

# **Ethical Decision-Making in Clinical Practice: Impacts on Prescription Quality**

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## Part 1: Introduction

Ethical decision making in clinical practice is essential to ensure the best health care of the patient. However, sometimes physicians do not make an ethical decision in clinical practice. In some countries the physicians prescribe substandard or unnecessary medicine and recommend an unnecessary pathology examination, hospital or intensive care unit admission, being influenced by receiving gifts from pharmaceutical companies that lead to deteriorating prescription quality, increasing treatment costs, and the patient's suffering.

A physician's prescription contains advice for pathology tests and interventions that need to be followed for the patient's recovery. As a result, the health care products' marketing and sales are different than those of the other commodities. Usually, production companies target end-users for marketing and selling purposes, but physicians are the targets in the case of health-related products. In this case, end-users, especially patients, buy products based on physicians' prescriptions. Therefore, pharmaceutical companies, pathology laboratories, private hospitals, clinics, nursing homes, and research institutes mostly depend on physicians to sell their products to consumers. There is a symbiotic between doctors and pharmaceutical companies. Without pharmaceutical products, doctors cannot help the patient, but on the other hand, the producers of the products also depend on doctors' prescriptions in earning revenue (Joel 31).

Joel defines the relationship between doctors and pharmaceutical companies as a symbiotic relationship. This symbiotic relationship, some view as an unpleasant, illegal type of relationship, they may be failing to see both the necessity and benefits related to it. The companies give gifts like meals, free samples of medications to give out to patients, educational items, or breaks from the office routine. However, each of these gifts impresses the feeling within doctors that they need to reciprocate (Joel 24). As a result, physicians have to make an unethical and unjust decision. The legal and regulatory measures may not always

work. In that case, ethical knowledge and practice can act as a self-defending and robust measure.

At the time of graduation, the physician takes an oath committing to deliver the best treatment to the patient according to her or his knowledge (Hajar 156). Hippocrates was the first who referred and asserted that the purpose of medicine is to protect the interest of the patient, and it was defined as the code of professional conduct. (Askitopoulou and Vgontzas 1483). For thousands of years, the medical profession had to abide by the Oath of Hippocrates. The oath historically guides the physician's conduct towards the patient, colleagues, and society.

At the beginning of the Hippocratic Oath, a physician declares the following: "I swear by Apollo, the Physician and Aesculapius, and Hygeia and Panacea and all the gods and goddesses, making them my witnesses, that I will fulfill according to my ability and judgment this oath and this covenant" (Hajar 156). The first stanza of the oath reflects the remembrance of the first generation from whom knowledge is gained and commitment to transfer knowledge to the next generation. The second stanza of the oath promises to "apply dietetic measures for the benefit of the sick according to [the doctor's] ability and judgment" (Hajar 156).

Nowadays, many medical schools all over the world use a modern version of the Hippocratic Oath (Hajar 156). The oath of the physician creates a commitment and ethical obligation to the patients that the society commonly believes without any question. The following Table 1 shows the modern version of the Hippocratic Oath.

Table 1: Hippocratic Oath: Modern Version (by Louis Lasagna, Academic Dean of the School of Medicine at Tufts University)

• I swear to fulfill, to the best of my ability and judgment, this covenant:
• I will respect the hard-won scientific gains of those physicians in whose steps I walk, and gladly share such knowledge as is mine with those who are to follow.
• I will apply, for the benefit of the sick, all measures (that) are required, avoiding those twin traps of overtreatment and therapeutic nihilism.
• I will remember that there is art to medicine as well as science, and that warmth, sympathy, and understanding may outweigh the surgeon's knife or the chemist's drug.
• I will not be ashamed to say, "I know not," nor will I fail to call in my colleagues when the skills of another are needed for a patient's recovery.
• I will respect the privacy of my patients, for their problems are not disclosed to me that the world may know. Most especially must I tread with care in matters of life and death. If it is given me to save a life, all thanks. But it may also be within my power to take a life; this awesome responsibility must be faced with great humbleness and awareness of my own frailty. Above all, I must not play at God.
• I will remember that I do not treat a fever chart, a cancerous growth, but a sick human being, whose illness may affect the person's family and economic stability. My responsibility includes these related problems, if I am to care adequately for the sick.
• I will prevent disease whenever I can, for prevention is preferable to cure.
• I will remember that I remain a member of society, with special obligations to all my fellow human beings, those sound of mind and body as well as the infirm.
• If I do not violate this oath, may I enjoy life and art, respected while I live and remembered with affection thereafter. May I always act so as to preserve the finest traditions of my calling and may I long experience the joy of healing those who seek my help.

Source: Hajar

### Part 1.1: Defining Terms

In this section, I will discuss the terms, such as “ethics,” “ethical decision-making,” “clinical practice,” “prescription,” and “prescription quality,” which I have used in this research project.

In the beginning, I will discuss ethics in general; however, I use rule utilitarianism to explain the essay's issues, which I discuss in a later section. In general, ethics is a branch of philosophy that deals with right and wrong, good or bad, just or unjust, fair or unfair, noble or ignoble. It is also related to what we ought to do or ought not to do and differentiating between positive and negative notions. When we decide to do something, we think about the rightness or wrongness of an action.

Ethics is closely related to moral beliefs. The word ethics is derived from the Greek word “ethos,” which means “moral character.” “Moral” originates from the Latin word “mos,” meaning “customs” or “manner” (Tan 305). Thus, “ethics” refers to moral character and behavior. Some thinkers believe that ethics is universal. Others argue that ethics has a relativistic nature; what is right and what is wrong, are determined by most of society's beliefs (Tzafestas 13).

An action may produce good consequences for an individual; however, it may not produce the same for others in society, which is not acceptable. Maximizing individual good is subject to others in society. Therefore, ethical judgement is an issue of interpersonal or social values, and the rules of conduct of the individual derive from those values. Ethics is defined as the right and wrong actions and intentions of an individual with the other (Gilbert 28).

As a social being, the individual deals with other members of society. The behavior of the individual should be in such a way that it must not hamper the other members' peace and tranquility in searching for one's peace. "Ethics is generally considered to deal with relations of humans to each other" (Gilbert 25). The moral character of a person is displayed by his or her action or behavior. If an activity or behavior of a person brings positive result for the society, it is an ethical action.

