

# Health Care Market Deviations from the Ideal Market

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## الفروقات ما بين سوق الرعاية الصحية والسوق المثالية

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**المخلص:** الجدل الشائع في مناقشة السياسات الصحية الطرح القائل بأن قوى السوق تُخصّص الموارد بكفاءة في مجال الرعاية الصحية، وبأن التدخلات التي تقوم بها الحكومات إنما تعرقل عملية تخصيص الموارد. من النادر ما يوضح أولئك الذين يدعون هذا الطرح بشكل صريح أن السوق التي يشيرون إليها إنما هي السوق المثالية حسب النظريات الاقتصادية، والتي لا تتوفر إلا لدى تحقيق شروط شديدة الصرامة. يستكشف هذا المقال الشروط الصارمة التي تستدعيها السوق المثالية مع اعتبار القرائن المحيطة بالرعاية الصحية بغية دراسة الطرح القائل بأن قوى السوق تخصص الموارد بكفاءة في مجال الرعاية الصحية.

**مفتاح الكلمات:** اقتصاديات الصحة، السوق المثالية، بنية السوق، فشل السوق، المنافسة المثالية، قوى السوق، العرض/الطلب، المساواة، الكفاءة الاقتصادية

**ABSTRACT:** A common argument in the health policy debate is that market forces allocate resources efficiently in health care, and that government intervention distorts such allocation. Rarely do those making such claims state explicitly that the market they refer to is an ideal in economic theory which can only exist under very strict conditions. This paper explores the strict conditions necessary for that ideal market in the context of health care as a means of examining the claim that market forces do allocate resources efficiently in health care.

**Keywords:** Health economics; Ideal market; Market structure; Market failure; Perfect competition; Market forces; Supply/demand; Equity; Economic efficiency

A COMMON ARGUMENT HEARD IN HEALTH care planning and health policy reform debates is that the government should stay out of health care and let the market allocate resources efficiently. It is further argued that government rules and regulations applied in health care markets interfere with proper resource allocation resulting in inefficiency.<sup>1</sup> The argument further states that without government interference, the "invisible hand" of the market would allocate resources optimally leading to economic efficiency in health care.

Although interesting, this argument is based on the assumption that health care meets all necessary conditions for an ideal perfect/free market. Unfortunately, this assumption is never articulated explicitly therefore the argument is not fully explored, understood or challenged. It is important to explore fully the argument, the assumptions made about the free market, and the

conditions necessary for the "invisible hand" to allocate resources efficiently.<sup>2</sup>

A market that meets all necessary conditions for efficient resource allocation is an ideal in economic theory, but a rarity in the real world. Markets do fail because necessary conditions for perfect/free markets are rarely met in any industry and least of all in health care.<sup>3</sup> When the necessary conditions of the ideal free market are not met, there can be market failures some of which are not easily corrected by the market and therefore require interventions from outside the market.

Another important issue that is also rarely articulated is whether free markets are a desirable feature of a health care system. This issue cannot be easily addressed through economic theory. It is an issue that requires a closer examination of the philosophy behind the foundation of the health care system in any country. It requires an examination of the culture and beliefs of the country about health

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and health care. Is health care a commodity to be bought and sold for profit, or is it a basic human right that should be accessible to all citizens?

#### SOME BASIC ECONOMICS CONCEPTS AND DEFINITIONS

For the sake of clarity and simplicity, it is necessary to define some basic economic terms and concepts. Efficiency is central to economic theory because human beings have unlimited wants but limited resources with which to meet those wants. Given the limited resources, human beings constantly make decisions that require tradeoffs. For example, a working person earning \$200 per week has many wants that might require more than the earnings. Because of the limited earnings, the individual has to prioritise in order to meet the most important wants, or the wants that provide the highest level of satisfaction. For each want met, there are several unmet wants (the trade-offs). The term efficiency means that resources are being used where they provide the highest value. Efficiency in consumption means that consumers use resources where they get the highest satisfaction level. For producers of goods and services, being efficient means they produce at the lowest possible average cost.

