Health Economics

Part 2

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Health Economics

Health Economics

- What is health economics?
  - "Health economics is the application of economic theory, models and empirical techniques to the analysis of decision making by people, health care providers and governments with respect to health and health care"[3]
  - But it is not merely the application of standard theory to health
    - In addition, health economics deals with theories developed specifically to understand the behaviour, of patients, doctors and hospitals
    - It also includes the analytical techniques developed to facilitate resource allocation decision in health care

Health Economics

- Health economics is a highly specialised field
  - It draws its inputs from disciplines like epidemiology, statistics, psychology, operations research and mathematics
  - Health Care cannot only be seen as a commodity but also as an economic good
  - To understand, one must keep in mind that:
    - Resources are limited
    - Society has unbounded demand for these resources
  - Resources that are used to produce healthcare are human resources, capital and raw material and all these are not unlimited

Health Economics

- Had we not have constraints of ability to pay, it is not known what would have been our limit of consuming health care services as a nation or as an individual
  - No where in the world any health care system has been able to achieve the levels of spending to meet all the wants of all the clients of health care
- The implications of economic good in the choice of allocation of resources are far reaching
  - Choices must be made about what quantity and mix of health care to produce, how to produce it, who pays for it and how it is distributed
  - Health care is not available in unlimited supply
    - The more health care we choose, the more something else must be sacrificed

Health Economics

- These nature of choices for health care is difficult as it is so important for human welfare
- If expenditure is increased in one area of health care, other areas of health care will be deprived of the resources needed.
- The nature of choice and the accompanied trade offs encountered in making that choice is encompassed in the concept of *opportunity cost*
- This is the most fundamental notion in economics
- The opportunity cost of committing resources to produce a good or service is the benefits forgone from those same resources not being used in their next best alternative

Health Economics

- Example:
  - In the wake of the SARS CoV-2 pandemic, government decided to increase the public expenditure on health gradually to 2.5% of GDP
  - To meet the expenditure, one resource generation method announced is to increase the surcharge on income tax to 4%, 1 percent increase on previous rate
  - This will result in lower net income of consumers, foregoing the benefit of private consumption
  - Higher tax for firms either lowers profit, reducing incentives to invest and creating incentives to cut costs including labour costs, or results in increased prices where taxes can be ‘passed on’ to the consumers

Health Economics

- Health Economics studies not only the provision of health care but also how this impacts individual's health
- Other means by which health can be improved are also of interest, as the determinants of ill health
- Health economics studies not only how health care affects population health,
  - but also the effects of other social determinants of health:
  - These determinant of health are: education, housing, unemployment, transport, social gradient, stress, early life, social exclusion, work, social support, food, addiction

Health Economics

- The main purpose of health care is to improve health
- But also the manner in which it is provided is important
- Example:
  - The quality of meals that are provided during a stay in hospital may also be important to people even if this does not impact health excepting causing dissatisfaction
- Health care is an economic good
  - But health itself can be thought of as a good
  - It can be regarded as a fundamental commodity, one of the true objects of people's want
    - Health is a means of creating other more tangible goods and services

Health Economics

- Economically relevant characteristics of health are:
  - It can be manufactured by people and households
  - It has an impact on people's welfare
  - It is wanted
  - People are willing to pay for improvement in it
  - It is scarce relative to people's want for it
- Health is less tangible than conventional goods – ill health may manifest itself in a tangible way such as sickness episode
- It cannot be traded as it is intrinsic to people and cannot be transferred to others

Key Economic Concepts

- Scarcity
  - It addresses the problem of limited resources, and
  - Need to make choices
  - Rationing is unavoidable
    - Because not enough resources are available for everyone's needs
  - Therefore, we need to choose among competing objectives – as result of sarcity

Key Economic Concepts

- Opportunity cost
  - This recognises the role of alternatives
  - The cost of any decision is measured in terms of the value placed on the opportunity foregone
- Marginal analysis
  - Marginal analysis (MA) is the appraisal of the added benefits and added costs of a proposed investment or
    - the lost benefits and lower costs of a proposed disinvestment

