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# MARKET FAILURE IN HEALTH CARE: A REVIEW

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## ABSTRACT

Market refers to a place or state where a consumers and the sellers interact either directly or indirect 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. Healthcare is essentially one of basic human need and very limited and requires allocation and institutions to organize its allocation. Healthcare market often mentioned as to be different from many other goods and services which make it different from the perfect market. The aim of this article is to describe the characteristics of the market failure. A simple systematic review was done for this article involving English literature of public databases and journal search engines. As a result of our literature review, characteristics of market failure can be simplified and categorized based from the factor of market namely; government intervention, patient factors, and external factors. All the essential contents of market failure are discussed further in this article. For the conclusion, although there are many characteristics of market failure, the main characteristics of market failure in healthcare market is due to government interventions which subsequently cause emerging of other characteristics of market failure in healthcare market.

**Keywords:** Market failure, Market failure in healthcare, characteristics of market failure

## 1.0 Introduction

Market refers to a place or state where a consumers (buyers) and the sellers (providers) interact either directly or indirect to trade or exchange goods and services. It is a situation where forces of demand and supply interact to determine prices of goods and services being exchanged. Whereas healthcare is essentially one of basic human need and like other commodities, it is very limited and requires allocation and institutions to organize its allocation. However, healthcare often mentioned as to be different from many other goods and services which make it different from the perfect market. The aim of this paper is to describe the different characteristics of market failure in healthcare market.

### *1.1 Healthcare system*

Health care is essentially one of basic human need. Countries around the world have different system in delivering the healthcare to its people. Since 1970s, economies had suggested four 'ideal types' based from main characteristic of healthcare, these include: the *pluralist* health system, the *health insurance* system, the *health services* system and the *socialized health* system (Claus, 2009). Later in 1980s, more simple typologies according to dimension on the 'basis of entitlement' and 'role of the state' of healthcare system were considered which include the degree of who is financing, providing and regulating healthcare services. Claus (2009) also explain that wider classification based upon the potential range of variations emerges over times thus formed another 27 distinct types of healthcare system which categorised by; *ideal-type*, *mixed-types*, *pure mixed-types.* In keeping with the various healthcare systems, country has various measures to control their own healthcare. For example, U.S. government conduct an economic analysis in 1993 as a means of determining the need for proposed regulations for healthcare market (Richard, 1999). Some healthcare system served by represents mixed system of healthcare. The German for instance, can be characterized by predominantly social insurance-based regulation and financing combined with a high and increasing share of private healthcare provision, while Scandinavian countries, represent ideal-type state healthcare systems (Claus, 2009).

A country also can change from one healthcare system to another or reform due to various reason. Example in2011, Ireland government had change from largely tax-funded healthcare into Universal Health Insurance (UHI) due to an increase in administrative costs of healthcare of the country (Sheelah, 2016). Healthcare market is dynamic and subjected to change when needed.Thus even though different country has different healthcare system or market but the role almost always to ensure healthcare is in proper shape to be utilized by the people at that particular time.

### *1.2 Healthcare as commodity*

Health care is not different from other goods in the sense that like other commodities it is scarce, and therefore requires allocation and institutions to organize its allocation (Gilson, 1988). Since end of 1950s, economists had begun to turn their attention to matters concerning the allocation of resources devoted to preventing, curing, and alleviating ill health, thus defining the 'product' or the good of healthcare institution as generically as the kinds of service provided by physicians, nurses, or/and hospitals (Culyer, 1971). There can be no doubt that healthcare is not equal to other economic good such as food but, it is more similar to other services like education, which involved services and frequently provided publicly since there is involvement in the production process and consumption element of individual (Gilson, 1988). Thus, healthcare can be classified as tertiary sector or intangible goods. The problem however involved in separating out consumption, investment and substantial cost that giving rise to major distributional issues and so, this probably unique to which applied to healthcare compared to other goods or services.

