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RESEARCH ARTICLE

Do doctors work for patients in today's business-mentality world: Looking through consumer choice theory lens?

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Abstract: In the 21st century world, people mostly behave with business-mentality without considering moral obligations in society. In this behavioral change, service-market, particularly Medical-care service-market is appeared to be vulnerable. Because of supplying medical-care services, the doctor or hospital receives capitation payments, fees-for-services, risk pool settlements, incentive payments or other fees. However, today it is probably the most criticized profession in world-economy country-wise such as Bangladesh. Sometimes doctors here are blamed for requiring unnecessary tests of patients for doctor's own monetary gains. In some cases, doctors' efforts are assumed to be connecting with pharmaceutical-products promotion by writing lengthy prescriptions. Some group claims that today doctors spend less time for each patient. All these interactions justify claiming that a patient works for a doctor when the patient visits a doctor for medical-care services. Here the existence of "asymmetric information" dominates the medical-care market where doctor takes advantages in multi-faucets. It causes market inefficiency that creates negative economic externalities – *deadweight loss*. Improving medical education with special emphasis on ethical aspects and soft skills in communication are considered important in aim to reduce the magnitudes of today's dilemma of medical-care service-market. Also, strict enforcements of medical-care provisions and ethical code of conduct among all health works can be instrumental. Finally, the answer to the question "Do doctors work for patients or something else, depends on who are asked. But the reflections of today's medical-care-market in economy of Bangladesh are no deniable, which deserves to be studied further curtailing the magnitudes of the problem.

Keywords: medical-care service-market, Hippocratic oath, misuse of services, economic externalities, deadweight loss

1 Introduction

Today's human-society lives in world of business-mentality where most people try taking advantages without considering moral & ethical obligations in its society and beyond [1]. In this behavioral changes, service-market, particularly Medical-care service-market is appeared to be vulnerable particularly under the pluralistic setup of community-level and facility-based services. These services are delivered by the government, NGOs, and private for-profit providers in economy country-wise such as Bangladesh [2, 3].

Thus, it requires policymakers' attentions country-wise where the roles of the World Health Organization (WHO) can be instrumental. Here my preferred subject is medical-care services, not the healthcare services. This is because the causal factors of healthcare are many. However, the provision of medical care is what is necessary for a person's health and well-being by a doctor, nurse, or other medical care professionals [2]. For further clarity, medical-care-service means diagnosis, writing prescription, treatment, or prevention of disease. Here services and supplies are applied for the purpose of affecting any structure or function of the body [2]. In this setup, a private physician or a company or government entity delivers or handles delivering to patients through physicians, professional medical corporations, ancillary service providers (Lawinsider.com). Because of supplying these services, the entity is entitled to receive capitation payments, fees-for-services, risk pool settlements, incentive payments or other fees.

These medical-care services fulfill the vital features of a market in today's world where prior to graduation, under oath - the *Hippocratic oath* revitalizes physician's pledges to prescribe only beneficial treatments to his / her abilities & judgment. Also, in profession, she/he refrains from causing harm and to live an exemplary professional life. However, today medical-care service-market has been blamed to be polluted country-wise. This is because this profession relates to life and death of human-beings. However, today it is probably the most criticized

profession in world-economy country-wise such as Bangladesh [2,3]. Sometimes doctors here are blamed for requiring patients' unnecessary tests for doctor's own monetary gains [4]. In some cases, doctors' efforts are assumed to be connecting with promotional of pharmaceutical products' by writing lengthy prescriptions. Some group claims that doctors now-a-days make more money by spending less time for each patient. Other group claims that in some cases when a doctor is employed by government, on duty s/he is not hesitant advising patients to visit doctor's other chamber, which means his/her second employment, with assurance of having available better instruments for accurate tests.

This *dilemma* raises question: what others say in summary about it in research community?

Answering the question posed, it is recognized that outcomes of medical-care -services depend on accurate diagnosis & making prescription for the disease a patient come with for treatment. It requires taking or collecting proper history and physical examination of the patient [5]. On the same token, a doctor can gather a patient's detailed history, if s/he is cordial and trustworthy enough to the patient [6]. So, a doctor might need to be communicating with the patient on humanistic manner for supplying satisfactory treatment. So, both ways cooperations & compliances by patient and the physician in treatment-process are crucial for quality medical-care [7,8]. No misuse in these efforts from both sides can ensure fruitful outcome of medical treatments and its efficacy in medical-care services. This is because patient's values and preferences along with medical facts diagnosed by the doctor are essential for clinical decisions [9,10]. So, outcomes of any treatment depend on the quality of the doctor-patient relationship. Moreover, a trustworthy relationship between doctor and patient can lead to better medical outcomes. In contrast, mistrust can produce sub-optimal medical outcomes. Thus, a doctor-patient relationship is an integral part of medical-care delivery.

With these concerns and prospects in hand, at the present doctor-patient relationship is a major issue in medical-care industry, which is mostly debated country-wise no matter where we live. On this critical issue, Bangladesh is no exception. So, the current effort is for detecting doctor-patient relationship in market system of today's medical-care services in economy country-wise such as Bangladesh. So that the scientific findings or quality information can be spread to research community throughout the universe.

1.1 Doctor-patient relationship: A reality check of medical-care service-market in BD

In profession, increasing specialization over-dependence on technology and commercialization etc. associated with escalating costs of healthcare are thought to be the underlying causes for this problem. Also, in today's medical-care practices of defensive medicine are affecting the quality of care as well as the relationship between the doctor and the patient.

