is, consumer satisfaction or preferences) is the standard value in neoclassical economics. In this approach, economic efficiency consists in reaching states of affairs in which the individual's utility is maximised given a certain distribution of income. But some welfare economists seek to determine socially optimal situations on the basis of other types of objective function.

Why do economists say that utility is sometimes the wrong value?

The question arises because the policy relevance of judgements about efficiency depends to a large extent on the way efficiency is defined, in other words, on whether we can see the connection between what is efficient and what is socially optimal. In health care, efficiency in the neoclassical allocative sense (optimal preference satisfaction) is not self-evidently a guide to policy because there is no particularly compelling reason why we should prefer this type of efficiency to another type, for example, the value of maximising access to services that address health care needs. That is why health is chosen as the maximand in the “health and wealth” approach referred to by Figueras and McKee (2011).

### **Conceptions of welfare**

A basic question in normative or welfare economics is what role to accord utility when evaluating alternative social outcomes. Brouwer shows that non-welfarist approaches involve abandoning some basic assumptions of neoclassical economics such as consumer sovereignty in favour of non-welfarist or non-utility bases of evaluation. Welfare or normative economics includes exponents of both welfare and non-welfarist frameworks. These will be discussed in turn.

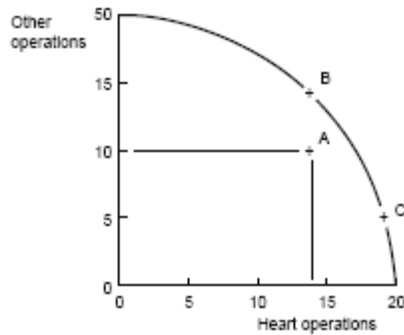
#### Welfarist approach – Pareto optimality

Classical welfare economics was concerned with maximising the aggregate of individual utility, that is, with an aggregate sum. But this required an actual measurement of utility and also a means of comparing the utilities of different individuals so that they could be added together (a procedure generally referred to as ‘interpersonal comparison’). Since classical economics could not reliably supply either, neoclassical welfare economics dropped these requirements as too restrictive and substituted the principles of ordinal utility and non-comparability. This new criterion of optimality became known as Pareto efficiency after the Italian philosopher and economist Vilfredo Pareto (1848-1923).

Pareto efficiency (which is sometimes equated with allocative efficiency, although as we will see, this is a mistake) defines a socially efficient resource allocation as a situation in which it is not possible to make one person better off without making another worse off. It is based on the neoclassical conception of individual utility and consumer sovereignty.

There is some confusion in the literature about the cognate term ‘Pareto optimality’. The OECD provides the following guidance: ‘When referring to a situation as Pareto efficient, it is usually assumed that products are being produced in the most efficient (least-cost) way. Pareto optimality is sometimes used interchangeably with Pareto efficiency. Sometimes Pareto optimality is reserved for cases when both production and allocative efficiency are obtained.’ (<http://stats.oecd.org/glossary/detail.asp?ID=3275>)

Figure 2 Pareto optimality



Source: OHE

This figure shows that it is possible to make one person better off without making another person worse off by moving production from point A to point B on the curve. Point A is not at the frontier of technically possible production (denoted by curve B-C). A move to that curve would be 'Pareto efficient'.

According to the Pareto principle, a redistribution of resources should only take place, and should be preferred, if it makes some people better off and none worse off. This is known as a Pareto improvement. Pareto optimal states are said to be allocatively efficient because they maximise the utility available to a society under existing productive conditions.

Stiglitz (2000: 57) provides the following example of a Pareto improvement or policy change that improves things for some people without imposing costs on other people:

'Assume, for example, that the government is contemplating building a bridge. Those who wish to use the bridge are willing to pay more than enough tolls to cover the costs of construction and maintenance. The construction of this bridge is likely to be a Pareto improvement, that is, a change which makes some individuals better off without making anyone worse off.'

(Of course, in a real life situation we can think of several ways in which people's interests might be harmed by the bridge - effects on local trade, for example).

### Potential Pareto improvements

The concept of the '*potential* Pareto improvement' has been developed to address the problem that all policies involve a welfare loss to someone. Potential Pareto improvement is said to occur when 'benefits that accrue to the gainers [under a policy change] are sufficiently large to enable them (hypothetically) to compensate the losers, making the losers no worse off than they were before the policy, while still retaining some net benefit for gainers' (Culyer and Newhouse, 2000). In other words, an improved allocation occurs when losses are more than compensated for by gains.