More recent understanding, which involved availability of online information, reflects rational economic behaviour within a globalized market that include cross-border healthcare just like import and export of goods. Economists are often very optimistic with respect to the benefits of cross-border health care (Connolly, 2011). It is broadly agreed however, improved sharing can be effective in improving quality and cost-effectiveness. Like any other good, trade agreement must be put in place for better regulation. Example is Trade Related Intellectual Property Rights agreement; it has a particularly powerful enforcement mechanism and profound implications for public health in the way that it will place unnecessary restrictions on the use of generic products, as a result; inevitably increase healthcare costs, and erect barriers to scientific innovation or development (Kent Buse, 2005). Regulation may affecting the economy by importing skilled medical and nursing staff from poor countries to rich countries giving rise to medical tourism which allows these specialists an opportunity to apply their skills locally and benefit from their training while encouraging others to pursue related professions(Connolly, 2011). Such globalization, allowed consumption, investment, allocation and distributional expand wider to meet the required demand and supply.

Thus, healthcare behaves just as commodity but rather different in many aspects as discuss above, therefore to fully appreciate the healthcare market and its implications, it is necessary to understand the concept of market failure.

### *1.3 Concept and Characteristics of market failure*

The first fundamental economic theory stated that a market that meet certain conditions and all necessary condition with perfect competition has equilibrium position and relatively efficient (Butler, 1993; Bruce C. Greenwald, 1986). According to Cunningham (2011), a perfect market which does not suffer from market failure is the best choice for coordinating allocation decision on scarce goods. Market failure is a market that violence all the necessary conditions for a perfect market (Butler, 1993). Market failure are rarely met in any industries and least of all in healthcare market, This cause a deviation of healthcare market from perfect market. There are several characteristics of market failure in healthcare market which will discussed in details such as; Consumer rationality and consumer sovereignty, Risk and uncertainty, Asymmetrical Information, Externalities and Public goods, Competition and Barrier to market entry, Economies of scale and Government Intervention (Kay, 2007; Butler, 1993; Mills &Gilson, 1988).

Consumer rationality and consumer sovereignty indicates the readiness of the consumer to use their resources in order to maximize their utility or benefit (Mills & Gilson, 1988). For example, rationality appears to be vague or difficult in healthcare. For those which unable to rationalise or recognise their requirement for healthcare services will be left to those consumer that willing to pay for the services.

Risk and uncertainty is where the need for healthcare is very unpredictable. Risk is refer to conditions where probabilities target can be identified for certain results and uncertainty is refer to condition where there is sufficient information to identify the objective probabilities (Toma, Chiriţă, & Şarpe, 2012).Healthcare market is often to be very costly and consumers with the illness have to pay a large amount of costs for the treatment. In order to cope with this problem, Insurance system had been developed and many countries insurance systems exist to cover the expenditures of treatment. Besides that, there are some different between insurance scheme provided by private company and government instead. For private company, they are more to profit oriented and the risk treated. Their insurance scheme based on characteristics of those applying for insurance and the estimated costs of treatment for certain conditions(Mills&Gilson, 1988; Rigotti et al., 2004). Therefore, some sort of interventions is require to make sure all individuals have access to healthcare regardless of their age, state of health, and financial status.

Asymmetrical information is another characteristic of market failure. Its occurs because not all party have sufficient knowledge about the goods or services provided beside the other party and cause them to unable to give an accurate decisions (Bayar et al., 2009; Mills&Gilson, 1988). In healthcare market, consumer may not even realize that they are sick and their entrance into this market usually rarely and their knowledge or past experience maybe outdated while the urgency of some condition require urgent attention. They may seek for second opinion but usually doctors are not very keen to provide conflicting information to disagree with their associates. In other way, the doctor will act as the consultant on behalf of patient and agent to the supplier. This will cause exploitation of the consumer depending on the price of healthcare and the method used to pay for it.

As for Externalities and public goods, externality is a cost or benefit that affects a party not directly involved in a transaction where as a public goods is one of the type of externality. When a goods is provided, it is possible for other individuals to consume it without reducing the consumption of others and simultaneously it is impossible, or at least difficult to exclude others to consume the same goods(World Bank, 1993).Many public health interventions, such environmental control of vector borne disease such as malaria and radio-based health information campaigns where one person’s consumption does not prevent other from having the same benefits (World Bank, 1993; Mills& Gilson, 1988).