We understand the rightness and wrongness of an action considering the consequence. Hence, consequentialism is an ethical theory, according to which the consequence of an action determines its rightness and wrongness. Utilitarianism is a form of consequentialist theory. Utilitarianism is for maximizing the utility, where right and wrong are calculated based on an action's outcome. Utilitarianism is related to producing pleasure and reducing pain. It determines the appropriate course of action that maximizes the positive effect such as "happiness," "welfare," or the ability to live according to personal preference (Baggini and Fosl 56). Whatever may be the action if its outcome can maximize happiness and minimize pain, it is moral and it is right. In this view, how one person is doing the work is not an issue; the achievement is the deciding factor of its rightness or wrongness. For example, a physician performs open-heart surgery to save a patient's life as a last resort. Although the surgery is painful and risky, it keeps the patient's life. So, it is the right action because the result is good.

There are two forms of utilitarianism: act utilitarianism and rule utilitarianism. Act utilitarianism (AU) focuses on the individual action's outcome, while rule utilitarianism (RU) focuses on the type of actions' outcome. AU is the action that produces the best outcome among alternative actions. On the contrary, RU is an "action is morally permissible if and only if it is permitted by the rules whose general internalization has the highest expected value in terms of overall well-being" (Mokriski 268). Henceforth, people follow the rules to make the right decision that leads to maximizing utility. In this research project, rule utilitarianism is used to examine the physicians' decision-making process in clinical practice, which is discussed in the statement of the moral theory section.

Ethics is a subject to study, but it also has practical applications at every moment, in every walk of life. Always every individual has to make a decision either on natural or complex issues. In this case, the knowledge that we absorb from the environment and institution can play a supportive role in thinking rightly and deciding ethically but making decisions according to rules can produce maximum utility.

In a formal environment, decision-making is a systematic process, and ethics is ideally followed while the decision is made. Decision-making depends on problem identification, analytical ability, selecting the best alternative, implementation, and impact evaluation. In ethical decision-making, it is significant to ask the right questions focusing on the right issues, balancing determination with compromise, debating possibilities, and decision-making that stems from these recommended steps (Bowen 9). In ethical decision-making, physicians should obey rules, laws, professional codes of conduct in problem identification, information analyzing, selecting the best alternative, implementation, and impact evaluation, giving up personal gain to achieve an efficient patient outcome.

Clinical practice is the professional activity of a physician as the healer of the patient's pain and suffering. After acquiring medical knowledge, training, and license,

physicians engage themselves in medical practice that is to treat the patients and also medical research. In clinical practice, the physician ideally follows a structured method in examining patients and selecting interventions. It is important to use medical knowledge to identify the patient's problems and to give treatment accordingly. "Traditionally, decision-making in medical practice depends largely on probabilistic reasoning and value assessment. In addition, the development of structured operational tools is based on decision-making, which itself is informed and influenced by general philosophy and clinical judgment" (Jenicek 12).

Clinical practice also refers to the physician's decision-making in treating patients and research. In clinical practice, the physician has to decide three integrated phases: diagnosis, assessment of severity, and management. Appropriate clinical decision-making is related to the precise and effective diagnosis and the cost associated with inappropriate or indiscriminate use of diagnostic tests. The inappropriate diagnostics can instigate risk and adverse effects in management, cost, and harmful therapeutic intervention (Berman 2).

Usually, in clinical practice, the physicians follow some phases to diagnose the problem of the patients. In the first phase, the physician records the history of the patient and makes a physical examination. In this phase, the physician may recommend laboratory tests. Getting a test result and recorded history, the physician identifies the problem. In the second phase, the physician's judges the severity of the problems, establishing the degree of illness. It is identified as mild, moderate, severe, and very severe. In phase three, the physician goes for management that is selecting the intervention. Interventions are for the mild-home measure and for moderate specific therapy; for severe cases, there will be hospitalization and particular treatment, and for very severe cases, hospitalization in an intensive care unit (ICU) with specific treatment, supportive care, and follow-up (Berman 2). Usually, physicians follow this particular technique to identify the patient's problem and select therapeutic intervention in clinical practice. However, every physician may not go through four phases in

identifying the disease and treating every patient; it depends on the patients' severity and physicians' ethical strength. If a physician can identify the problem in the first phase, he or she should not go for the second or other phases, but in unethical practice, he or she can go for additional phases.

A patient goes to a physician with a clinical complaint, and the physician examines him or her following the clinical procedure. After understanding the problem, the physician advises the patient about therapeutic approaches such as medication, pathology examination, surgery, hospital admission, physical therapy, counseling, or no intervention. The physician writes clinical decisions, including the patient's problem on a piece of paper or in an electronic device, which is commonly known as prescription. A prescription is a legal and written advice for a patient prepared by a licensed physician or any other licensed medical practitioner or a licensed medical service provider (Bhadiyadara et al. 502). Whatever the clinical decision a physician or any other health service provider makes for treating the patient, they write it on a piece of paper or in an electronic device, is a prescription.

A quality prescription is a lawful document with relevant content that is clear, meaningful, and understandable to readers. Meaningfulness of a prescription includes the fair and logical contents that can be determined by measuring its quality in a specific method. If it is handwritten, it should be clear to read and understandable. It should contain information like the introduction of the patient, such as name, age, date of visit, disease, advice, and physician's name, which defines the prescription's external quality. The internal quality of the prescription depends on the content that is the advice of the physician. A proper prescription is rational, evidence-based, transparent, complete, and capable of improving the patient's health. A quality prescription contains correct dosages of medication, frequency, route of administration, schedule or duration of treatment, duplicating of therapeutic agents, etc. (Hassan et al. 501).

A quality prescription is prepared by applying the physician's medical knowledge, experience, and impartial mind without any external inducement, and following the code of professional ethics, which is capable of improving the patient's health. A proper prescription is self-explanatory and complete, understandable, and ethics-based, where there would not be unnecessary medicine and other bits of advice. Following rules, if a physician diagnoses a patient's disease and selects interventions and prepares it, undoubtedly, the quality of the prescription would be good.

#### Part 1.2: The Pertinence of the Problem

The physician supports the health-related business in two ways: research and marketing. The relationship between the industry and research institutions and researchers is often mutually beneficial and essential; they serve society by producing preventive, diagnostic, and therapeutic products. However, at the same time, the individual and institutional relationship jeopardize the integrity of scientific research and conflict with the ethical condition for researching with humans (Lo and Field 116). When the medicine is used for experimentation, it needs voluntary consent. Sometimes, without informing the patient, the physician prescribes new drugs for experimentation, for the sake of the medicine company, the physician suggests the testing; it is not for the interest of the patient (Flynn 151). They also advise for unnecessary medicine, pathology test, and hospital and intensive care unit (ICU) admission. Hence, the question of ethical decision-making in clinical practice is relevant. The following diagram shows the agents who influence physicians to prescribe their products in prescriptions.