The term market refers to a situation where buyers (consumers) and sellers (producers) interact (directly or through intermediaries) to trade goods and services. It is a situation where forces of demand and supply interact to determine prices of goods and services being exchanged. Therefore, a market includes mechanism for: determining prices and quantities of the traded item, communicating information about prices, and for the distribution of the goods and services. Supply is the total amount of a product (good or service) that producers (sellers) are willing and able to sell at a specified price. Demand is the total amount of a good or service that consumers are willing and able to purchase at a given price. Market forces of supply and demand represent the aggregate influence of self-interested buyers and sellers on prices and quantities of goods and services offered in a market. Demand arises from consumers' push to get as much satisfaction as possible (utility maximisation) given their income limits, so it is a reflection of the value that consumers associate with the goods or services. Supply arises from producers' effort to maximise their profits. It reflects the costs of production.

Driven by self-interest, consumers will try to pay the lowest prices possible while producers try to sell at the highest price possible. This process results in an equilibrium where the quantity demanded is equal to quantity supplied at which point the equilibrium price and equilibrium quantity are determined.<sup>4</sup>

Under ideal conditions, production of goods or services is efficient (meaning that it is done at the lowest possible per unit cost). Consumption is also efficient—meaning that consumers are getting the best value for their money by combining goods and services in a manner that attains them the highest possible satisfaction (maximum utility) given their limited income. In other words, there is no waste in production or in consumption. This is the condition is described by economists as Pareto optimality or social efficiency. Under Pareto optimality everyone is at their highest possible welfare level given the resources they own. This occurs automatically only under ideal market conditions that facilitate the "invisible hand's" efficient resource allocation.<sup>2</sup> However, in the real world, ideal market conditions are rarely met. Consequently, there are market failures, meaning that the market fails to allocate resources efficiently, there is waste in production (average production cost is not at its lowest level), or in consumption (individual consumers are not attaining the value for their money), and Pareto optimality is not attained which means that there is resource waste and social welfare is less than optimal.<sup>3</sup>

#### HEALTH CARE MARKETS

Health care has several interdependent markets such as: education, manpower, institutional, pharmaceutical and others. The education market determines how many doctors, nurses and other professionals are trained every year and therefore how many such professionals are available to provide services. In this market, prices can be viewed in terms of tuition and other costs to the individual seeking training to be a physician, a nurse or other professional. Manpower markets determine labour prices (salaries and wages) paid to professionals. Institutional markets determine prices for hospital stays, or stays in nursing homes. In the pharmaceutical markets, prices of medications are determined. One can identify many other markets in health care. Because of the nature of the product for sale and the structure of health care markets

most of these markets do not meet the ideal perfect market conditions that facilitate efficient resource allocation.

#### IDEAL MARKET CONDITIONS – WITH REFERENCE TO HEALTH CARE

Several conditions facilitate the efficient workings of the market leading to efficient resource allocation. The main set of conditions can be viewed in terms of market structure. Other conditions include: marketability of all goods and services; demand certainty, i.e. The demand that is regular and predictable; supply certainty, i.e. the known or predictable quality of the product; avoidable risks; the customer's ability to test the product before consumption; information symmetry (between buyers and sellers); no price discrimination (charging consumers different prices for the same product), and that all suppliers in the market have a profit motive.<sup>5</sup> Other implied conditions are: consumers have sufficient information to make good choices; consumers can accurately predict the results of their consumption decisions; individuals are rational; a person is the best judge of his/her own welfare; there are no externalities; consumer tastes are predetermined; supply and demand are independently predetermined; firms do not have monopoly power; there are no increasing returns to scale, and others.<sup>6</sup> We will examine some of these conditions in the context of health care:

#### MARKET STRUCTURE

The structure of the market in which the firm is operating has a significant effect on efficiency. Market structure is defined by: the number and size of the firms in the market; the ease with which firms may enter and exit the market; the degree to which firms' products are differentiated; and the information available to both buyers and sellers regarding prices and product characteristics. Market structure characteristics determine competition which ranges from perfect competition where there are many small sellers and many buyers, a homogenous product and everyone is a price-taker, to a pure monopoly where there is only one supplier or a monopsony, a market with only one buyer. Between these extremes there are other structures such as monopolistic competition (many buyers and many sellers with a differentiated product) and oligopoly with a few sellers varying in size and

power in the market.