Another area of deterioration in the doctor–patient relationship is the nexus between doctors and pharmaceutical companies, which kindles a suspicion in the mind of the patient that s/he is paying more than s/he needs to. Also, sometime on-spot doctor performs prescribed injection to patient in doctor's chamber where the prescribed injection is managed or bought by doctor's assistant from nearby of doctor's chamber. However, in this *scenario*, the patient has no knowledge about the name brand of it. So, while the patient suffers next time with the same health problem, s/he needs to go back to the same doctor for having the same brand for its immediate cure. It is no overstated that sometime doctors may intentionally do not disclose prescribed medicine particularly injection brand-name to the patients with an expectation that patient will need to visit the same doctor again. This is because this self-setting-up effort can generate extra visiting-fees or income from the said patient.

1.1.1 Problems in medical-care services sector-wise: A reality check

(1) Problem in private sector

Since 1980s, Bangladesh has been following market-oriented liberalizing policy reforms and have prioritized private sector-led growth. Furthermore, overcoming public hospital's limitations in multi-faucets, besides investing in medical education & training, government allows physicians to practice privately. However, this private healthcare services are facing a severity of crisis [11]. As TIB reported (TIB, 2022), these hospitals & diagnosis centers have turned in to be profit-driven entity or organization in Bangladesh-economy. However, these money-driven services contradict with the basic principles that govern medical-care services since the beginning of human society. As reported [11], today's medical-care services under private sector in Bangladesh-economy run based on somewhat "commission-based marketing mechanism". Under referrals provision, some parties do exchange for commission for the referees. In this mechanism, generally, doctors, owners of private medical facility and middlemen are . benefited [12]. Like the Savar Prime Hospital, most of the private hospitals, clinics, and diagnostic centers in Savar upazila of Dhaka

are dependent on such middlemen [12]. Also, there are many private hospitals and diagnostic centers are illegal, according to the Private Hospital Owners Association of Savar [12].

These all have limited the benefits for the improvement of peoples' health where government aggressive approaches are partially missing the issues in private sector of medical-care services in Bangladesh. It clearly suggests that doctors dominate medical-care service-market where a patient is forced to pay as the doctor wishes it. The growth of this sector has limited benefits for the improvement of people's health. The government should take a comprehensive approach and engage its political will to make changes in management and in governance and bring in stewardship to revitalize the public sector.

(2) Problems in public sector

Public sector hospitals in Bangladesh face problems in multi-faucets. The main problems of these hospitals are a) limited number of hospital-beds and personnel in hospital b) poor utilization c) poor perception & quality of services d) doctors give extremely limited time to patients in consultation & diagnosis e) most lab-tests are needed to be completed thru private entities, which is expensive f) inadequate connections between public and private sectors etc.

These problems in the public sector have caused customers i.e., patients to use the private sector, thus, it has promoted the growth-trend of private sector. Outpatient consultation is the major mode of service provision in the public sector. However, while the population of Bangladesh increases annually by nearly two percent, the number of people seeking medical care from public sector hospitals over the longer term has been decreasing. For example, there was a 30 percent decrease in attendance between 1993 and 1996 (DGHS 1998: 69). Reasons for this trend include the non-availability of doctors and drugs, over-crowding, increased waiting & travelling times and poor communication between doctors and patients [1]. Consumer dissatisfaction with this sector has led to an increase in attendance numbers at private facilities.

(3) Problems in non-profit organization sector

Currently, there is not enough evidence available within Bangladesh. However, the general feeling here is that, due to a variety of reasons, the doctor–patient relationship is under strain. Today's doctor-patient relationship appears to be somewhat business-mentality rather having ethical & medical etiquette perspective behaviors in general.

1.1.2 Medical-care service-market: Compliance and enforcement in Bangladesh

In Bangladesh, Medical Practices, Private Clinics and Laboratories Regulation, *Ordinance NO. IV OF 1982*, authorizes maximum charges & fees that may be demanded in a private clinic or private laboratory for surgical operations and other medical examinations or services. But these charges must be specified in Schedule in advance. This law further requires every registered medical practitioner carrying on private medical practice and every private clinic and private laboratory shall prominently display in the chamber, clinic, or laboratory a list of charges and fees that may be demanded by him or it. On top of this, Bangladesh has a comprehensive set of policies for Universal Healthcare Coverage (UHC), *e.g.*, a health-financing strategy and staged recommendations for pooling of funds to create a national health insurance scheme and expand financial protection for health.

However, despites the Ministry of Health and Family Welfare serve as watchdogs of healthcare laws & policies and overall healthcare system in Bangladesh, other organizations have been considerably influencing on decision-making process and on outcome. Also, the inequitable access to and financing mechanism in healthcare system between urban and rural are significant. These factors have been hindering the achievement of UHC since its beginning in Bangladesh.

1.2 Problem statement based on the reality check: Medical-care services in Bangladesh

Like any government country-wise, Bangladesh government values the significance of medical care towards building a healthy and productive population. Over time, the country has made great progress in improving life expectancy, reducing infectious disease, infant and maternal mortality. The government is encouraging further development of the sector through favorable incentives. However, in recent years, medical-care service-market has been blamed to be polluted where it is claimed that patients are ripped off in multi-faucets in Bangladesh [2, 3].

On this aspect a recent study [2] was conducted based on analysis of survey-data in Bangladesh, which serves as a *scenario* with minor variations in today's medical-care services in economy country-wise.

1.2.1 Bangladesh medical-care-service system: An overview

The medical-care services in Bangladesh are described as pluralistic in that community-level and facility-based services are delivered by the government, non-governmental organizations

(NGOs), and private for-profit providers [13, 14]. This pluralism is thought to have contributed to Bangladesh's successes in improving health outcomes. However, Bangladesh is still lagging in medical care services for the poor. Healthcare system here has undergone number of reforms. The Medical Practices and Private Clinics and Laboratories (Regulation) Ordinance, 1982, eased this approach [15]. It is now highly decentralized. As a result, it is regulated and controlled by for-profit companies, NGOs, the national government, and international welfare organizations. Now it presents an extensive medical-care industry in tri-faucets. They are a) public b) nonprofit and c) private sectors.

