

Economics and Decision Making

Economics provides a useful framework for analyzing problems because it provides a particular way of looking at situations. Economic analysis and judgment are needed, not only at the decision level of social policy making and at the institutional level of decision making in the struggle to balance budgets, but are also needed at the individual level, as providers and consumers must make tough decisions about how best to use their time, energy, and financial resources.

More and more, health care professionals are examining the services they provide to determine whether the benefits received from the health care services are worth the costs incurred (resources spent) in obtaining the benefits. Increasingly, consumers are also weighing the benefits and costs of the health care services they utilize in reaching decisions. Economic pressures demand this kind of self-scrutiny as part of the overall effort to improve the level of efficiency in the health care delivery system.

Macro-level decisions involve determination of the level of output in the economy (gross domestic product) and the allocation of output among the various sectors of the economy what percent of total output goes to each sector.

Micro-level decisions involve determination of the type of output to be produced in each sector and the role of the individual organizations and individual in the system. A basic decision that underlies all other decisions entails the locus of control in the decision making process: do individuals make decisions in the system (the market approach) or they made by a central collective entity (the regulatory approach) in allocating resources.

Health Policy Issues

The application of economic concepts to health care can be useful in the debate of several areas of health policy. While these concepts will not provide "the answer", economic tools and models can be used to describe and analyze problems and support the decision making process. Economic concepts are especially applicable to the following health policy issues:

How much should the U.S. spend on health care services?

What should the role of government be in health care (financing, regulation, price setting)?

Can price controls limit health care cost inflation?

Who should pay for medical education, research, and technological advances?

Who should pay for the consequences of drug, alcohol, and tobacco use (poor health habits, etc.) ?

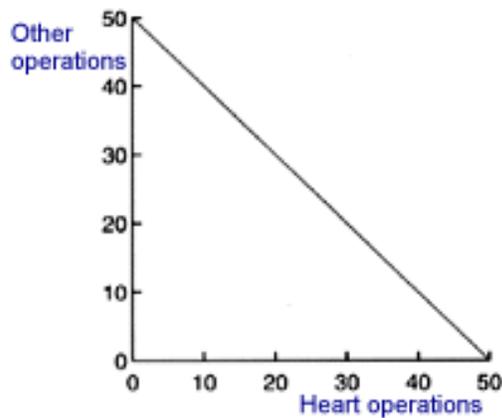
Production Possibility Curve (PPC)

The choices that society must make are often presented in terms of the production possibility curve. Since scarcity has two sides: the infinite nature of human wants

and the finite or limited nature of resources available to produce goods and services, there is some maximum quantity of health care that can be produced at any one time. This quantity can be represented a Production Possibility Curve.

As an example, take the ability of a specific hospital to perform surgical procedures such as heart bypass operations. Suppose the heart bypass unit has 10 surgeons working in it, and assume that the only factor that affects the quantity of operations provided is the number of surgeons assigned to them.

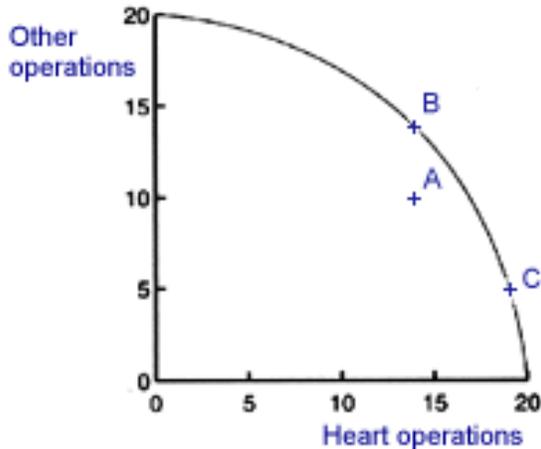
If all the surgeons are assigned to heart bypass operations then the unit can carry out 50 heart operations per week. If, on the other hand, all the surgeons are assigned to other operations, then the unit can carry out 50 of these other operations per week. The figure below shows the production possibility frontier for this unit. The graph charts all the possible maximum combinations of operations that the unit can achieve given the quantity and productivity of resources available.



What determines the shape of the graph? It is a straight line, with a gradient of -1. This reflects the fact that if we transfer one surgeon to heart bypass from other operations, we get five more heart bypass but we lose five of the other operations, i.e. the trade-off between the two possibilities is one-to-one. This is what is called the *marginal rate of transformation*, MRT.

In fact it is highly unlikely that the marginal rate of transformation would be constant. The surgeons carrying out heart bypass operations would be working with a fixed quantity of operating theatres, heart monitors, and other inputs. So the more surgeons carrying out bypass operations, the less equipment each one would have. Therefore, the output per surgeon would fall.

So, the number of additional bypass operations carried out by an extra surgeon is different depending on how many surgeons are already doing bypasses. If there are already a lot of surgeons doing bypass operations, the extra one creates only a small increase in the number of bypass operations. This increase is smaller than if there were only a few surgeons already doing bypass operations. This phenomenon is called the Law of Diminishing Returns, and is represented by the figure below.



In fact at point B we are getting a maximum combination possible, given the resources we have. It is a *Pareto efficient allocation*. If we choose to move from combination B to combination C, then although we are getting five more bypass operations this has been at the expense of nine other operations. Thus moving from combination B to C involves a cost, which economists call an **opportunity cost** - the benefit given up by not choosing the next best alternative. In this case the opportunity cost of moving from point B to C is nine other operations. All combinations that lie on a PPC are, by definition, pareto efficient.

There are only two ways that society can get more treatment:

- A. By improving the productivity of the factors of production, so that the same quantity of factors produce more treatments. For example, surgeons were originally able to produce either 20 heart bypass or 20 other operations.
- B. By increasing the quantity of the factors of production. The initial position is again 20 heart bypass or 20 other operations. When more surgeons are allocated to all operations then the PPC shifts outwards.

The production possibility curve demonstrates that:

1. There is a limit to what you can achieve, given the existing institutions, resources, and technology.
2. Every choice you make has an opportunity cost. You can get more of something only by giving up something else.

Allocation of Health Care in a market system

Given scarcity, how does society determine how much of what kinds of health care to provide? The possibilities include: the free market system; a social justice system; or a combination of both. The free market model allocates health resources according

to consumers' purchasing behavior. A social justice model would use planning to allocate health care according to some pre-determined criterion such as 'need.'

Efficiency

There are two criteria that economists use to assess the performance of an allocation system. The first is efficiency: does the system produce an allocation that is Pareto efficient (and thus on the economy's PPC). If the allocation is efficient then the economy is producing exactly the quantity and type of health care that society wants (*allocative efficiency*) and it is producing that health care for the lowest possible cost (*productive efficiency*).

Equity

The second criterion is equity: does the system produce an allocation that meets the society's requirement for justice? Clearly, this is a normative issue: the decision made depends upon people's values. However, it is a very important consideration for many people when they consider the allocation of health care.

Equity is a difficult concept to analyze but it helps if we differentiate between horizontal and vertical equity. Horizontal equity is concerned with the equal treatment of equal need. This means that to be equitable, the health care allocation system must treat two individuals with the same complaint in an identical way. Vertical equity, on the other hand, is concerned with the extent to which individuals who are unequal should be treated differently. In health care it can be reflected by the aim of unequal treatment for unequal need i.e. more treatment for those with serious conditions than for those with trivial complaints, or by basing the financing of health care on ability to pay e.g. progressive income tax.