The ideal economic structure is perfect competition which has the following characteristics: many sellers (firms) and many buyers and each one individually too small to affect price levels so they are all price-takers not price-setters; homogeneous products such that buyers are unable to discern any difference between products sold by different sellers/firms; firms can enter and exit the market freely without restriction from regulations or costs so that new suppliers can enter the market to increase competition, or be forced to leave the market if they are inefficient; perfect knowledge/information about prices, and technology so that consumers and firms can access such information at zero cost, and no externalities (spill-over effects, e.g. smoking affects non-smokers) in production and consumption. These characteristics define an ideal market structure that might not exist in its pure form in real life, but has normative value and provides an understanding of how equilibrium prices and quantities are determined by market forces.

Economists can demonstrate mathematically (First Fundamental Theorem of Welfare Economics)<sup>3</sup> that perfect competition leads to Pareto optimality. Consumers get the "best bang for their buck" and producers produce at the lowest per unit cost. Inefficient producers are weeded out (go out of business because they make heavy losses) so that only the efficient producers survive, i.e. survival of the efficient. If the conditions of this market are not met, the market is unable to attain efficiency. For example, if there are barriers to entry or exit, new producers cannot get into the industry to increase competition. Prices and costs of production remain high and inefficient producers stay in business because they are protected from having to compete with more efficient producers. With higher prices, consumers do not get the best value for their money. There is inefficiency in production and in consumption.

Perfect competition attains efficiency because producers compete and increase production, which lowers the prices that consumers pay. Lower prices force producers to be efficient (produce at lower average costs) so as to make a profit. Those unable to cut their production costs experience losses and eventually have to go out of business. Inefficient producers have higher average costs and

therefore they incur heavy losses and are forced to shut down production. Only efficient producers survive in the market—survival of the efficient again. Thus, perfect competition automatically weeds out inefficiency and improves consumer welfare through lower prices. Lower prices enhance consumers' purchasing power so that they are able to meet more wants with their limited resources/income, thus gaining more "value for their money".<sup>7</sup> The structure of markets in health care is not competitive. There are barriers to entry and exit. Some barriers come from professional licensing, long and expensive training and expensive investment requirements (e.g. hospitals are expensive to build). The barriers might protect inefficient producers from being weeded out so that efficient resource allocation does not occur automatically. There might be a few hospitals in a city (oligopoly) or only one hospital in a rural location (monopoly) and a drug company with a patent is a monopoly with the power to set prices. Other conditions of perfect competition are contravened in health care: product homogeneity—the services of one physician are not identical to those of another; rather than perfect information, there is information asymmetry which can be a serious source of market failures as demonstrated later (see information asymmetry below). Price discrimination is common in health care (consumers pay different prices for the same service depending on their incomes or bargaining power). Obviously, health care markets do not meet the conditions of perfect competition. In health care, there are firms that have market power and are able to move and set prices. For example, a rural community that has only one hospital is essentially a monopoly within that geographic area. Such a hospital is not facing serious competition so it will be able to set prices high enough to suit its revenue needs. More importantly, it does not have to be efficient in production because it is not necessarily going to be driven out of the market by more efficient producers. Another example is a pharmaceutical company that has a patent on a drug. The company is a monopoly by virtue of the fact that no other company can legally produce and sell that drug until the patent runs out. For the duration of the patent the drug company is a monopolist. It is a price-setter for that particular drug, it can earn high profits and it will not have to be efficient in

production because it is not facing any competition. Because of the structure of health care markets, producers are not forced to be efficient. The market does not punish inefficiency as would be the case under perfect competition.

There are other market structures that lead to sub-optimal resource allocation because some agents have enough power to set prices by shifting demand or supply. For example, if there are only a few large sellers in the market (oligopoly) the sellers have enough market power to set prices and the market fails to allocate resources efficiently. A good example of oligopolies is in the US health insurance industry which is dominated by a few large companies. In some local areas, there might be only one company which essentially means that they are monopolies. Thus the condition that everyone in the market is a price taker is contravened in health care and that does lead to market failures.

#### PRODUCT MARKETABILITY

Health care as a product or service is not consumed because it provides a consumer with satisfaction (it might even be unpleasant or painful), but because the individual wants to retain good health. The demand for health care is derived from an individual's wish to regain good health. The qualities of the product (health) make it difficult for markets to meet the ideal market conditions. Health is not a marketable product, that is, it cannot be exchanged between consumers. Since demand for health care is derived from the demand for health, the non-marketability of health reduces the power of market forces (demand and supply) to determine prices and quantities. Consequently the ability of the market to determine resource allocation is greatly reduced.