The concept therefore represents a modification of the basic principle that allows some people to be worse off so long as total gains outweigh losses. It is a recognition that almost any policy change is going to have winners and losers.

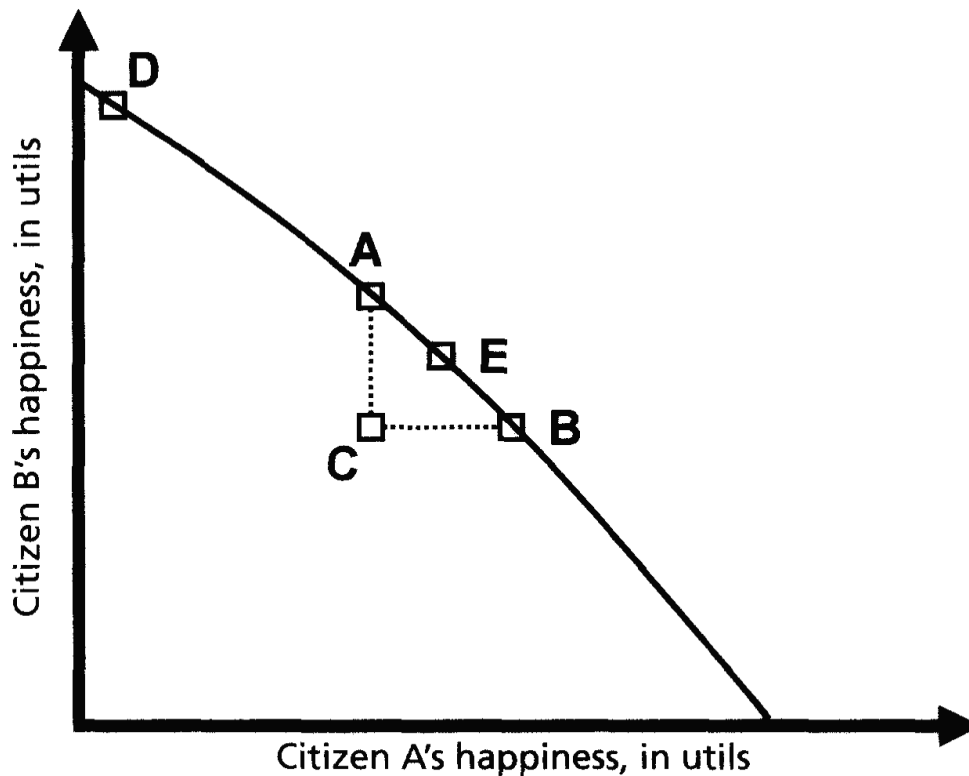
Potential Pareto improvement is often adopted in applied economics in association with a money metric. Introducing money into the equation adds the new criterion of maximisation to the evaluation of efficiency. The original Pareto principle, which rejects interpersonal comparison of welfare, cannot say which of alternative optimal efficiency points is maximally socially efficient because it does not compare the welfare of individuals and so does not include the concept of a single maximally efficient distribution. The potential Pareto improvement introduces a comparative element through the compensation principle, which must involve a procedure for comparing the value of losses to one individual with the gains to another and expressing them in money values (e.g. in cost benefit analyses)

### Pareto and markets

Most economists consider Pareto efficiency to be equivalent to allocative efficiency. This is because the two concepts have the same individualist assumptions:

- both are concerned only with the welfare of individuals and not with the question of relative welfare, equity or questions about overall distribution - a Pareto efficient state of affairs can be highly unequal or even socially abhorrent. In figure 3 we can see that the Pareto principle doesn't tell us anything about which of the points (A, B, or E) should be aimed for, that is, how happiness should be distributed. In a competitive market, the actual point achieved simply reflects the distribution of income in society. This means that equity is not a relevant consideration in this type of evaluation.
- both work on the consumer sovereignty principle that 'it is each individual's perception of his or her own welfare that counts.'