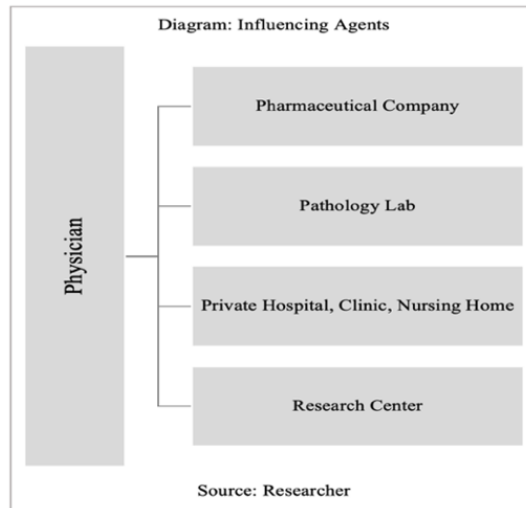


Fig. 1: Diagram of different influencing agents in decision-making.

### Part 1.3: Thesis Statement

The physician promises to provide the best treatment according to her or his knowledge in oath at the time of graduation (Hajar 155). In some countries, the physician also submits a written declaration to the registering body pledging to consecrate his or her life to humanity's service at time of registration. The oath and declaration of the physician creates an ethical obligation to the patients. Sometimes, being influenced by external factors, the physician makes unethical decisions in treating the patients. This unethical decision in clinical practice affects the quality of the prescription. In this research project, I will argue that there is a rule utilitarian presumption against breaking the oath and declaration when it comes to conflicts of interest around the prescription. The point of doing this is to provide a form of consequentialist confirmation to the deontological framework provided by the Hippocratic Oath and declaration.

### Part 1.4: Structure of the Argument

The overview of the treatment situation, the physician's decision-making, and the influence of the different companies' engagement in health service delivery are discussed in this research project. This situation and normative analysis are also given here to find out the

problem and recommend suggestions to eliminate the problem. Therefore, in this descriptive research project, I will first examine, in a conflicting situation, how the physician breaks the oath and declaration, then the consequences of breaking a promise, and finally I will suggest an effective prescription quality assessment system to implement rule utilitarianism.

#### Part 1.5: Statement of Moral Theories

Ethical knowledge, theories, and professional ethics can guide the physician to make an appropriate decision to serve the patient well. According to the consequentialist view, the rightness and wrongness of action solely depend on consequences. People always prefer to produce better result than worse. Therefore, an action that produces excellent results is ethical. The principle of moral “utility” or “the greatest happiness principle” holds that actions are right in proportion as they tend to promote happiness, and that actions are wrong as they tend to produce the reverse of happiness (Mill 35). In utilitarianism, happiness is also synonymous with welfare and the positive effect of the action. Utilitarian moral theory also argues for the maximum benefit for the maximum number of people.

However, in the definition part, I have explained that utilitarianism falls into two categories: act utilitarianism and rule utilitarianism. Act utilitarianism emphasizes the effects of the individual action, while rule utilitarianism emphasizes the type of actions. According to act utilitarianism, people should act in a way that produces maximum good. On the other hand, rule utilitarianism claims that the maximum good results from following rules. Hence, I like to emphasize the RU because, following the rules, the physicians can ensure the patients’ maximum welfare with the least cost.

Consequentialist theory does not say anything about decision; however, before doing any action, people usually make decisions about the problems at hand. The later stage of the decision is action. The utilitarian defines right or wrong, good or bad, considering the outcome. In an uncertain situation, a decision is made depending on intuition or reason.

When someone makes a decision based on intuition, and action is taken accordingly, the outcome can be positive or negative. Utilitarians only consider the positive effect as right and the negative impacts as wrong. In this situation, rule utilitarianism can be effective to achieve positive. The following diagram shows how the utilitarian view works in the case of taking action. First, decide on action or inaction, then act accordingly and achieve the outcome.

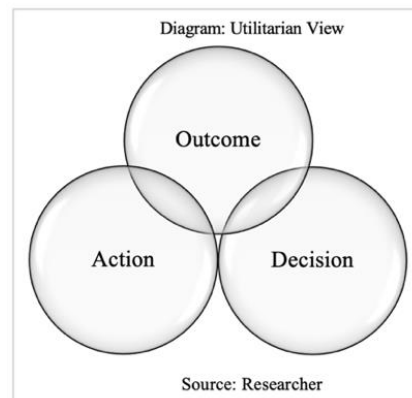


Fig. 2: Diagram of the utilitarian view.

Rule utilitarianism is a code of moral rules following which everyone can achieve good outcome. If the individual acts independently, that falls into act utilitarianism. “The ideal code is the set of rules where the consequences of everyone following them would be better than the consequences of everyone following any other set of rules” (Mulgan 120). One should act in accord with the rules which, if accepted and followed, would maximize the good (Rajczi 858). It is necessary to discuss how to rule utilitarian understands the idea of accepting a rule.

Rule utilitarianism can be characterized in terms of two tenets, such as whether an action is right or wrong depends on whether the moral code that is authoritative for the agent permits or forbids actions of that kind, and the authoritative moral is accepted by all or nearly all members of a group (Eggleston et al. 4). A specific society should accept the rule and act accordingly; if they do not follow and act separately, that falls into act utilitarianism. These

are the rules based on the tendencies of actions that have been developed over a considerable time. These rules are taught to the young and also enforced by law and opinion (Eggleston et al. 6).

Intending to follow the utilitarian rule type of ethics, the physician community needs to make a clinical decision depending on knowledge and experience and keeping them aloof from any sorts of emotion, affection, greediness and disliking. The physician should consider the consequences of actions taken as they are committed to doing so. The possibility of a cure or side effect must be measured before deciding anything about treatment. This procedure should be legal and rule bound, which is the essence of rule utilitarianism.

However, at every stage of the decision-making process, the decision-maker hereafter the physician should follow the rule utilitarianism to make an ethical decision. According to rule utilitarianism, the decision-makers follow the laws, organizational policies, and code of professional conduct to achieve the highest positive result. A decision is judged unethical when it creates personal gain at a higher cost or attaining an inefficient goal (Fok et al. 265).