#### INFORMATION ASYMMETRY

There are several information asymmetries in health care, but we will examine two: between the doctor and the patient, and between the consumer and the health insurance company.

Doctors (suppliers) know more about illness and treatments than their patients. Patients depend on the doctor to act in their best interest, but there is a conflict of interest because the doctor is selling a service to the patient. The doctor is in a position to determine demand for the service (acting on behalf of the patient, presumably for the patient's welfare) and the doctor is also the supplier of the services. In

this case demand and supply are jointly determined by the same individual at the same time which can result in market failure. For example, if the doctor is driven by the profit motive, or is seeking higher income, the doctor might order more services than necessary (e.g. if he/she owns a laboratory or imaging equipment). This market failure is termed "supplier induced demand". There are several studies that indicate evidence of supplier-induced demand in health care. In a Japanese study, Izumida, Urushi and Nakinishi found that increases in the number of physicians per capita significantly increased use of inpatient services and outpatient services.<sup>8</sup> This implies that when more doctors moved into an area they had to share the patients so they increased demand for their services in each encounter by inducing demand from the patients under their care. Another Japanese study examined whether more frequent use of percutaneous transluminal coronary angioplasty (PTCA) for patients with acute myocardial infarction (AMI) in Japan is driven by physicians' self-interest or by patient behaviour.<sup>9</sup> After controlling for a patient's detailed characteristics, they found that increases were significantly related to physician-initiated expenditures and the effect is higher for high-tech treatments. This finding is supported by findings of an American study that found similar market failure in large metropolitan areas.<sup>10</sup> Similarly a study of ambulatory care in France found strong support for the existence of physician induced demand in the French system.<sup>11</sup>

Information asymmetry between individuals purchasing health insurance and the insurance company results in two market failures termed adverse selection and moral hazard.

#### ADVERSE SELECTION

Individuals in poor health have a greater incentive to purchase health insurance than those in good health. Individuals in poor health make greater utilisation of health care than the healthy, leading to higher payouts by the insurance company. To avoid incurring losses, insurance companies might raise premiums. Higher premiums will further discourage healthy individuals from purchasing health insurance so that only the very ill buy insurance leading to losses by insurance companies and eventually this might mean the demise of a market.<sup>12</sup> This market failure can be corrected by

universal coverage, i.e. everyone buys coverage so that insurance companies have a pooled risk which on the average is lower than the risk from covering only the very ill. The other solution is screening and experience rating that allows insurance companies to change different premiums according to risk levels.<sup>13</sup> Studies indicate huge welfare losses due to adverse selection.<sup>14</sup>

#### MORAL HAZARD

Individuals covered by insurance tend to use more health care and they might not take necessary precautions to stay healthy because they know they have insurance coverage. This leads to inefficient use of resources. Insurance companies try to correct this by employing gate-keepers who monitor and restrict health care access and by charging co-payments and deductibles. Unfortunately, these are applied to everyone including those not overusing services, which make these solutions inefficient.

#### INTERDEPENDENT DEMAND AND SUPPLY DETERMINATION

An increase in demand for health care (e.g. due to an influx of population, or an epidemic) can lead to higher prices for such care. The increase in prices might result in the physician supplying less hours of work. For example, if a physician wants to earn \$100,000 per year, he may usually earn that much by seeing 100 patients a week. If the price for services goes up, he might be able to earn that income by seeing only 80 patients a week. He/she will then be able to hit the target income by supplying less hours of work—thus seeing fewer patients and spending more of his/her time on leisure. This situation results in the famous "backward bending" labor supply curve. Thus supply and demand in health care are not determined independently leading to market failures.

#### CONSUMER RATIONALITY AND ABILITY TO MAKE THE BEST JUDGMENTS ABOUT THEIR WELFARE

Consumers seeking care are not always in a position to make the best judgment about their welfare even if they have the ability and freedom to do so. For one, they lack necessary information about their illness or the effective treatment. Moreover, there are some situations of extreme stress making it impossible for the individual consumer to make the

judgment (e.g. someone in a car accident, passed out on the roadside). Furthermore, consumers cannot accurately predict the results of consuming health care. When visiting a doctor for a particular condition, the consumer is not able to predict accurately what the results of the visit will be, even if they have been through similar circumstances before. A treatment regimen that worked previously might not work the same way.