Key Economic Concepts

- MA establishes whether the current expenditure pattern is appropriate and how it might be changed to increase health gain
- Its basis is not a comparison of the costs and benefits of all uses of resources but, more pragmatically, an evaluation at the margin of different ways of using resources.
- MA can take place within programmes or between programmes
- The cost and benefit or effectiveness implications of shifting resources within programmes or from one programme to another can be examined,
  - This will be done with the aim of maximising health gain within available resources

Key Economic Concepts

- Self-interest
  - This is the primary motivator of economic actors
  - People are motivated to pursue efficiently in the production and consumption decisions made
- The Market
  - The market accomplishes its task through a system of prices, or the invisible hand
  - The invisible hand can allocate resources because everyone and everything has a price

Key Economic Concepts

- Prices increase when more is desired
- The price mechanism becomes a way to bring a firms output decision into balance with consumer's desire
- This is how the market equilibrium is reached

- Supply and Demand
  - This serve as the foundation of economic analysis
  - Pricing and output decisions are based on forces underlying these two economic concepts
  - Rationing using prices comes about when goods and services are allocated in the market based on the consumers' willingness to pay and suppliers willingness to provide at a given price

Key Economic Concepts

- Competition
  - Competition forces owners to use their resources to promote the highest possible satisfaction of society
    - The are the consumers, producers, and investors
  - If the resource owners do this well, they are rewarded
  - If they are inefficient, they are penalised
  - Competition takes production out of the hands of less competitive
    - The production is then placed in the hands of more efficient
    - The efficients constantly promote constantly promote efficient methods of production

Key Economic Concepts

- Efficiency
  - Efficiency measures how well resources are being used to promote social welfare
  - Inefficient output wastes resources while efficient use of scarce resources promotes social welfare
  - Social welfare is promoted through competitive markets via the relatively independent behaviour on the part of innumerable decision makers.
  - Consumers attempt to make themselves better off by allocating limited budget
  - Producers maximise profit bu using cost-minimising methods

The Demand for Health

- Good Health
  - It is obvious everyone desires good health
    - Because good health improves quality of life
    - Good health helps us to remain productive to the full of our capacity
    - Productivity helps us to earn income
  - Health is viewed as a stock capital
    - It yields a stream of healthy days like wealth which is a financial capital that yields a stream of income
    - In many cases, medical care is undertaken to gain more healthy days
      - Thus it is an investment in the stock of health

The Demand for Health

- Anything that contributes to producing better health can be considered health care
  - These include: nutritious food, clean air, and exercise

- Health as a form of Human capital
  - In addition to health care being an economic good, health itself can be thought of as a good
    - Though health as a good has special characteristics
  - This is an important and powerful insight
  - Health can be regarded as a fundamental commodity – one of the true objects of people's wants

The Demand for Health

- ❖ Anything that contributes to producing better health such as nutritious food, clean air, and exercise can be considered health care

- Besides Improving health, health economists takes into account other aspects that impacts a person's welfare
- Example:
  - ❖ Providing reassurance or reducing anxiety about their state of health
    - ∗ This may or may not change the state of health
- For most types of health care, their main characteristics is that they are intended to alter health

The Demand for Health

- As health is a fundamental commodity, the demand for its improvement can be analysed in the same way as demand for other goods and services
- Like other goods and services, health is not tradable
  - Therefore it is not possible to analyse demand for health in market framework, i.e., improvements in health cannot be purchased directly
- The demand for health is expressed as purchase of goods and services that improve health
  - This is an indirect way of purchasing improvement in health
  - Health care, is therefore, a derived demand from the demand for health

The Demand for Health

- Such analysis can be used for any goods or services
- It is particularly important in health, because consumption of health care is not pleasurable
  - This is undertaken for improving health
- Grossman's Investment Model of Health
  - The model considers the distinction between health as an output which is a source of utility to people, and medical care which is an input to the production of health
  - In this model, health is both demanded and produced by individuals
  - Health is demanded as it affects the total time an individual can devote to production of income and wealth