According to consequentialist theory, the physician's biased decision produces a bad result for the patient; it is unethical. Nevertheless, the physicians cannot safeguard the benefit of the patient and a pharma company at the same time when they receive gifts from the pharma companies. In this situation, it creates a "conflict of interest" for the physician. Following rule utilitarianism, decision-making is a significant issue in determining the best solution with the least cost and pain, which falls into the Hippocratic oath and physicians' code of conduct. As a group, the physician accepts the code of professional conduct and follows it to maximize positive healthcare outcomes. Society trusts that depending on knowledge, experience, and ethical guideline, the physician should make the right decisions regarding the patients' treatment. However, the conflict of interest restrains the physician

from making ethical decisions in any influencing the situation. In the next section, I try to find out what happens in reality.

#### Part 1.6: Rationale of the Selected Countries

In this research project, four countries' health service delivery situations have been chosen for analysis: The United States of America and Canada from North America, the Organization of Economic Cooperation and Development (OECD), and Bangladesh and India from South Asia. The US and Canada are G-7 members and developed nations; their health management and service delivery systems are much better than those of the developing countries like Bangladesh and India. I have shown the comparison between developed and developing countries relating to the physicians' ethical condition and the quality of services received by the patients in the concerned countries. The US and Canada have introduced the health insurance system. They have also introduced systems for electronic health records (EHRs); however, Bangladesh and India have neither introduced health insurance nor EHRs to support and better health management. Secondary data of these four countries are also available in the books and journals, so these four countries have been chosen.

I have taken secondary qualitative data regarding health service in connection with the US, Canada, Bangladesh and India for analysis. In the analysis, conflicts of interest have been found that break the rules resulting in high cost and patients' suffering. Physicians break their oath, the professional code of conduct, and the law. Finally, I have tried to find out an effective way out to implement rule utilitarianism. The following diagram shows the workflow of the research project.

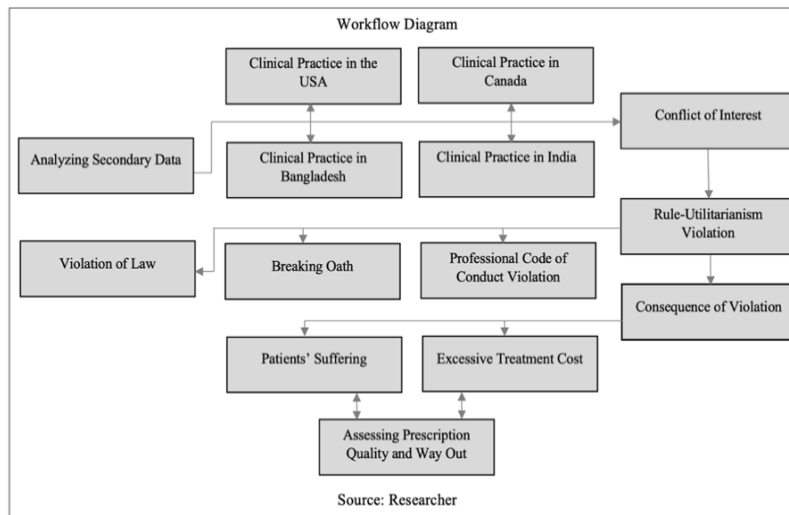


Fig. 3: Workflow of the project.

The research project has six parts, including the introductory narrative. In part 1, I have replicated the main idea of the research, definition of terms, the pertinence of the problem, thesis statement, the structure of arguments, moral theories, and the rationale behind the selected countries. In part 2, I have described the code of professional conduct of the said countries. The professional conduct strongly emphasizes that physicians must first protect the patients' interests; they cannot break the oath and rule for their interest. It also explains why physicians are bound to behave ethically during clinical practice. I have examined, in part 3, how the companies influence physicians, how the conflict of interest traps the physicians, and how they break the oath in a conflicting situation. In part 4, I have described the consequences of breaking the oath and violating laws or rules in general as part of violating rule utilitarianism. On the other hand, in part 5, I have explained the way out from violating rule utilitarianism. I have proposed for prescription quality assessment based on the electronic health record in connection with a way out. Part 6 is the conclusion and contains a brief of major discussion points and findings. The next part describes the main idea of the code of professional conduct of the selected countries and discusses the need for ethical decisions in clinical practice.

## Part 2: Codes of Ethics and Professional Conduct

I have discussed the thesis statement, the definition of terms, the pertinence of the problem, the structure of the argument, and moral theories in the introductory part of the research project. In this part, I will discuss the code of ethics and professional conduct, which is the basis of physicians' ethical strength. All the medical associations throughout the globe follow the ethical code where priority is given to patients. The essential sections of the professional code of conduct of the selected four countries, the US, Canada, Bangladesh and India, will be here.

The code of ethics and professional conduct is the rule for physicians regarding how they should perform their professional business. The code of ethics and professional conduct is encompassed with rules regarding what physicians should do and should not do during the clinical practice and how they can serve patients best. The code of ethics and professional conduct has been made in the countries to ensure patients' best treatment, which is the main argument of the rule utilitarianism theory. In addition to the rules, some laws in every country of the world control and manage the physician's clinical practice for safeguarding the best interest of the people.

### Part 2.1: American Medical Association Code of Medical Ethics

The preamble of the ethical code of the American Medical Association says that “[t]he medical profession has long subscribed to a body of ethical statements developed primarily for the benefit of the patient. As a member of this profession, a physician must recognize responsibility to patients first and foremost, as well as to society, to other health professionals, and to self” (Riddick 8). It contains principles of medical ethics encompassed with nine sections, which are as follows:

Section I of the code, concerning the competent medical care human dignity and rights, has priority, stating that “a physician shall be dedicated to providing competent

medical care, with compassion and respect for human dignity and rights” (A. M. Association XV).

Section II stresses professionalism, honesty, and reporting against incompetence and fraud. It says that “[a] physician shall uphold the standards of professionalism, be honest in all professional interactions, and strive to report physicians deficient in character or competence, or engaging in fraud or deception, to appropriate entities” (A. M. Association XV).

Section III of the code emphasizes respect for the law and required changes in quality for the patients' interest. It says that “[a] physician shall respect the law and also recognize a responsibility to seek changes in those requirements which are contrary to the best interests of the patient” (A. M. Association XV).

Section IV highlights the rights of the patients, colleagues, and other professionals and patients' privacy, asserting that “[a] physician shall respect the rights of patients, colleagues, and other health professionals, and shall safeguard patient confidences and privacy within the constraints of the law” (A. M. Association XV).

Section V gives importance to continuous study and application of scientific knowledge. It says that “[a] physician shall continue to study, apply, and advance scientific knowledge, maintain a commitment to medical education, make relevant information available to patients, colleagues, and the public, obtain consultation, and use the talents of other health professionals when indicated” (A. M. Association XV).