Economists consider an individual to be rational if they made consistent and transitive decisions. "Consistent" means that when faced with the same conditions they make the same decisions every time. "Transitive" is used in the mathematical logic sense that, in a relation between three elements, if it holds between the first and second, and it also holds between the second and third, it must necessarily hold between the first and third. For example, an individual is offered three choices A, B, and C. If they prefer choice A over B and they also prefer choice B over C then they must prefer choice A over C. Economists would consider an individual rational if they decided/acted in this manner. However there are numerous findings of consumers acting irrationally.<sup>15</sup> This is why we all ask ourselves the question "What was I thinking?" after realising that we acted irrationally. Thus there is evidence that consumers do not always act rationally thus the condition is not met in health care.

## EXTERNALITIES

Externalities are spill-over effects of consumption or production. Positive externalities occur when the actions of one individual result in a spill-over that improves the well being of another individual and negative externalities impose a cost on another individual. Smoking is an example of a negative consumption externality because one individual's consumption (smoking) affects other people's health negatively (effects of second-hand smoke). An example of a positive externality is immunisation. If some individuals are immunised they provide "herd immunity" in the sense that they do not get the illness therefore they do not pass it on to others. Their immunisation provides a benefit to others—a positive externality.

With the presence of externalities, individual production or consumption decisions are not optimal because they are made without consideration of all costs or benefits. Often, spill-

over effects are not included in decision-making because they are not visible to the producer or consumer. In the case of a negative externality, the external spill-over costs are not included and in the case of positive externality, the spill-over benefits are excluded. Therefore, the consumption or production level selected is not optimal or efficient. In cases of positive externality, the production or consumption level is below the optimal while with negative externalities the level is higher than optimal. Therefore externalities lead to inefficiency and so to market failures.

The market is usually not able to correct inefficiencies arising from externalities. To correct failure due to externalities, the consumer or producer has to consider both the private and the external (spill-over) costs or benefits. Such considerations in the decision-making process would result in production or consumption at optimal levels. One method of making the producer or consumer consider total benefits or costs in production is to provide subsidies in case of positive externalities, or taxes in the situation of negative externality. The subsidy makes the external benefit part of the private benefits that the consumer or producer will consider in decision-making so as to arrive at optimal production/consumption quantities. The tax serves to make the producer aware of the extra costs that they impose on society so that they can arrive at optimal quantities in their decision-making. Thus taxes or subsidies might eliminate the effects of externalities and lead to efficient allocation of resources. However, these usually require government action. The way taxes are used (allocated and distributed) has an effect on societal welfare. Furthermore, there are issues of measurement and arriving at the correct amount of tax or subsidy that will lead to efficiency.

## PREDETERMINED CONSUMER TASTES

Another implied condition is that consumer tastes are already determined at the time the consumer enters the market. This condition is not met in health care and consumer tastes are malleable. For example, consumers in the USA might demand newer, more expensive technologies rather than older ones that are equally effective, but less expensive. Such demands lead to unnecessary increases in health care costs—an inefficient use of resources (market failure).

## RETURNS TO SCALE

Increasing returns to scale refer to production situations with large fixed costs so that as the scale of production increases the average (per unit) cost of production decreases. This is true in industries that require expensive machinery to operate and, once the machinery is in place, the extra costs of production are not as high as the initial costs of setting up such machinery. In health care, there are increasing returns to scale. For example a hospital or imaging centre might cost a lot to build and equip, but once it is in operation the more services it provides the smaller the per unit costs of providing each unit of service. The existence of economies of scale leads to market power because large firms have lower average costs and are able to survive in the market and to make profits. This also means that the large firms are more efficient than the smaller ones. If there are economies of scale, it would make sense to ensure that the industry has a few larger firms producing at low per unit costs rather than many little ones producing at higher per unit costs. This might happen naturally (survival of the most efficient) because larger producers experience lower average costs and are less likely to make a loss than small firms producing at high average costs. If there are infinite economies of scale, the most efficient production might need only one firm—a situation termed natural monopoly. This situation gives the one or few firms a great deal of market power which can be used to set prices at very high levels (reducing consumer purchasing power and welfare), produce poor quality services, or practice price discrimination (segmenting the market and charging consumers different prices for the same good or service). This situation can lead to a transfer of income from consumers to the powerful producer, and therefore, a decrease in consumer welfare. The bottom line then is that this condition (no economies of scale) is contravened in health care leading to non-competitive market structures and to monopoly pricing and lower consumer welfare—market failures.