But healthcare system in Bangladesh is still a long way from achieving universal health coverage. Despites statutory healthcare system in place covering all citizens in principle, many sick people are left untreated every year in practices. Also, there are discriminations in supplying medical-care services to patients. For example, government funded hospital such as Combined Military Hospital (CMH) supplies services to members of armed forces and to their parents only. This CMH is a chain where branches are situated in all cantonments of Bangladesh and fully funded by taxpayers' money. Rather questioning the medical-care services to current as well as to retirees of armed forces with taxpayers' money, people here are debating on the justification of spending taxpayers' money for medical-care services to relatives of armed forces. Sometimes people see it to be feeding the neighbors with taxpayers' money for keeping life the monarchy in political arena. On the other side, private sector of health-care services is becoming too expensive for many no matter where they live [12].

1.2.2 How do patients and attendants of patients feel about medical-care services in Bangladesh?

A recent study [2] where data statistics were collected from attendants of the patients, the patients, and the doctors in Bangladesh, shows in Table-1 that nearly 79% attendants show negative perceptions on doctor's cordiality towards patients. Nearly 78% shows negative perceptions on trusting doctors in Bangladesh. The estimated overall weighted mean is 2 (two), which also confirms the current doctor-patient relationship to be poor in Bangladesh. On overall perception that nearly 90% people believe that "*patients-work-for-doctors*" in healthcare market.

In contrast, 52% patients, which is smaller than attendant percentage, show negative perceptions on doctors' cordiality issue. On trust issue, 69% patients show negative perception on trusting doctors in Bangladesh. In this case the estimated overall mean is 2.9 (nearly three), which confirms a poor doctor-relationship in Bangladesh. On overall perception - Felt like "*doctors-work-for-patients*" in healthcare market, nearly 65% patients expressed negative perceptions. In other words, nearly 65% people believe that "*patients-work-for-doctors*" in today's medical care market in Bangladesh. (see Table 1)

Table 1 Attendant perception and patient perception toward the doctors in Bangladesh

Respondents = 100 where Public = 60, Private = 30 nonprofit = 10	Attendant Perception			Patient Perception		
Indicators	(+) in %	(-) in %	Mean	(+) in %	(-) in %	Mean
Delivered treatment cordially	20.0	78.9	2.2	48.2	51.8	3.21
Delivered treatment with responsibility	30.0	70.0	1.9	22.9	77.1	2.51
Invested adequate time	24.5	75.5	2.2	26.8	73.2	2.77
Supplied mental support	30.0	70.0	2.1	49.0	51.0	3.18
Listened to the patient attentively	20.5	79.5	2.3	33.2	66.8	3.2
Patient was satisfied with the medical care services	33.0	67.0	1.9	34.6	65.4	2.9
Described the disease / health issue	30.0	79.0	2.1	27.2	72.8	2.8
Explained the prescriptions clearly	33.0	67.0	2.0	23.0	77.0	2.9
Felt like influenced by a pharma/ commission agent	75.2	24.8	2.1	46.0	54.0	3.0
No discrimination was found in services	10.0	90.0	2.0	33.0	67.0	2.9
Having trust on the doctor as service provider	22.8	77.2	1.9	31.0	69.0	3.1
Overall perception: Felt like "doctor*s-work-for-patients*" in healthcare market	15	84.6	2	35.0	65.0	2.9

Source: Rahman (2022). (Health)

In "doctor's perception" survey, because of time limitation, 30 doctors where 15 from three public, 10 from 2 private and 5 from one nonprofit hospital located in Dhaka City were interviewed. Since the socio-demographic background was intentionally ignored, here doctors' responses cannot be judged based experience, qualification etc. but all doctors. Here over 90% doctor's perception was positive towards doctor's freedom of choosing treatment-protocol. Over 72% respondents agreed that patient did not counter his/her decision or did not raise unnecessary questions to him/her. Over 72% respondents acknowledged about their 2^{nd} jobs with private / nonprofit. On third-party linkage-perceptions, exactly 70% respondents showed negative. Here the estimated overall mean is 3.2 which confirms a doctor-relationship better in Bangladesh. On overall perception - Felt like "*doctors-work-for-patients*" in healthcare market, over 57%

doctors expressed positive perceptions. In other words, nearly 43% of the respondents believe that "*patients-work-for-doctors*" in today's medical care market in Bangladesh. (see Table 2)

Doctors' perceptions

Table 2 Doctor perception toward patient in Bangladesh

Respondents= 30 where Public= 15, Private = 10, Nonprofit= 5	Doctor Perception		
Indicators	(+) in %	(-) in %	Mean
I am engaged in second job (private / nonprofit sector)	72.5	27.5	3.8
I can play vital role for choosing treatment protocol	90.2	9.8	4.0
Patients/attendants respect me properly	56.0	44.0	3.5
Patients / attendants are highly cooperative	30.2	69.8	2.9
Patients listen to me carefully	65.0	35.0	3.5
Patients follow my instructions carefully	48.2	51.8	3.3
Patients are well behaved	30.0	70.0	3.5
Prescription was influenced by third party linkage	30.0	70.0	2.5
Third party influenced test requirements	56.0	44.0	3.0
I do not face unnecessary questions from patients	72.5	27.5	3.1
I have proper safety if any unexpected incident occurs	40.1	59.9	2.5
Overall perceptions: Felt like "*doctors work-for-patients*" in healthcare market	57.2	42.8	3.2

Source: Rahman (2022).

1.3 Factors that undermine effectiveness of medical-care services in Bangladesh

To undermine the magnitudes of the debate or incidents, sometime these service-providers take shelter under the banner "Gross Negligence" relates to professional duties to the patients. So, the relevant authority(s) may regard the incident to be a misconduct. Once this step takes place, this progression is used as sufficient to justify the suspension or removal of the medical-practitioner or service-provider from the registrar. And then the offender(s) is entitled to be prosecuted [2]. However, in today's business-mentality-world, it may not be executed in most cases, unless the incident had taken place in public-eyes. Otherwise, in the self-interest politics-driven-world, sometime this progression is used paying compensation to the victim so that the matter can be taken off from the table with parties' agreement. Alternatively, sometime the victim is warned and asked for backing off unless the victim wants facing retaliation where the mood or magnitudes of the retaliation depends on who is backing the offender.