Section VI of the code emphasizes the doctor's choice when serving the patient in an emergency. It notes that “[a] physician shall, in the provision of appropriate patient care, except in emergencies, be free to choose whom to serve, with whom to associate, and the environment in which to provide medical care” (A. M. Association XV).

Section VII recommends the participation of physicians in community activities to contribute to public health improvement. The section declares that “[a] physician shall recognize a responsibility to participate in activities contributing to the improvement of the community and the betterment of public health” (A. M. Association XV).

According to section VIII, the physicians’ prime responsibility is to ensure patients’ care, where it says that “[a] physician shall, while caring for a patient, regard commitment to the patient as paramount” (A. M. Association XV).

Section IX of the code urges the physicians to support access to medical care, explaining that “[a] physician shall help access to medical care for all people” (A. M. Association XV).

The code of Medical Ethics of the American Medical Association has emphasized the interest of patient care, continuous knowledge improvement and sharing with others for the betterment of humanity, where there is no trace of personal interest, and physicians are committed to follow these rules. In the US, the physicians have to take a Hippocratic oath at the time of graduation, where they solemnly swear to God to serve humanity and transmit their knowledge to others.

#### Part 2.2: Canadian Medical Code of Ethics and Professionalism

The board of directors of the Canadian Medical Association approved the code of Ethics and Professionalism in December 2018 to guide medical professionals in performing their duties, responsibilities, and commitments to the profession. The code provides a standard of ethical practice for physicians in fulfilling their obligation, the highest standard of care, and to foster patient and public trust in physicians and the profession. The code has three parts: A, B, and C. Part A emphasizes virtues, part B commitment and part C professional commitments (Canadian Medical Association 2).

Part A of the code describes the virtues that should be exemplified by ethical physicians. In this section, virtues such as compassion, honesty, humility, integrity, and prudence are explained, which physicians should possess. Part B describes the fundamental commitments of the medical professional (Canadian Medical Association 3).

In commitment to patients' well-being, the code explains that medical professionals have to consider the patients' well-being, act to benefit the patients, and promote the patients' good. They have to provide appropriate care and management across the care continuum, take all reasonable steps to prevent or minimize harm to the patients, and disclose risk and harm. They are also committed to recognizing the balance of potential benefits and harms associated with any medical act (Canadian Medical Association 3).

They have to be committed to respect the patients; they have to treat them with dignity and respect the equal and intrinsic worth of all persons. They should respect the autonomy of the patients and never exploit the patient for personal advantage and never participate in or support practices that violate basic human rights (Canadian Medical Association 3). Medical professionals should be committed to justice by promoting the well-being of communities and improve health outcomes and access to care, reducing health inequalities and disparities in care, and fostering social accountability (Canadian Medical Association 3).

Medical professionals should be committed to professional integrity and competence to practice medicine competently, safely, and with integrity avoiding any influence that could undermine their professional integrity. Medical professionals also need to develop their professional knowledge, skills, and competencies through lifelong learning (Canadian Medical Association 3). They should have some other commitments to patients and society, including professional excellence, self-care and peer support, inquiry, and reflection to facilitate ethical decision-making.

Part C of the code explains the professional responsibilities of the patients-physicians relationship, such as decision-making, patient privacy, the duty of confidentiality, and the need to manage and minimize conflicts of interest (Canadian Medical Association 4). In Canada, physicians take the oath at the time of their graduation, like American physicians.

#### Part 2.3: Ethics and Professional Conduct of the Bangladesh Medical and Dental Council

Bangladesh Medical and Dental Councils regulate the conduct of the medical professionals of Bangladesh; however, medical ethics in research is dealt with by a separate organization, the Bangladesh Medical Research Council, which regulates research concerned with clinical, epidemiological, and sociological aspects of health and disease. The regulations for the physicians of Bangladesh are called “Bangladesh Medical and Dental Council: Code of Professional Conduct, Etiquette and Ethics,” which contains five chapters and five annexures, and all physicians have to follow it during medical practice. Annexure-I is used by the newly licensed physician for making a declaration at the time of registration that allows said physician to engage in medical practice.

Section 2.2 of the code says that a doctor must provide good standard care, and he or she must adequately assess the patient’s condition, taking account of history, including the symptoms, psychological, spiritual, social and cultural factors, views, and values (BM&DC 2).

Section 2.3 of the code says about the clinical care of patients. It instructs physicians to prioritize patients based on their clinical needs upholding the duty to patients without discrimination on the grounds of race, religion, sex, disability, custom, financial condition, nationality or political belief. It also orders the physician to take the greatest care possible of the patient and spend the necessary time to establish the diagnosis by using the most suitable

scientific techniques. It further states that the physician must not recommend to a patient or agent any illusory or insufficiently tested procedure as beneficial and safe (BM&DC 2).

Section 2.3.2 of the code explains the new medical procedure that should be applied with the patient's voluntary consent following the ethical principles and without violating the patient's human rights, which should be beneficial to patient's healing (BM&DC 2).

In section 2.3.4 of the code, it says that the doctor should clearly explain to the patient the nature of the surgical procedure, graft, implant or medication as well as alternative methods of available treatment; in this case, the doctor should consult and obtain approval from the ethics committee before using the procedure (BM&DC 4).

The necessities of medical record-keeping and confidentiality are also discussed in section 2.4 of the code. The physician should maintain a medical record of his or her patient's history, physical findings, investigations, treatment, and clinical progress.

Section 4.3 of the code describes improper financial transactions. According to this section, a doctor shall not offer to or accept from any person or organization including diagnostic laboratories, hospitals, nursing homes, health centres, beauty centers or similar institutions, any financial or other inducements including free or subsidized consulting premises or secretarial support for the referral of patients for consultation investigation or treatment (BM&DC 8). Section 5 of the code defines the misconduct and punishment of physicians in Bangladesh.

On the other hand, at the time of graduation, physicians have to be registered with the council to practice by agreeing to abide by the code, declaring, "I pledge to consecrate my life to humanity's service. I will not use my knowledge contrary to the laws of humanity. I will maintain the utmost respect for human life from the time of conception" (Mahbub 7). This code includes the physician's responsibilities, professional service, duties to patients and to each other, to the public, and the profession at large.