## PROFIT MOTIVE

According to economic theory, the objective of a producer is to make as much profit as possible (profit maximisation). Producers who seek to maximise profits are forced to be efficient because they need to reduce production costs so as to increase their

profits. Under perfect competition, they are driven to be efficient, not only by the profit motive, but also by the need to stay in business. In doing so they use resources efficiently thus improving social welfare; however, in health care not all firms are profit driven. For example, in the USA and in other countries, there are hospitals that are not for profit, but provide a necessary service. In fact, of the 5,162 hospitals in the USA in 2008, only 1,072 were for profit (20.8% of the total). This implies that the majority of the hospitals are driven by other goals than profit.<sup>16</sup>

Empirical evidence suggests that doctors might be motivated by a "target income"<sup>17</sup> not necessarily by profit. They might also be motivated by the satisfaction they get from seeing their patients recover. Thus the profit motive is not always the dominating factor in health care. This implies that health care firms are not necessarily driven to be efficient in production as other firms aiming to make a profit under stiff competition.

In the USA, a large number of nursing homes are for profit and so is the health care product market (pharmaceuticals and equipment). Therefore the US health care industry is not all profit driven but has for-profit enclaves. This would imply that the profit motive condition is also contravened in health care. Firms do not always strive for efficiency.

In the USA, there are disparities in health status and access to care. Minority populations (African Americans, American Indians, Hispanics and others) experience poor health status and poorer effective access to health care than the majority white population.<sup>18</sup> Moreover, there are geographic disparities (lower access in rural than in urban areas) and socioeconomic disparities with the poor having worse health than the rich. There are also gender disparities with women experiencing worse health care access than men although they have longer life expectancies. There is therefore an unequal distribution of health and health care that is not approved by society. Some of the reasons for the unequal distribution are economic while others might be historical. The minority health disparities seem to be experienced by other countries as well such as the UK,<sup>19</sup> India, Australia and others. Disparities might not be corrected by the market.

## INTERVENTIONS TO REDUCE EFFECTS OF MARKET FAILURE

Consistent with economic theory, markets respond to failures by developing structures that fill the gaps resulting from such failures.<sup>3</sup> Examples of such structures in the US include: independent physicians, cost-based reimbursement for hospitals and managed care.<sup>20</sup> To some degree, health insurance is a structure that covers market failure due to large unavoidable risks of illness. Market structures are not always successful in closing such gaps. They might even create other inefficiencies as is the case of health insurance (adverse selection, moral hazard and stinting)

Governments can and do intervene in markets to correct market failure. The intervention might come in the form of taxes, subsidies, regulations and providing services directly. In US health care there are subsidies for older people, or people with disabilities and for children. Support for direct supply of services is that governments can provide more of the merit goods or services with positive externalities that markets tend to under-produce; they can provide services in industries with economies of scale and ensure that minimum standards are met and there is greater equality in distribution of goods or services. However, government intervention is not always successful in correcting market failure. There are government failures due to reasons such as: poor information about the type and size of services needed to correct the failure; political exigency focusing on short term effects (e.g. in an election year) rather the long run goals; administrative costs and bureaucracy; inefficiency because there are no incentives to be efficient; multiplicity of conflicting objectives in government, and changes in government policy as a result of the political business cycle.

## Discussion and Conclusion

Obviously, health care markets do not function like the ideal economic market. These markets do not meet all necessary or sufficient conditions for the ideal economic market. Therefore, there are numerous market failures and inefficiencies due to such failures. Moreover, the distribution of health and health care is not at a desired level. As a consequence, there have to be interventions in

these markets to close gaps and improve efficiency. However, issues of economic efficiency, market structure, and whether the government has any role in the health care of its citizens can be a cause of bitter and divisive political debates (e.g. 2010 US Health policy reforms). Such debates tend to use economic theory without full disclosure of the assumptions made about the market. This is particularly true of arguments that support the market economy blindly without due consideration for market failures and their impact on economic efficiency and social welfare. The result is statements that sound true to a non-economist, but are totally false given that the wrong assumption has been made.