Healthcare market is not a good place for competitive market as a number of professional groups have developed a mechanism to control the entry to the healthcare market and make it a non-competitive market. The reason for this control is to maintain standard of practice and to reduce uncertainty regarding professional competence. The disadvantage of this control mechanism is by reducing the competition; it will reduce the supply and subsequently increase the costs. Professionalization may have increase the numbers of highly trained personnel and reduced uncertainty about competence but it is essentially anti-competitive (Cunningham, 2011)

Economies of scale and monopoly are another cause of market failure. An economy of scale has a tendency for some company to develop monopoly especially in healthcare market. The high cost of investment which is so high that only a few company able to invest lead to limited degree of competition between a few large company (Cunningham, 2011).

Another characteristic of market failure is government intervention. Government intervention is any mean of supports given by state government to help maintained the market and correct the market failure. Example of government intervention such as internalise externalities, Tax implementation, the provision of public goods to overcome free-rider problem, publicity and legislation to reduce problem associated with asymmetrical information (Webster, 2003).

## 2.0 Materials and Methods

A systematic review was done to search the articles related to Characteristics of Market failure in Healthcare Market according to the Prisma flow diagram (Figure 2.1). The articles searched were conducted via Public search engine and also Journals search engine such as science direct, Sage publications, PubMed, Google scholar and Elsevier journal site. Our keywords for searching articles were “market failure”, “Healthcare market”, “characteristics of market failure and “Market failure in Healthcare market”. The search criteria did not

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include any limitation on publication date. Besides that, only articles and books that published in English and full text availability were included in this study.

Through the search engine, a total 45 articles and reports were found. The primary screenings of the articles were done by reviewing the titles and abstract of the articles. Those articles which were duplicated, not focused on market failure in healthcare market were excluded. Secondary screening was done by examining the full articles and reference list of included articles, Those references list that describing the various characteristics of market failure later were examined and those articles which meet the criteria's were used. Those articles which not related to characteristics of market failure and healthcare market were excluded. Finally only 20 record were included in this study.

## 3.0 Result and Discussion

From a literature review, market failure characteristic can be simplified and categorized based from the factor of market namely; government intervention, patient factors, and market factors.