The recent incident "Bashundhara Managing Director" and its later steps towards covering up for good justifies the analogy made above. In practice, despites knowing the fact that victim was denied issuing a medical report, Justice System has concluded dropping out the case based on agency's report without questioning its validity [4, 11], in the country of Bangladesh. As Barbara Kruger (2020) [16] said "money talks, ……, it determines what food we eat, whether we are cured or die". Based on observation of incidents during COVID-19 & the aftermath and scientific studies by the current author [2, 17, 18], I say "money can make people to dance with or without cloth".

There is no doubt that the pandemic crisis has ignited the practices of unethical further without boundaries [17]. There is a vivid example of this reality of issuing falsehood COVID-19 Certificates in Bangladesh, which is known as Sabrina-ism in literature [18]. This Sabrina-sim reminds us how large the negative impacts in multi-faucets can be on the people in the country. In this episode, Sabrina was a money-sucking machine at the frontline of the tunnel [19]. It was noticed globally and criticized in multi-faucets [19].

These all practices & concerns of human-society raise question on today's doctor-patient relationship. This study takes on the challenges answering the question posed.

1.4 Objectives of the current study

(1) To interpret doctor-patient relationship in medical-care service-market country-wise such as Bangladesh using Theory of Consumer Choices & Behaviors;

(2) Do the current practices cause externality in today's medical-care service-market country-wise such as Bangladesh?

(3) To estimate the consequences of market-inefficiency in medical-care services;

(4) To tip-off on how to marginalize the problem in today's medical-care service-market;

2 Methodology

In aim to understand the relationship between doctors and patients in today's medical-care service-market country-wise economy, on suitability basis, Bangladesh medical-care service

market has been chosen. First this study uses the data statistics, which are available in literature on the similar topic [2]. The referred study [2] captured how patients, patients' attendants and doctors feel about medical-care service market in Bangladesh.

This study uses effective statistical techniques to capture the period "first confirmation and then spread" for better understanding in aim to set up the theoretical arguments. Secondly, this study uses the Consumer Choice Theory capturing doctors and patients' relationships country-wise. It then captures the economics of externalities, particularly deadweight loss or economic inefficiency that occurs because of an occurrence within a market that distorts the equilibrium set by the free market. It reexamines the presence of "asymmetric information" in such way so that it can be helpful understanding inefficiency issues of medical-care service-market country-wise.

3 Results

3.1 Economics of medical-care service-market: Patient *vs.* doctor

In Market Economics, most often economists use the terms supply and demand. The concept of a market is a way in which an economic activity is organized between a buyer and a seller through their choices and interactions with another. It is not always necessary to have a medium of exchange or currency in any market system if both buyer and seller or parties are involved and agree to exchange their product or services without reservation. Thus, exchange of goods or services, with or without money, is a transaction [20, 21]. It can also be said that demand in market is determined by many factors [22]. Thus, when there is a change in demand of a product due to one or more than one factors, other than price or cost, results lead the shift of demand curve. On this aspect, think about the epidemic of a particular disease, which raises the demand for medical-care services. So, medical care consumers, i.e., patients face at higher price or cost. However, in case of medical-care service-market, it lacks a vital feature of a market. And that is, the existence of "asymmetric information" in market system. More specifically, doctors are professionals, but patients are not. This asymmetric information refers to service-provider's knowledge of his /her object of sale and to which the service-receiver does not have access.

This is because here patient's choice for medical-care-service is provided by doctor, nurse, or other medical care professionals [23] if they are available and willing to invest their efforts for supplying services. Here their effective efforts on diagnosis, treatment, or prevention of patient's disease can inspire the patient coming back to the same service-provider or the patient may look for better option. Here services and supplies are applied for the purpose of affecting any structure or function of the body [23] where physicians, once agreed delivering service, are obligated through quality control and ethical codes of conduct. In this market the service-provider has information however, the patient does not. Thus, this asymmetric information between the service-provider and the patient causes externalities in medical-care-service usage or consumption. Thus, externality as a basis, the quality control & ethical codes are in place in most medical-care services country-wise such as Bangladesh.

Besides this, as reported [11], today's medical-care services under private sector in Bangladesh-economy run based on somewhat "commission-based marketing mechanism". In this mechanism, generally, doctors, owners of private medical facility and middlemen are benefited [12]. Like the Savar Prime Hospital, most of the private hospitals, clinics, and diagnostic centers in Savar Upazila of Dhaka are dependent on such middlemen [12]. So, patient's cost for middleman is part of the patient's total cost for medical-care services, particularly in Dhaka [12].

However, few characteristics particularly payment method in the market vary country-wise. This is because some countries have universal health coverage provisions in place such as the USA. Some other countries have government subsidized public healthcare services along with progression of private healthcare services such as Bangladesh. For further clarity, medical-care service-market of Bangladesh is under the pluralistic setup of community-level and facility-based services that are delivered by the government, NGOs, and private for-profit providers in economy.

With this reality in hand, despites medical-care service-market has buyers (patients) and suppliers (doctors etc.), various features of medical care market complicate the analysis. Particularly they are a) third parties such as government, insurers, and unwritten bystanders etc. are involved where they have interests in healthcare outcomes b) in general, patients do not know what they need and cannot evaluate the treatment they are receiving c) in case of insurance option, service providers are paid not by patients but insurance companies, which causes allocation of resources in the medical-care service-market to be highly inefficient.