There is evidence that government control in health care can have desirable results in the form of better and equitable access to care and good health outcomes. Some of the more successful health care systems are government controlled with little influence from the market and others are very tightly regulated. A good example of a government controlled health care system is the Cuban system. It is built on a strong primary care foundation. It provides comprehensive health care to all its residents with nobody falling between the cracks.<sup>21</sup> Despite Cuba being a poor country, it attains health outcomes that are comparable and sometime better than those of rich economies such as the USA. For example, Cuba enjoys higher vaccination rates (99.9%); an excellent ability to control and quell epidemics effectively; high life expectancies (78–84 years), and low infant mortality rates. Despite being under a trade embargo, Cuba has developed a unique methods of treating illnesses such as Parkinson's disease, retinitis pigmentosa, multiple sclerosis and other neurological disorders. It exports medical products such as vaccines. Consequently, Cuba attracts about 20,000 health tourists annually.<sup>22</sup> Cuba sends doctors to provide services all over the world and trains doctors from other countries through a programme of international giving and support. One fundamental difference between the Cuban system and market-based systems is the philosophy on which the system is built.

The philosophical question for any health care system is, "Should health care be traded for profit?" a question that relates back to an even more fundamental question, "Should health be treated as a human right or as a commodity that can be traded

for profit?" The Cuban system is built on the belief that health care is a human right that should be accessible to all. Based on this belief, the system is set up to make sure that health care is accessible to all Cubans.

The fundamental philosophy governing the health care system in any country is reflected in the kind of system that is in place to provide care. If a country treats health and access to care as a basic human right for its citizens, then the question of profit maximisation would be a non-issue. The health care system would have a different objective function with a slightly different focus. Efficiency in health care markets would be judged by a different standard because then the objective function of the health care system would be different from a typical economics objective function. The structure of the health care system and its distribution patterns and channels would also be different and would reflect the system's basic philosophy about health and health care.

Efficiency in health care does not always lend itself to market forces because health care takes on properties of merit goods. Consumption of such goods is desirable because the social benefits exceed the private benefits, i.e. there are positive externalities. Like education, health can be viewed as capital stock or human capital. According to Grossman, each individual is endowed with a stock of health which depreciates over time, but the individual has the ability to increase this stock through healthy behaviour such as good diet, accessing health care and preventive measures.<sup>23</sup> The stock of health is a merit good because an individual's health has an effect on the rest of society. A healthy population provides a productive labour force that builds a country's economy. An individual sees the benefits of being healthy, but might not necessarily see the benefits of his/her good health to the rest of society, i.e. the private benefits of good health are less than the societal benefits. So an individual's decision about the optimal level of their health might be less than optimal considering the larger societal benefits. This is also true of education and that is why the governments play a big role in it. If merit goods are left to the private sector—or the market, there is under-consumption (e.g. vaccination) and therefore, inefficiency.

Moreover, other desirable features in a country might not be attainable through market

forces alone. For example, if health and health care equity are desirable features, there might be need for government intervention because these qualities are not easily attained through the market. Government involvement in health care is often necessary because there are many market failures in health care and the market is not always able to correct such failures.

It is even more important for smaller countries to determine and explicitly state the philosophical foundations of their health care systems. The reason for this is that smaller countries might have economies that are more open and therefore more vulnerable to economic changes than other countries/economies. Furthermore, their citizens might be dependent on accessing care from other countries, or at the very least they might depend on getting health care manpower from other economies. These conditions might cause the small country to "import" inefficiencies from other economies that are a result of market failures or even government failures. For example in Oman, the health care system might use care providers from outside the nation. This might make their system more vulnerable to inefficiencies from outside Oman. However, the example of Cuba indicates that a small economy can avoid the inefficiencies of other economies by being clear about what the fundamental purpose of their health care system is and then building it to attain the stated purpose. Another example is Thailand that reformed its health care system in 2001 with a clear purpose of attaining universal health care. With this aim, the country built a health care system supported by an insurance system and an electronic data storage and access system that improved efficiency and increased access for the poor.<sup>24</sup>