The Demand for Health

- ❖ Also health is a source of utility
- ❖ Ill health reduces our happiness and ability to earn

- As modelled in the Grossman model, health is also produced by individuals
- Individuals use variety of means to produce health. These are:
  - ❖ Diet, lifestyle choices, and medical care
- People's efficiency for production of health depends on their education and knowledge
- Medical care is just one aspect to the production of health as an input

The Demand for Health

- Each individual starts life with a ‘stock’ of health
  - It has similar characteristics as capital
    - Health depreciates over a period of time with age
    - It can be increased through investment in time, effort, knowledge, or by seeking health care
- There are two important insights provided by the Grossman’s model
  - First,
    - Health care is just one input in generating improvements in health
      - It is now widely held that medical care is not the only determinant of health

The Demand for Health

- ❖ Second,
  - ∗ Individuals demand for health is dependent on other factors, such as:
    - ◊ Utility received from consuming health care is not generated from health care but from the improvements from resulting health
  - ∗ It shows that demand for health care is a derived demand

- In the investment model of health like any other capital good that ultimately wears out, the difference between gross and net investment is conditional to :
  - ❖ cost of health capital and
  - ❖ the rate of depreciation of health stock

The Microeconomics Concept

- Macroeconomics vs. Microeconomics[4]
  - Macroeconomics focuses primarily on
    - Decisions made by governments,
    - Trends in economic sectors, such as housing, manufacturing etc., and
    - The impacts of those decisions and trends on the overall national or global economy. For example:
    - Macroeconomics is concerned with
      - Economic growth
      - Unemployment
      - Interest rates, and
      - inflation

The Microeconomics Concepts

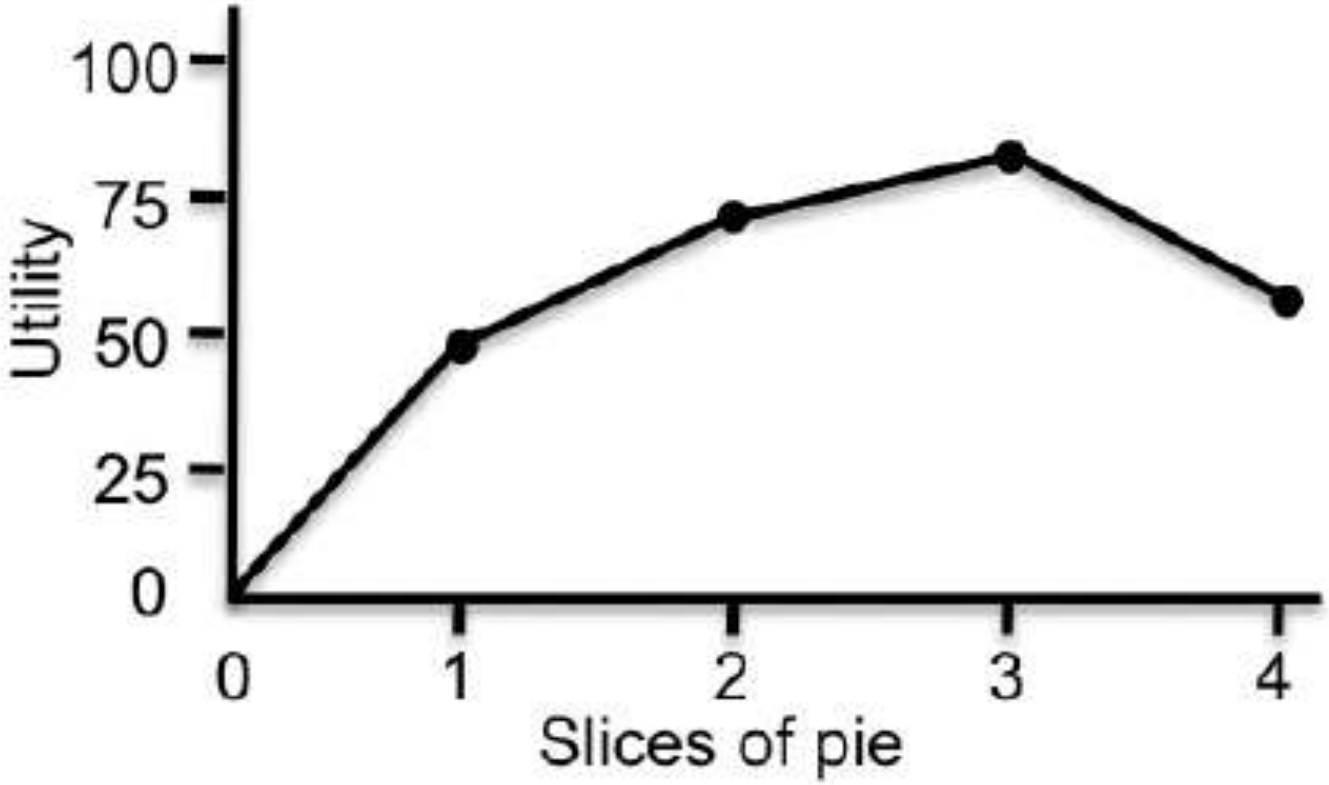
- Microeconomics focuses on decisions made by individual people, families and business
- Microeconomics include examination of:
  - Markets
    - These are places where goods are exchanged between buyers and sellers
    - Fundamental considerations for markets are:
      - How much of a given good will consumer purchase?
      - At what prices? And
      - How are those quantities and prices affected by other factors?