With these features & characteristics in today's business-mentality world country-wise, asymmetric information in medical-care service-market can lead to different behaviors of the service-providers as well as of consumers. In this process service-providers may intend for higher profit, which may result bypassing the quality control & ethical codes of conduct unless they get caught

in practice. Moreover, physicians may prescribe unnecessary medicine for securing benefits, even though it is contradictory to his/her oath – *The Hippocratic Oath*.

Speaking about oath, it is a major step in becoming a doctor, medical students must take the *Hippocratic Oath* which is attributed to the ancient Greek physician Hippocrates. And one of the promises within that oath is "first, do no harm". While some medical schools ask their graduates to abide by the *Hippocratic Oath*, others use a different pledge – or none.

Doctors in Bangladesh, on qualification, sign up to a Bangladesh version of the 1948 World Medical Association's "Declaration of Geneva." This is a modern version of what is known as the Hippocratic Oath, which is the promise that doctors make to keep to the principles of the medical profession [4]. In summary the *Hippocratic Oath* is "*I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous.*"

However, today we live in business mentality era of human-society where opportunity makes people to be gainer or richer no matter s/he is under oath or not.

3.1.1 Medium of exchange for medical-care services in market

In market economics, medium of exchange is an intermediatory instrument or system, which facilitates sales, purchase, or trade of goods & services between parties. It ensures efficiency in trading products & services and then exchanging it. It acts as a stabilizing factor in economy. If money or insurance-coverage, as represented by a currency, is no longer viable as a medium of exchange, consumers lose their ability to plan budgets and there is no longer a way to gauge supply and demand accurately.

These phenomena are no different in case of medical-care service-market. Besides currency transaction, health insurance here plays role just like currency if it covers the cost of the services provided by a physician. In general, patient, who has health insurance coverage, can be considered as advantageous-patient-group. On the same token, patient who use currency to pay for medical-care services, can be considered as adverse-patient-group.

The number of private exchanges set up by benefit companies and health insurance carriers have grown in recent years. Besides this, government subsidized medical-care services are also available where some cases very nominal fees or there are no fees for medical care services. These are common practices in medical-care service-market where services are available through private hospitals, non-profit organized hospitals, government subsidized-hospitals and individual physician services in medical-care service-market. These hospitals or physician, who chooses private practices, are ran based on government rules & regulations country-wise. For example, these entities and private physician needed to display doctor fees and cost for other medical-care services.

So, medical-care service-market is like fixed-price service-market, however, what medical-care services are needed only the physicians know about it. With this limitation, it can be said that money does not enable the patient who possesses it to participate as an equal player in medical-care service-market. Thus, a patient cannot effectively make a bid in response to the asking (display fee or fees for services) price. This limitation creates disorder and unpredictability on the cost of services in medical-care service-market. Here service providers know what to prescribe and how much to charge. So, patients cannot reliably plan their budgets around predictable and stable pricing / costing models when patients go for medical-care services in market. In case of having health-insurance coverage, patients do not need to be worried about the cost as long it covers all costs. At the same time service-providers are not worried about payment and later they bill / charge insurance company based on the rate they jointly established earlier where service type or number of services are no questionable.

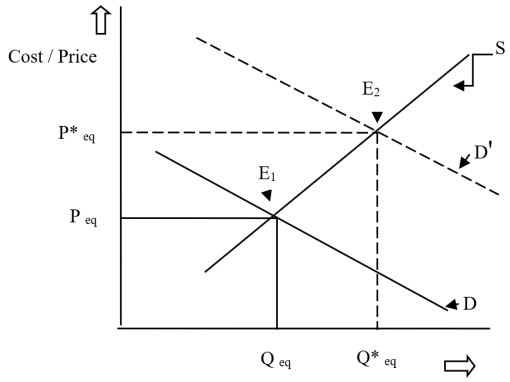
This dilemma raises question do doctors work for patients or patients work for doctors in today's business-mentality era of human-society country-wise? Answer to the question posed depends on who is asked.

3.1.2 Do doctors work for patients in reality?

Underpinning differences country-wise, economics activities in medical-care service-market are organized between a seller i.e., service-provider such as a doctor and a buyer i.e., service-receivers such as a patient through their choices and interactions with one another. In human-society, when an individual becomes physically in critical condition or just ill, individual may look for service(s) from a doctor. This doctor can be self-employed (private entity) or employed either by the government or nonprofit organization. In this setup, in case doctor's fee is high, a patient may visit another doctor with patient's expectation of similar services. Alternatively, a patient may decide not to visit a doctor because of the patient's budget constraints and strength of his or her perceived risk-factor. These are the common *scenarios* of patients & doctors' behaviors in today's medical-care service-market.

In private medical-care service-provider and service-receiver, which is like a perfectly competitive market in terms of market-economy. Since other two faucets government and nonprofit healthcare services are subsidized in operations, the patient just pays nominal registration fees. There is no fee for the doctor. However, patients who need it most based on their affordability here sometimes find it to be difficult getting into for services because of its limitations of resources in multi-faucets of medical-care services. In some cases, the patient may reach out middleman for getting services [12]. These are common *scenarios* in government hospitals where service-providers are employed and get paid, and patients pay nominal fees for admission or registration. For treatment in government hospitals, in most cases, general patients may face difficulties getting access to services there.

In this setup, in case doctor's fee is high, a patient may visit another doctor who charges lower-fee or does not visit a doctor because of patient's budget constraint. These are the common *scenarios* of private medical-care service-provider (doctor) and service-receiver (patient), which is like a perfectly competitive market in terms of market-economy. Since other two faucets government and nonprofit regulated healthcare services are regulated in operations, patients sometimes find it to be difficult getting into for services unless general are in life threat. This *scenario* is something like government rationing system for some essential foods when market prices are too high. (see Figure 1)



Note: D = Demand for medical-care services when it is needed most; D' = New demand line for medical-care services during epidemic disease. (Note: here demand line shifts outward which raises higher demand that raises prices or cost for the services; P = Prices / cost for the services; Q = No. of times visiting doctor; Q_{eq} = equilibrium no. of times vising doctor; Q^*_{eq} = number of times vising doctor due to epidemic; E_1 & E_2àIntersection of D-S & D′- S

Figure 1 Medical-care service-market

Based on observation in recent years in Bangladesh, it is well recognized now that doctors do more than one jobs, and it has been approved by the government. Besides working as a full-timer, a doctor can do more services meeting market demand. During any epidemic disease, medical-care service-demand-curve shifts outward and customers face higher prices. Conversely, demand curve shifts inward from its original demand curve indicating that consumers face lower price for medical-care services [21].