## References

1. The Heritage Foundation. Government intervention in health care increases costs. From: [http://blog.heritage.org/?p=45329\(2010\)](http://blog.heritage.org/?p=45329(2010)) Accessed: Apr 2011.
2. Smith A. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Chicago: University of Chicago Press, 1976 (originally published in 1904 by Methuen & Co, Ltd.).
3. Greenwald B, Stiglitz JE. Externalities in economies with imperfect information and incomplete markets. *Quart J Econ* 1986; 101:229–64.
4. Barr N. *Economics of the Welfare State*. New York:

- Oxford University Press, 2004.
5. Arrow KJ. Uncertainty and the welfare economics of medical care. *Am Econ Rev*, 1963; 53:941–73.
  6. Rice T, Unruh L. *The Economics of Health Reconsidered*. 3rd ed. Chicago: Health Administration Press, 2009.
  7. Frank R. *Microeconomics and Behavior*. 9th ed. New York: McGraw-Hill, 2009.
  8. Izumida N, Urushi H, Nakanishi S. An empirical study of the physician-induced demand hypothesis—The cost function approach to medical expenditure of the elderly. *Japan Rev Soc Policy* 1999; 8:11–25.
  9. Noguchi H, Shimizutani S, Masuda Y. Physician-induced demand for treatments for heart attack patients in Japan: Evidence from the Tokai Acute Myocardial Study (TAMIS). *Econ Soc Res Instit (ESRI) Discussion Paper Series* 2005;No.147.
  10. Cromwell J, Mitchell JB. Physician-induced demand for surgery. *J Health Econ* 1986; 5:293–313.
  11. Delattre E, Dormont B. Fixed fees and physician-induced demand: A panel data study on French physicians. *Health Econ* 2003; 12:741–54.
  12. Akerlof GA. The market for "lemons": Quality uncertainty and the market mechanism. *Quart J Econ* 1970; 84:488–500.
  13. Manning WG, Newhouse JP, Duan N, Keeler EB, Benjamin B, Liebowitz A, et al. Health insurance and the demand for medical care evidence from a randomized experiment. *Rand Health Insur Series Rep* 1988; R-3476-HHS.
  14. Cutler DM, Zeckhauser RJ. The Anatomy of Health Insurance. In: Culyer AJ, Newhouse JP, Eds. *Handbook of Health Economics* Vol. 1, Part 2, 2000. Pp. 1093–139.
  15. Ariely D. *Predictably Irrational. The Hidden Forces That Shape Our Decisions*. London: Harper Collins, 2010.
  16. US Agency for Healthcare Research and Quality. National estimates on characteristics of various types of hospitals from the HCUP Nationwide Inpatient Sample, 2010. From: <http://hcupnet.ahrq.gov/HCUPnet.jsp> Accessed: Jun 2010.
  17. Fuchs VR. The supply of surgeons and the demand for operations. *J Hum Res* 1978; 13:35–56.
  18. Smedley BD, Stith AY, Nelson AR. *Unequal treatment: Confronting racial and ethnic disparities in health care*. Washington DC: Institute of Medicine, National Academies Press, 2003.
  19. Parry J, Judge K. Tackling the wider determinants of health disparities in England: A model for evaluating the new deal for communities regeneration Initiative. *Am J Public Health* 2005; 95:626–8.
  20. Dranove, D, Satterthwaite MA. The industrial organization of health care markets. In: Culyer AJ, Newhouse JP, Eds. *Handbook of Health Economics* Vol. 1, Part 2, 2000. Pp. 1093–139.
  21. Anderson M, Mother R. Cuban Health care System. *Social Medicine Portal*. From: <http://www.socialmedicine.org/2008/05/18/latin-american-social-medicine/the-cuban-health-care-system/> 2008. Accessed: May 2011.
  22. Drain PK, Huffman SA, Pirtle SE, Chan K. *Caring for the World: A Guidebook to Global Health Opportunities*. Toronto: University of Toronto Press, 2009.
  23. Grossman M. On the concept of health capital and the demand for health. *JPE* 1972; 80:223–55.
  24. Hughes D, Leethongdee S. Universal coverage in the land of smiles: Lessons from Thailand's 30 baht health reforms. *Health Affairs* 2007; 26:999–1.