Basic Economic Concepts

- Maximising Utility
  - Utility refers to a person's overall happiness or satisfaction
  - Economics assumes that each person's goal when allocating resources is making decisions to maximise his or her utility
  - Charity
    - Sometimes some people interpret maximising utility is acting selflessly
    - In reality, utility includes the happiness, sense of fulfilment or anticipated spiritual satisfaction that come from charitable acts
    - To put it differently, giving one's time and money to a cause one believes in is the best way to maximise utility

Basic Economic Concepts

- Decreasing Marginal Utility
  - Marginal utility means how much additional utility is derived from consumption of one unit of a particular good
  - When a person spends an additional sum, a rational person would buy the good that provides the highest marginal utility
  - Nobody however spends his/her entire money on a single good
    - This is because consumption of most goods comes with decreasing marginal utility



Example of decreasing marginal utility of eating several pies

Eating the first pie one would get maximum satisfaction. When the person eats the second pie, it would give satisfaction but to a lesser extent because the taste as well as aroma is already known

Each slice of the pie would give lesser and lesser utility and by the fourth slice, there may not be utility rather there can be negative utility

Basic Economic Concepts

- Opportunity Cost
  - Opportunity cost of a choice is the value of the best alternative that one must give up in order to make that choice
  - Example
    - Think that you are considering to go to a movie
    - One has an option to stay at home and not spend any money
    - You would not go to the movie if the utility you obtain from doing so is worth at least the ticket price and time spent
    - To make the best decision it is not only the monetary cost of the ticket, how good is the movie, and how much time you would spend
      - You must also consider how much utility you would get from spending your resources, i.e., your money and time you spend on the movie in another way

Basic Economic Concepts

- The ‘opportunity cost’ of going to the movie is the utility sacrificed from the next most enjoyable activity you could have done:
  - E.g., spending time with your friend or just a buying a novel and enjoy reading it
    - You will only choose to do this if you think that the utility achieved by doing this next most enjoyable act exceeds the opportunity cost of going to the movie
- Therefore, from the foregoing it is clear that:
  - You only choose a goal that will maximise your utility
  - Most goods have decreasing marginal utility
  - You will spend your money only on the good that gives highest marginal utility
  - Decision making is always requires consideration of opportunity cost

End of Part 2