3.1.3 Looking thru consumer choice theory lens

The Consumer Choice Theory interprets how a consumer or patient decides to spend money based on patient's severity and budget constraints. Foremost, it serves on making decision whether the patient will go to government subsidized hospitals or to a private hospital for medical-care services. As a branch of microeconomics, consumer theory shows how individuals make choices, subject to factors such as: how much income they have available to spend, that means budget, the costs for the services and the necessity of the services. However, in case of medical-care services, once the patient reaches to physician for services, being an expert, the physician takes over authority of decision and make prescription as the physician feels it to be right. The prescription might include requirements of tests, medicines etc. that are needed to be done or purchased where the patient bears total costs in case of private hospital services or in case of private physician services. Here the service provider i.e., the physician has the information but the buyer i.e., patient does not.

This asymmetric information refers to service-provider's private knowledge of his/her object of sale services / products and to which the patient does not have access, it is called "adverse selection". It may cause misusing the market system, in this case, the medical-care service-market system where the doctor is the *Commander-in-Chief* and patient has right to decide whether *leave it or take it.* Obviously, this privilege a patient has prior to get admission into a hospital

for treatment. Once got into for treatment, the patient is bound to follow Commander-in-Chief's command.

Even exploitation and abuse of patients are forbidden by code of medical ethics, physicians are in a power while writing prescription or in other type of medical-care services, and this power can be misused. These abusive behaviors include doctors functioning as agents of control, exploiting physician's prerogatives - generating monetary benefits from pharmaceutical companies by writing unnecessary medicine , acting out personal problems in the medical setting, allowing subversion of their judgment, deliberately delivering suboptimal care, dehumanizing care etc.

3.2 Economics of Externalities: Deadweight loss in Today's Medical-care Services

Once an individual gets sick, s/he may decide going to a private physician, government hospital, nonprofit hospital or to a private hospital for treatment. In case of government hospital, the patient is required to minimum registration fees or in some cases it is a place for free services where in most cases, patient's admission to hospital is avoided because space limitation. If the required tests or services are not available there, doctors may advice the patient to get it done outside. However, in private hospital cases, once patient arrives there, s/he fills-out Information Form that has patient's information as well as cost payment info etc. After completion the Form, patient is assigned to meet with on-duty out-door physician with the coordination of the staff-members there. Based on doctor's assessment, patient is required for admission there for continuation further treatment. This is the beginning of economic transaction between a doctor and a patient in medical-care service-market in economy.

One of the problems that modern economic theory studies regard to economic transactions is that of adverse selection, which occurs when the seller or service provider has more information about the object being transacted or about service-provider's preferences or technologies that the customer or patient does not have. For example, in case of doctor-patient service-market, this phenomenon occurred. This is because when a patient comes to a doctor for treatment, the patient or the attendant of the patient describes the problem the patient currently faces relate to his/her health. After taking notes on patient's side, the doctor decides whether further medical test(s) is needed prior to prescribe medicine. In this *scenario*, the doctor has the expertise & information, but the patient does not. This inequality of information including expertise of the service-provider in medical-care services, economists call "asymmetric information" When asymmetric information refers to the service-provider i.e., doctor's private knowledge of his object of sale and to which the buyer i.e., the patient does not have access, it is called "adverse selection".

In medical-care service-market, the real effect of adverse selection is to dominate the services in multi-faucets. When a patient comes to doctor for medical-care services, doctor takes advantages of this opportunity and spontaneously suppresses the market for generating additional income. Even though it is contradictory to the oath the doctor took prior to graduation for profession.

This is because the medical-care service-provider typically has more knowledge of the service being supplied than the patient who is the consumer. The patient's lack of expertise means he or she is ill-equipped to judge the quality of health care. To make matters worse, quality of medical-care is notoriously difficult to measure and opinions amongst medical-care practitioners themselves may vary about what the best quality of medical-care service is. To overcome this dilemma, there are strict regulations of medical-care practitioners to ensure that they consistently supply good medical-care services. However, regulation does not always necessarily require a high degree of public sector intervention.

With these limitations & misuses, in English colloquialism sense, it would not be overstated that the medical-care service in today's business-mentality-world is becoming "out to be a pig in a poke" or "buying a pig in a poke". It means that something is sold or bought without the buyer knowing its requirement, nature, or worthiness, especially when buying without inspecting or consulting with another expert (physician) the item beforehand. To overcome this dilemma, in today's business-mentality world, sometime the patient checks with another doctor. However, this practice is rare because of its monetary cost involvement that further costs the patient.

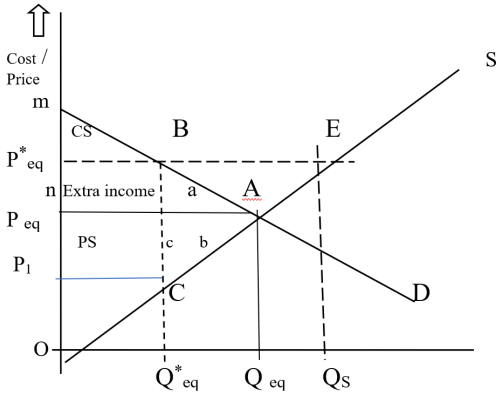
On social-cost aspect, first, doctor's services create positive externality. This is because, if the doctor would not supply medical-care services, the disease could have been spread among human-society, which would create negative social-cost. A positive externality presents itself when the influence is beneficial. This positive externality exists from others receiving health care services. Additional positive externalities include health affects wealth, technology, and vaccinations.