#### Part 2.4: Ethics and Professional Conduct of the Indian Medical Council

The physicians of India follow the Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulation, 2002. The regulation is comprised of eight chapters and four appendixes. Chapter 1 of the code describes the code of medical ethics, chapter 2 the duties of physicians to their patients, chapter 3 the duties of physicians in consultation, chapter 4 the responsibilities of physicians to each other, chapter 5 the responsibilities of physicians to the public and the medical profession, chapter 6 unethical acts, chapter 7 misconduct and chapter 8 punishment and disciplinary action.

Section 1.1.2 of the regulations says that the medical profession's prime objective is to render services to humanity; reward or financial gain is a secondary consideration. The person who chooses his or her profession assumes the obligation to conduct himself or herself following its ideals. A physician should be an upright man or woman instructed in the art of healings. He or she shall bear a pure ethical strength to follow the professional rules and be diligent in caring for the sick. He or she should have to be modest, sober, patient, and prompt in discharging his duty without anxiety, conducting himself with propriety in his profession and his life (Council 67).

Section 1.2.1 of the regulations says that the principal objective of the medical profession is to render service to humanity, and the physicians should continuously improve their professional quality by acquiring knowledge and skills and should make available to patients and colleagues (Council 66).

Section 1.3 advises physicians to keep records of indoor patients for three years from the date of commencement of the treatment standard. They are also instructed to deliver copies of the records within 72 hours if any patient or representative or the court asks for it (Council 67).

Section 1.8 argues that physicians shall give priority to the interest of patients; physicians' personal financial interests should not conflict with the medical interest of patients. They are also advised to follow the health-related laws of the country during the practice (Council 67).

Section 2.1.1 says that physicians should only treat the sick and injured person, and while treating patients, physicians should bear in mind that the health and lives of persons entrusted to their care depend on their skills and attention (Council 67).

Chapter 3 of the regulations explains that unnecessary consultations should be avoided; consultation should be for the patient's benefit, and punctuality in the consultation should be maintained (Council 67). Except for this, every physician in India has to make a declaration accepting the terms of the condition of the regulations in the prescribed form at the time of graduation, which can be considered the alternative to the oath.

During the registration with the medical council, the physician of India has to pledge to consecrate life to the service of humanity. They also declare not to use medical knowledge contrary to the laws of humanity even under threat. They promise to maintain the utmost respect for human life, not permitting considerations of religion, nationality, race, party politics, or social standing to intervene between duty and patient—some other things related to patient's health. They solemnly declare this instead of the oath, which is similar to the physicians of Bangladesh.

The code has also made the provision to restrain physicians from being influenced. The ethical knowledge, the oath, and the code of ethics and professional conduct encourage physicians to protect patients' interests by restricting themselves from companies' unethical influence. In the next part, I have discussed how the health service-related companies influence clinical decisions and how physicians break the oath and violate rules for their gain.

### Part 3: Conflicts of Interest and Violations of Rule Utilitarianism

In this part, I consider conflicts of interest and the violation of rule utilitarianism caused by doctors breaking the Hippocratic oath, code of ethics and professional conduct, as well as why and how physicians do not follow the code.

Although physicians commit to society by taking the oath or giving declaration to provide the best healthcare to patients before entering the clinical practice, when physicians receive the pharmaceutical companies' gifts, they become obligated to protect the pharmaceutical companies' interests. This creates conflicting situations because one person cannot keep the words of two persons if interests are not the same. Physicians are the essential parts of healthcare and management who directly help patients' healing. The use of medicine in patients' healing plays a significant role as a single therapeutic item or jointly with other interventions. From the research of medicine, physicians are involved, and in the case of selling, they act as catalysts.

#### Part 3.1: Conflicts of Interest and Drug Research

Companies also sponsor research or clinical trials; the objective and the procedure of the research and trial sponsorship is different; it is conducted under a protocol which ensures patient's rights, safety, and well-being, as well as data credibility (Mihajlovic-Madzarevic XV). Following the protocol, if any research is conducted that is fair and beneficial to the society, bypassing protocol is unethical.

The physician helps the clinical trial of a new medicine before its commercial production and sale. Similarly, the physician's prescription is one of the significant ways of marketing medicine. The relationship between the industry and research institutions and researchers is often mutually beneficial and essential; they serve society by producing preventive, diagnostic, and therapeutic products. However, at the same time, the individual

relationship jeopardizes scientific research integrity and conflicts with the ethical condition for research with human subjects (Lo and Field 116).

When physicians use medicine for experimentation, in most cases, that is not a suitable medicine for the patient. It also may prove harmful to the health of the patient. Sometimes, without the consent of the patient, the physician prescribes new drugs for experimentation. For the sake of the pharmaceutical company, the physician performs the testing; it is not for the patient's interest (Flynn 151). The most horrible and unethical medical experiments were done under the direction of the Nazi physician, Josef Mengele, to discover a formula for breeding a superior human. This involved horrible abuse, including torture, barbarous treatment, and killing (Flynn 150).

After World War II, the Nuremberg code of medical research on the human subject came into force, and in 1964 the World Medical Association adopted the Helsinki Declaration, which was the first guideline for ethical regulation globally. Although more than half a century has been passed, it is not well-acclaimed (Bhupathi and Ravi 74). A clinical trial is essential for new medicine; it is unethical to conduct the trial without voluntary consent.

There is a connection between malpractice in a clinical trial and patient physician's relationship. For example, in Bangladesh, the patient-physician relationship is very paternalistic, where patients do not enjoy the privilege of informed consent. It is no more than taking a signature on a piece of paper to avoid legal litigation in case of a patient's harm or death (Talukder 26). However, the situation in the USA and Canada is much better than that of Bangladesh.

### Part 3.2: Conflicts of Interest and Malpractice

Selling medical products mostly depends on the physician's prescription. In this field, physicians are the professional who can help the sale of companies a lot. Pharmaceutical

companies in all countries are not allowed to use social media for marketing purposes. As the ultimate consumer, the patient is unable to select the medicine. Thus, creating demand and pushing sales in the market is different from that of other essential commodities.

For selecting intervention, technical knowledge and expertise is required; the patient does not know what intervention is suitable for the therapeutic purpose; moreover, the patient's autonomy is also questionable, and that depends on the physicians' will and openness. In that case, the patient may have such knowledge and expertise, not general, but the patient's autonomy is vital in selecting therapeutic measures. Unfortunately, the patient's autonomy is often not appropriately addressed, or it is neglected. For marketing purposes, the physicians are the target of the pharmaceutical companies, pathology labs, and private hospitals, although the ultimate user of the medical drug is the patient. Therefore, the physician's prescription habit affects patients' habits in prescription drugs and other health-related products. Other recognized factors also influence the physician's decision to prescribe a given medication (Smith 96).