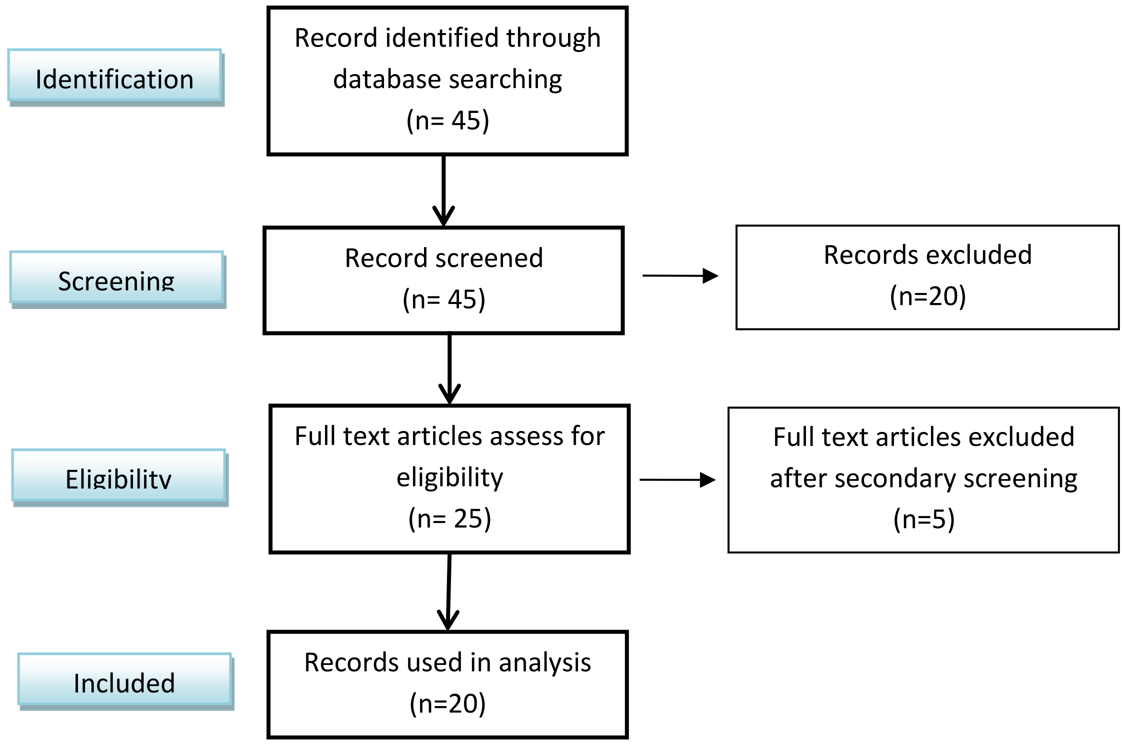


**Figure 2.1 :** Prisma flow diagram of a review of market failure in health care

### *3.1 Government intervention*

Government intervention plays important key roles either directly or indirectly towards market failure in healthcare market. This factors can be seen as two spectrums either ‘causes’ or ‘reaction’ toward the characteristic of market failure based from sufficiency and efficiency. Sufficiency is established when the gains from government intervention outweigh the dangers market failure (Richard, 1999). In order to do so, government implies tax subsidies that may offset externalities of some type that influence the healthcare market. The Market failure is to be assumed that it is a necessary condition for efficient intervention (Richard, 1999). Thus, the government can intervene in various ways including but not limited to taxation, subsidies and regulation.

The ability to identify failure is the first step for any improvement especially in healthcare market. This has leaded the government to change the regulation in order to adjust the situational need. Such need required reform and adjustment over period of time. In many countries (e.g. the U.S.A., Russia, the Netherlands, U.K., Israel, and New Zealand) reform are being implemented or have been proposed by their governments in order to make the health care system more competitive(Wyanand, 1994). The reformation by the government is very beneficial in a way that it is promoting growth of the healthcare market and as seen as another type of government intervention in healthcare market. Another aspect like barrier also plays important aspect. In public-health systems, authorities can introduce treatment barriers to minimize practice variation between doctors and limit supplier-induced demand (Connolly, 2011). Thus reformation, barrier to market entry, and economy of country may in some extend reacted toward healthcare market.

Some of government intervention may give various issues and not necessarily always give benefit. In its more productive forms, this leads to a comparison of the benefits of government intervention with the risk that principal-agent problems in the public sector will make the problem worse (Richard, 1999). Public sector will be over utilized and thus impaired the quality of services. Private sector as competitively also effected when various implementation only favour public sector. The choice for a monopolistic or competitive model of third-party purchasing may be motivated by practical reasons (Wyanand, 1994). Healthcare market indirectly affected by such monopoly. If a market failure can be resolved by the creation of an incentive that will allow the market to correct itself, such as tax expenditure, this is to be favoured over more aggressive treatments such as the creation of a government monopoly (Richard, 1999).

Overall, the government intervention is said to be beneficial in term of taxation, subsidies, regulation, reformation, and barrier to market entry in order to control the market failure but sometimes it is not necessarily always give positive implication toward healthcare market whether directly or indirectly. Government intervention thus, has broad influence towards the market failure characteristic.

### *3.2 Patient factors*

Patient factor also play crucial role in market failure especially in uncertainty, availability of information, rationality and consumer sovereignty. There are four points when describing uncertainty of patient which may affect the ability of healthcare market to satisfy the necessary optimal conditions namely: Inability to calculate own cost of medical treatment, ignorance toward the quality, unfair insurance obtainable and lastly moral hazard witch prevent optimal healthcare the patient received. The consumer in health care is uncertain about when he/she will need medical care, about how much medical care is needed and about the effects of a medical treatment (Wyanand,1994). Doctor as provider also has uncertainty in which the higher the weight placed by the doctor on the prior and the lower the weight placed on the signal or symptom (Ana, 2003). Thus uncertainty involved in both provider and consumer in healthcare market.