However, in today's medical-care service-market, a doctor's suppression creates a negative externality, which impacts the adverse, in this case the patient. This impact can be represented as

the deadweight loss, which is an outcome of inefficiency in medical-care service-market where doctor receives the benefits and patient bears the burden. It is an economic inefficiency that occurs because of a policy or an occurrence within a market, which distorts the equilibrium set by the free market.

This economic inefficiency refers to a situation where the services are being supplied and the price / cost that it is being exchanged for is not equal to the equilibrium set by the supply and demand components of that market. And on this reality in today's business-mentality era, sometimes physicians' these suppressing activities are questioned on whether there are unnecessary tests & lengthy medicine prescription. In case of Govt subsidized hospital, sometime some medicines are distributed free of cost. Here sometime doctor advice patients to visit his or her second workplace with a claim that it has better health-instruments that can be helpful for better diagnosis.

This negative externality is connected to an adverse – the patient's loss. So, the medical-care service-market witnesses deadweight loss. This is because here this added cost is a financial cost to individual patient, which creates deadweight loss where doctor, pharmaceutical companies receive the benefits. (see Figure 2)



Note: D = Demand for medical-care services; S = Doctor supplies services; P = Cost or Price for doctor's services; Q = Medical-care services; Q_{eq} = equilibrium level of services; Q^*_{eq} = services are supplied based on doctor's misuses (monopoly nature); P_{eq} = price corresponding equilibrium; Deadweight loss = Δ ABC = ½ x b x h = $\{(P^*_{eq} - p1) \times (Q_{eq} - Q^*_{eq})\} \div 2$; Where b = base x height; This deadweight loss refers to the total monetary amount of efficiency being lost, within medical-care service-mkt, because of doctors' misuse or other equilibrium distorting occurrences. In this case patient just lost it. As consequences now patient goes to doctor, if s/he is seriously ill. Whether the occurrence or policy that is causing the deadweight loss is good or bad, is subjective.

Figure 2 Graphical presentation of deadweight loss

In Figure 2, the area mnA was the initial consumer surplus (CS) where there was no misuse in medical-care service-market and then the producer surplus (PS) was area nAo. However, because of today's misuses in medical-care services, the consumer surplus reduces and the current CS = area mP^*_{eq} where $\Delta\ mP^*_{eq} < \Delta$mnA. That means patients are affected severely.

In case of service-providers, the new PS = $P^*_{eq}BCP_1$ where $\Delta\ P^*_{eq}BCP_1 > \Delta$nAo , which means services-providers or doctor are gaining, not losing in today's medical-care service-market.

For further clarity, the following can be helpful for better understanding the situation corresponding to the graph.

Before extra income CS = ΔmnA;

Before extra income PS = ΔnAo;

After doctor's extra income CS = ΔmP^*_{eq} where $\Delta mP^*_{eq} < \Delta$mnA;

After doctor's extra income PS = $\Delta P^*_{eq}BCP_1$ where $\Delta P^*_{eq}BCP_1 > \Delta$nAo;

In case of measure CS, PS and deadweight loss in numbers, the following techniques [1] can be used:

$D(x_1)\ \Delta x + D(x_2)\ \Delta x + - - - + D\ (x_n)\ \Delta x \rightarrow \int_0^{qe} D\,(q)\,dq \rightarrow$ sum gets closer and closer $\int_0^{qe} D\,(q)\,dq$ as n get larger. Thus, total amount paid at maximum prices $\int_0^{qe} D\,(q)\,dq$;

Thus CS = $\int_0^{qe} D\,(q)\,dq$ - $p_e q_e$ = $\int_0^{qe} [D\,(q)$ - $p_e]$dq

Since producer gain by trading at the equilibrium prices,

PS = $p_e\ q_e - \int_0^{qe} D\,(q)\,dq = \int_0^{qe} [pe - s(q)]dg$,

Total social gain = CS + PS = $\int_0^{qe} [D\,(q) - pe]dq + \int_0^{qe} [pe - s\,(q)]\,dq$.

If calculated total social gain values become negative, then it would be considered as social lost [1].

Here deadweight loss = ΔABC = ½ base x height. It is a triangle in which each of the angles is acute and measure is less than 90^o.So, in this case Horon's formula can be used for calculating the area of triangle. The Horon formula is $S = \frac{a+b+c}{2} \rightarrow$ Half the perimeter.

Area of triangle ABC = $\sqrt{s\ (s-a)\,(s-b)\,(s-c)}$ where s = $\frac{a+b+c}{2}$ → Half the perimeter. Here a, b and c are length of each line of the ΔABC.

Based on above calculation techniques, values of all components including CS, PS, extra income, losses to patient and deadweight losses can be calculated. Thus, in summary it can be said that here everyone loses. The service-provider, the Doctor of Medical-care services now see smaller number of patients. This is because there is higher medical-care cost, fewer individuals are coming for treatment. But monetarily they make it up with adding extra income. The patient loses since s/he cannot afford medical-care services and thus they rarely visit doctors unless the situation is life threating. And once they visit; they are required to spend more than before. This deadweight loss is visually represented by the triangle ABC, which is just gone because of medical-care service-market inefficiency, which causes externalities – *deadweight loss*.

3.3 Marginalizing the problem in today's medical-care service-market

Improving medical education with special emphasis on ethical aspects and soft skills in communication are considered important in aim to reduce the magnitudes of today's medical-care service-market dilemma. It raises question: how to strengthen the doctor–patient relationship?