Figure 3 Pareto optimality (2)



**Figure 1** The Concept of Pareto Optimality

Source: Reinhardt, 2001

The identity between Pareto and allocative efficiency means also that Pareto efficiency is associated with competitive markets. This close connection is reflected in what are known as the two fundamental theorems of welfare economics (Stiglitz, 2000: 60):

- Every competitive economy is Pareto efficient (or alternatively, all Pareto optima are also states of competitive equilibrium, or states where supply and demand are equal)
- Every Pareto efficient resource allocation can be attained through a competitive market mechanism, with the appropriate initial redistributions [that is, a variety of efficient distributions simply by adjusting personal incomes without interfering with competitive market]

These theorems lie behind the strong policy conclusion of the Pareto approach that 'every Pareto efficient allocation can be attained by means of a decentralized market mechanism.' (Stiglitz, 2000: 60). Reinhardt shows that from these theorems it follows by definition that national health care systems (involving redistribution) lead to a loss of welfare and therefore (according to this definition of 'allocative efficiency') are 'inefficient' (Reinhardt, 2001).

According to Mannion and Small (1999), 'Using the neo-classical framework, it can be shown that a system of market competition is the best (but not only) means of securing a Pareto optimum. Most neo-classical analysis therefore



proceeds on the assumption of the existence of competitive markets rather than a centrally planned or mixed economy.'

The Pareto conception of efficiency can therefore be criticised as inappropriate for health care where it is generally recognised that markets cannot be left to themselves. Reinhardt (1992), a sustained and entertaining critic of the approach, argues that "a neoclassical conception of market efficiency fails to bring policy goals into conformity with reigning social values, particularly the social interest in equity" (Melhado, 2000). That is, the emphasis on allocative 'efficiency' tends to lead to policies that contradict existing public goals (which is why public sector reform policies are so often couched in this language).

### Alternatives to Pareto – non-welfarism

The essential ideas of the Pareto approach are that policy decisions will require information about 'utility' and that policy interventions can be evaluated on this basis. This is known as a 'welfarist' evaluation.

The approach has three important consequences:

- 1) it privileges existing income distributions by ruling out redistribution;
- 2) it leaves equity concerns out of the picture;
- 3) it gives rise to the so-called 'equity-efficiency trade-off' according to which equity can only be pursued at the expense of efficiency (a logical entailment only if allocative efficiency is defined to exclude equity).

Economists respond to these results in one of two ways. Some economists redefine allocative efficiency so as to include equity considerations. For example, Culyer (2006) has suggested that equity concerns can figure as altruistic motives in personal preferences. This approach preserves the welfarist or utility approach based on consumer sovereignty.

A second response is to redefine allocative efficiency by adopting a non-welfarist standard that is independent of preferences. For example, Liu suggests that economic efficiency can be defined in such a way as to include health goals (i.e. non-utility, non-consumerist goals):

'The concept of allocative efficiency takes health interventions (including services, drugs, and other activities, the primary intention of which is to improve health) as inputs and health of the population as an output. In other words, allocative efficiency refers to the maximization of health outcomes with the least costly mix of health interventions. [...] Practically, to improve allocative efficiency, resources should always be used to produce the most cost-effective interventions.' (Liu X (2003) Policy tools for allocative efficiency. WHO: Geneva)

This is the approach of Figueras and McKee (2011). Nonetheless, as we have seen, it does not necessarily involve the goal of equal access to health services.

### **What is privatization and what does economics say about it?**

Increased private sector participation or privatization of public services or facilities is a familiar health system reform policy that is often associated with the economic perspective. However, microeconomic theory does not distinguish between public and private sectors and the rationale for privatization is often drawn from generalized claims about the benefits of competition.

Privatization can be defined as “changes in public and private roles and responsibilities in the health sector, and generally includes changes in actual ownership of the means of financing and/or producing health care.” (Muschell, 1995)

Privatisation of health care financing is associated with allocative efficiency because it addresses resource distribution (welfare) in society. Privatization of provision is generally associated with technical efficiency because it is not intended to address societal resource distribution.

Privatization policy can involve:

- divestiture of public assets
- public contracting with private sector providers
- policies to expand the private sector.

Detailed discussion of these policies will form part of the semester 2 course. For our present purposes it is only necessary to note the basic efficiency claims common to each, namely that the private sector is free of administrative burdens, at risk of bankruptcy and more likely to innovate. These three factors are said to lie behind the private sector’s greater cost efficiency.