The pharmaceutical companies organize seminars by paying the senior physicians followed by lunch or dinner to explain the effectiveness of a specific drug of that company before other physicians who have significant impacts on enhancing the sale of that drug. "Marketing strategies in which drug companies pay prominent physicians to endorse a particular brand of medicine — either explicitly during the lecture, or psychologically through associating themselves with a given brand name — capitalize on the presupposition that the physician is impartial" (Haque et al. 32).

Pathology tests are an essential part of evidence-based practice, but unnecessary tests produce unnecessary cost and harm. Nevertheless, physicians earn personal financial gains by referring the patient for a particular test or procedure. They are also not providing appropriate or sufficient information about the proceedings. Some others attend symposia sponsored by

the pharmaceutical industry, or some accept a small gift from the pharmaceutical industry representatives (Gabel 423).

A survey conducted in the US among third-year medical students at eight leading medical schools shows that almost all students had received an industry-provided lunch or other gifts. More than one-third had attended a social event hosted by a drug company (Lo and Field 129).

Another study was conducted in the Columbia district of Washington, DC, in 2013, on prescription drugs. In the United States of America, the total prescribed drugs expenditure was \$507.9 billion in 2019 (Tichy et al. 3). The researchers found that a prescriber received gifts from the pharmaceutical companies, including cash, meals, and ownership interests, worth \$7 to \$200,000. The gift recipients submitted an average cost per claim of \$135, whereas the non-gift recipients claimed \$85 per prescription (Susan et al. 9). This influenced prescription habit that enhances the treatment cost and patient's sufferings, but it can bring a bit of financial gain for the physicians.

The popular media of the United States has reported about unethical practices of physicians (Deshpande 387). The Massachusetts Medical Society reported that a survey was conducted on 900 physicians, where 83% of physicians say fear of being sued is driving them to order 18 to 28% of unnecessary tests, procedures, referrals, and even hospitalizations, a phenomenon that is adding at least \$1.4 billion to annual healthcare costs (Deshpande 387). This malpractice is because of defensive medicine, which is to avoid the physicians' litigation risk in the US, which occurs unproductive cost and harm and protects the physician's interest instead of the patients (Kass and Rose 300). The intention of medical malpractice in the USA is not the physicians' direct financial gain; however, it impacts the treatment cost and sufferings of the patients.

The physicians of Canada are also not free from the accusation of engaging in malpractice. However, the form of malpractice in Canada is different from that of Bangladesh, India, and other developing countries. According to the Canadian Institute of Health Information (CIHI), in Canada, public drug programs spent \$14.5 billion in 2018. Legal litigation in Canada is mostly for pain and suffering (Coyte et al. 90). Common forms of malpractice in Canada include the failure to attend patients in a timely manner, failures in diagnosis, referrals or consultation, and poor treatment. Malpractice in general is defined as adverse events.

In Canada, Ross Backer and his colleagues have conducted an adverse event study and showed a conservative estimate of 7.5% adverse events in all hospitals (Baker et al. 1678). Although not all the adverse events have any physical impairment or disability, approximately 20% of them were estimated to cause the death of the patient representing 40,000 deaths in Canadian hospitals per year. Among the deaths, 16,500 were deemed estimated highly preventable in the study. Another common type of adverse event is a nosocomial infection. There are approximately 235,000 nosocomial infections in Canadian hospitals each year, resulting in approximately 10,000 deaths per year, which is the fourth leading cause of death in Canada (Flood and Thomas 1059). Some physicians are not giving proper treatment and attention to the patient's recovery. Neither practice follows the principles of rule utilitarianism or the ethical code of the professionals.

In Bangladesh, the situation is terrible because of physicians' shortage and the unethical practice of physicians. There are 3.05 doctors for 10000 people in Bangladesh, and a structured referral system does not exist; as a result, some government-paid post-graduate doctors have to see hundreds of patients after office hours in their private clinic (Andalib and Arafat 11). Doctors cannot spend sufficient time examining patients because of the excessive pressure of patients and doctors hidden intention of earning money. Research conducted in 67

countries shows that in Bangladesh, the average consultation length was 48 seconds, and in Sweden, it was 22.5 minutes. The short consultation hurts the patient's health care and increases the physician's workload and stress (Irving et al. 3). In this situation, patients suffer from the wrong diagnosis, delayed diagnoses, the high cost of different diagnoses, unnecessary diagnoses, unnecessary hospitalization, errors in anesthesia or surgery, and the widespread practice of performing unnecessary surgery to earn more money (Sultana 79).

Pharmaceutical companies influence the prescription behavior of Bangladeshi physicians a lot. Companies representatives (MRs) are skilled in selecting and delivering gifts to physicians. Physicians in Bangladesh like gifts with high value and needed items (Biswas and Ferdousi 3). Medical representatives look for the physicians' needs and arrange gifts for physicians, which impacts prescription behaviour by enhancing companies' sale volume. They also arrange seminars with physicians and the companies pay the expense of the seminar (Biswas and Ferdousi 3)

In Bangladesh, physicians often advise patients to have unnecessary pathology tests or sometimes recommend going to specific pathology laboratory. From referring patients, physicians receive 30%-50% commission from this pathology laboratory based on the patients they send to the diagnosis centers (Sultana 91). The other health care providers also make money from this unethical business. The regulatory system is too weak in Bangladesh to identify the negligence and wrong clinical decision-making, which leads to producing substandard prescriptions. As a result, the patient has to pay more money and this type of corruption is still a big problem in Bangladesh. All additional and unnecessary interventions including unnecessary or excessive medicine, surgery cause temporary or permanent health problems.

Health service in India is very similar to that of Bangladesh. In India, pharmaceutical companies' marketing also significantly depends on physicians' prescription behavior.

Medical representatives of pharmaceutical companies visit physicians with gifts and sample medicines, which carry a significant role in medicine's marketing and sale. During 2008-09, India's drug industry spent more than a quarter of its annual turnover on sales promotion. In the same period, it spent only 7% on research and development (Mukharjee 2). A huge amount of money the companies are spending every year for marketing purposes impacts the prescription quality and treatment cost.