As discuss earlier in modern world, information are readily available at the tip of fingers especially when in the era of smart phone. For example, the asymmetry of information between patients and doctors, make patient to desperate enough to travel internationally to pay out-of-pocket for treatment, creates a caustic environment that can give rise to supplier-induced demand (Connolly, 2011). The overall situation may give advantages as well as disadvantages. However across the globe internet generally and smart phone specifically are the mean for patient to enquired regarding aetiology, clinical features and disease management are readily available. Such information gap can be improved and also help patient (as consumer) the power to choose the best knowledge.

Another factor is rationality and consumer sovereignty also known as self-interest. When price differentials exist for what is perceived to be an equivalent product, the self-interested and rational 'Homo economicus' will always make the best purchasing decisions to maximize their own welfare based on their financial abilities(Connolly, 2011). Even though information is available to patient but there are still two crucial assumptions regarding rationality towards patient factor.

Patient factors are not the main roles in market failure especially in healthcare because of various reasons. This include the patient characteristic varies over different countries and another reason is that, different healthcare system shape the different patient need and behaved. Thus uncertainty, asymmetrical information, rationality and consumer sovereignty are interrelated to each other ultimately characteristic of market failure.

### *3.3 Market factors*

There are many market factors that contributed to market failure in healthcare market. Based on our literature review, Competition and barrier to market entry is one of the market factors which contribute to market failure in healthcare market. Example of the barrier of entry is the government intervention by introducing treatment barrier to minimize practice variation between doctors and limit supplier- induced demand (Connolly, 2011). By doing so, it limit entry by new company into the healthcare market. Moreover, it cause the healthcare market become less competitive and cause increase in price of the goods and services. Subsequently it will cause the price of the goods and service to increase and cause burden to government and public generally if no intervention is done. Besides that, the choice for a monopolistic or competitive model of third-party purchasing may be motivated by practical reasons. According to Wyanand (2017), some countries have a clear preference for models that are as close as possible to current system to maximize the political and technical feasibility of the reform proposal. It seems that the competition among the company in the healthcare market will be near zero and this condition will prevent the newcomer to enter the healthcare market without acceptable amount of capital. Another effect of these characteristics, it's allowing the companies especially involving in pharmaceutical to charge high price of certain drug which is ready for marketing. By implementing those barrier or regulation for entry makes it more difficult for smaller companies to register drug and subsequently limiting the numbers of companies with the critical mass and financial means to invest in drug research that later will contribute to another characteristics of market failure which in monopoly (Gronde, Uyl-de Groot, & Pieters, 2017). In US, the government does not control reimbursement based on assumption that the free market will make the pharmaceutical companies to compete which will result in lower prices. Thus, pharmaceutical companies set their own prices which allow for market calculations aimed at maximizing the profits (Gronde et al., 2017).

Economies of scale and monopoly are another market factor for market failure. Based on the economic point of view, economies of scale are large and the investment is limited or is not taking place at all (Cunningham, 2011). When the cost of investment is so high, only a few companies are able to overcome the barrier to entry. As a result, these companies for a return or profit may resort to monopolistic or other necessary strategies. In markets where there are high volume of production, there are typically a few large companies that dominate the sector, as smaller unable to access the capital nor the markets either to overcome the barrier to entry or to reach sufficiently high economies of scale to make the investment worthwhile (Cunningham, 2011). To some extent, due to this condition a single large producer is much more efficient than many small ones lead to non-competitive situations which cause monopoly of large company in healthcare market (World Bank, 1993). Even though it will increase efficiency but it will also increase the price of the products and services if it is not monitor closely.

## 4.0 Conclusion

In conclusion, although there are various characteristics of market failure in healthcare market which includes; consumer rationality and consumer sovereignty, risk and uncertainty, asymmetrical information, externalities and public goods, competition and barrier to market entry, economies of scale and government intervention. As for government intervention, either directly or indirectly have broad influence toward the others market failure characteristics.

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## Declaration

Authors declare that there is no conflict of interest. This manuscript has never been published in any other journal or duplicated in any way concerned.

## Author's contribution

Author 1: Information gathering, preparation and editing of manuscript
Author 2: Information gathering, preparation and editing of manuscript
Author 3: Initiation of idea and final review of manuscript and editing

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