It is suggested that several approaches should be followed to improve the doctor–patient relationship. It should be considered as an essential element for strengthening the medical-care services-market system. The following can be suggested:

(1) Continue teaching of ethics and medical etiquette in the medical curricula;

(2) Enforcing an ethical code of conduct amongst all health workers;

(3) Enforcing medical-care provisions strictly;

(4) Introduce online or media-based patient-education & improvement;

(5) Some systems should also be changed or introduced for shorter waiting time to see doctor;

(6) Introducing effective referral system to enable doctors to spend some more time with the patients and supplying information and help to the patients;

(7) For doctor–patient relationship improvement, all possible efforts should be harmonized. These include medical councils, medical associations, and professional bodies;

(8) Patients always have expectations to consult a doctor. They expect easy access to the doctor, quality up-do-date treatment, transparency, nondiscrimination, and a certain amount of information. These expectations should be met;

(9) Every effort should be made to promote a dialogue between doctors and patients and special platforms should be created to enable this to happen.

On healthcare insurance, medical insurance like other types of insurance has inherent problems of adverse selection and moral hazard. Moral hazard occurs with insurance where the insured take greater risks than they would do without it because they know they are protected. The idea behind adverse selection is that those who will insure are those who are the most likely to benefit from insurance. To counter the adverse selection, setting higher health insurance rates for people who are habituated to things that causes health problem.

On negative externality issues, besides other options including heavy regulations in place, there should have procedures in practice so medical-care practitioners tend to be self-regulated as it is in members' interests keeping standards high to maintain their reputation. For example, the British Medical Association in practice ensures that doctors have reached certain standards before they join the association. The association further strikes members off from the association if their performance jeopardizes patients' health.

Besides these, medical-care industry country-wise such as Bangladesh should invest for hosting conferences on the proposal where roles of World Health Organization (WHO) [24] can be crucial in practice in case of global efforts.

3.4 Who should finance or sponsor the proposed conferences?

Agenda-setting is a crucial element of the strategies that political actors pursue [18]. Agenda-setting is an important part for politicians, officials, and interest groups for policymaking. This is because getting an issue to be considered is a precondition for decision-making, which requires gaining attention of the issue.

On the same token, publication or proposal in literature does not guarantee its application or agenda setting in practice unless policymakers are engaged for designing relevant policies addressing the issue in general. The process of setting agenda for policymakers' attentions in any country goes through various challenges [19]. However, there are two distinct challenges. They are as follows:

(1) Gaining attention for the issue;

(2) Building sufficient credibility for the nation to deal with the issue for society-interest;

(3) Gaining attention is a crucial element in all agenda-setting processes.

Here mobilization of interest is what agenda-setting is about. Since this effort is parallel the theme of WHO, the WHO, Doctors Association country-wise, Pharmaceutical Company Association country-wise would contribute directly for development of policy communities by subsidizing interest groups. These groups will push for the issue at the national level. It has become a widespread practice in countries globally when it comes public interest issues [20].

Furthermore, academicians' efforts can be used hosting conferences. Their efforts on relevant publication can play significant roles spreading messages, which can be inspirational to policymakers sooner than further delays. But it must require delivering the message directly to policymakers individually. In addition, both the Doctors Association and interest groups themselves actively will try to develop networks of experts and stakeholders within its nation for relevant policy-design.

3.5 Future research

Studies can be conducted in multi-faucets examining the possibility and affects to advantageous group in medical-care service-market in cases where health insurance is in practice. However, research grants can be inspirational for investing research-efforts soon. Factor Analysis, hypothesis development & testing etc. can be conducted relates to the topic: Do doctors work for patient? Thus, the expected findings can be educational for curtailing the magnitudes to today's dilemma in today's medical-care service-market country-wise such as Bangladesh.

4 Conclusion

In today's world, people mostly behave with business-mentality where they try taking advantages without considering moral obligations in its society. In this behavioral changes, service-market, particularly Medical-care service-market is appeared to be vulnerable particularly under the pluralistic setup of community-level and facility-based services. These services are delivered by either doctors in own chamber(s) or by doctors employed by government, NGOs, and private for-profit hospitals. Because of supplying these services, the private-doctor and entity receive capitation payments, fees-for-services, risk pool settlements, incentive payments or other fees. However, today it is probably the most criticized profession in world-economy country-wise such as Bangladesh. Sometimes doctors here are blamed for requiring patients' unnecessary tests for doctor's own monetary gains. In some cases, doctors' efforts are assumed to be connecting with promotional of pharmaceutical products' by writing lengthy prescriptions. Some group claims that today doctors spend less time for each patient where they are not hesitant advising patients to visit doctor's other chamber with assurance of having available better instruments for accurate tests. And accordingly try to make more money from the same patient. All these interactions justify to claiming that a patient works for a doctor when a patient visits a doctor for medical-care services. Here service-providers i.e., doctors are professionals, but patients are not. As a result, the medical-care market lacks a vital feature - *information equally available to both buyer and seller*. Thus, the existence of "asymmetric information" dominates the medical-care market where doctor takes advantages in multi-faucets. This asymmetric information refers to service-provider's knowledge of his /her object of sale and to which the service-receiver does not have access. Because of the existence of "asymmetric information", the patients face higher prices or costs once they visit a doctor for medical-care services. It causes market inefficiency that creates negative economic externalities – *deadweight loss*. Because of these consequences, consumer (patient) surplus reduces but producer (doctor's surplus increases in medical-care service-market.

Improving medical education with special emphasis on ethical aspects and soft skills in communication are considered important in aim to reduce the magnitudes of today's medical-care service-market dilemma in Bangladesh. Furthermore, strict enforcements of medical-care provisions and ethical code of conduct among all health works can be instrumental. Finally, the answer to the question "Do doctors work for patients or patients work for doctors in today's medical-care service-market in economy country-wise such as Bangladesh?" depends on who are asked. But the reflections of today's medical-care markets *scenarios* in economy of Bangladesh are no deniable, which deserves to be studied further. Here practices in today's medical-care industry have made the doctor-patient relationship to be questionable. The expected findings can be an instrumental in multi-faucets.

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