Referring patients to private hospitals and recommending pathology tests, physicians in India, often influenced by the companies, make money. They advise patients to go to have some pathological examination, which may not be necessary. The pathological laboratory keeps a record of each referral, and at the end of the month, calculates the amount they give as a kickback to the physician. Referring patients for angioplasty doctors in Maharashtra get Rs 30,000-40,000 (£300-400; €450-550; \$500-650) (Gadre 2). Physicians may take advantage of the temporary drop in platelet count in some viral fevers, such as dengue, to advise admission to the hospital when there is no necessity. Wealthy patients are admitted directly to intensive care, and doctors pocket several thousand rupees (Gadre 2). The private hospital's bill is prepared based on the patient's financial strength. When the private hospital's authority can understand, the patient is wealthy; the invoice shall be larger in most cases. The situation in the developing countries is terrible, where healthcare is a profitable business with fewer ethics, rather than a service for humanity.

### Part 3.3: Conflicts of Interest, Healthcare Management, and Malpractice

Private health care is one of the worst causes of unhealthy clinical practice. In a country where there is no private practice, the possibility of doing malpractice is shallow. In the private health care system, all the health care providers consider their benefit first and then think about the welfare of the patient. They always keen to maximize their business as it

is more than a public service to them. The bill of patients depends on the strength of patients' pocket.

In healthcare, the US and Canada follow very similar system, where physicians do not have scopes of private practice. Physicians are paid through health insurance based on services they provide to patients. To receive federal funding, the ten provinces and three territories of Canada need to comply with the federal standard set out in the Canada Health Act (CHA) (Flood and Haugan 320). Canadian health care follows a one-point payment system through universal insurance. The extra-billing and private practice of the physicians are also prohibited (Flood and Haugan 320).

According to the Canada Health Act (CHA), in Canada, public health care is a not-for-profit basis. However, most of the hospitals and community agencies are private corporations, which also exist on a not-for-profit basis. As well, some providers collect fees from public or private or both sources for profit, that are a technically small business. This kind of private health care includes physicians, physiotherapists, pharmaceuticals and pathological labs (Daber 2).

According to the Canadian Institute for Health, the Information government covers 70% of the health cost, and private insurance and others cover 30% (National Health Expenditure Trends, 1975 to 2019). For these excluded services, the payment is made through private insurance and out-of-pocket system.

The US has also multiple insurance coverage system including private, federal and states insurance. Private insurance is provided by an employer or a union and also purchased directly by an individual from an insurance company or through an exchange; government insurance is provided through federal programs, such as Medicare, Medicaid, the Children's Health Insurance Program (CHIP), individual state health plans, TRICARE, CHAMPVA

(Civilian Health and Medical Program of the Department of Veterans Affairs), as well as care provided by the Department of Veterans Affairs and the military (Barchick et al.).

The insurance company also acts as a filter before making payment of bills. They have to keep records of their practice, and a team audits records to verify their accuracy and quality because the government and other insurance providers pay the medical bills. In malpractice, the patient goes to court against the physicians in the USA and Canada.

In Bangladesh and India, public and private health care go side by side, but private hospitals are on a profit basis. Government employees manage government hospitals, and patients have to pay an insignificant amount for their services, but the quality of services is not satisfactory. Therefore, patients like private hospitals where quality is better, but the extra billing rate is very high. In the absence of any comprehensive health insurance coverage in India, extra billing for the health care more than 40% of all patients admitted to the hospital have to borrow money or sell assets, and 25% of farmers are driven below the poverty line by the costs of their medical care (Jilani, et al. 1).

In India, 80% of health service is covered by private health care providers, and the government covers only 20% (Agarwal, et al 1). Private health care in India is like a marketable commodity, but in Canada, health care is mostly on a not-for-profit basis payable by the government for medically necessary health care. Some services in Canada exist on an entirely for-profit basis, such as cosmetic surgery.

Private health care is also the cause of the poverty of India. To pay the bill for private health care, some people sell their homestead. In such a situation, the supportive role of the government in financing health care assumes decisive importance to protect people from the medical poverty trap (Bose and Dutta 2).

In Bangladesh, health care is mostly provided privately by the out-of-pocket system. More than two-thirds of the total expenditure is privately financed. On the other hand, the

government covered one-third, among which the government finances about 60% out of tax revenues, development outlays, and the remaining 40% through international development assistance (Islam and Biswas 371). Most of the patients have to go to the private hospitals and clinics for treatment as the government's arrangement is limited. The private hospital charge significantly higher than that of the government hospital in Bangladesh (Siddiqui and Khandaker 227). The private clinic, nursing home, and pathology laboratories charge higher cost. The profit-making approach of the private health service providers is one of the causes of unethical billing and practice.

Bangladesh has not yet introduced health insurance policy coverage. The National Social Security Strategy of Bangladesh has suggested that the government introduce a national health insurance scheme (Joarder et al. 3). Physicians working as government's employees can work in private clinics or hospitals before and after office hours. In many cases, private clinics, hospitals, and pathology laboratory owners offer them space free of cost. They do private practice and think about the owners' interest in exchange for their benefits. Besides, Bangladeshi and Indian physicians do not keep medical records of their practice, and there is no auditing system to verify the prescriptions or treatment quality. Therefore, the scope of malpractice is much higher than that of the US and Canada.

Except for this, the patient's role in decision-making has a positive influence on ethical decision-making. The struggle of establishing the role of the patient in clinical decision-making has been running for the last couple of decades. This struggle shapes the expectations of physicians and patients and the ethical and legal standards for the physician's duties, informed consent, and the possible consequences.

Paternalistic, informative, interpretive, and deliberative models investigate what should be the ideal physician-patient relationship (Emanuel and Emanuel 2221). Emanuel and Emanuel argue that in the four models, such as paternalistic, informative, interpretative,

and deliberative of the physician-patient relationship, the deliberative model is the best. If the physician discusses disease and intervention, giving details as per the deliberative model to the patient, the patient can express his or her opinion, and it may be a helpful way of making an ethical decision in clinical practice. Whatever the decision is made, the consequences of it affect the patient. As the interest groups induce them, the patient should have a role in decision-making. However, the patient needs to depend on the physician to receive quality information about clinical decision-making.

As the treatment has to be done in the patient's body and expense is also the patient's responsibility, the patient's participation in the clinical decision is essential. The patient has the right to know his or her problem, the prognosis of the procedure, and a probable therapeutic intervention that should not be neglected in any case. Of course, there are many cases where someone has to make decisions for the patient because he or she may be unable. The physician should engage and help the patient in decision-making for the sake of the best intervention for the patient. If the patient is unable to be engaged, his or her agent should have the same right to know. In the US and Canada patients can play a role in decision-making but in Bangladesh and India patients have a very limited or no role in decision-making. Even physicians do not inform patients of their problems and therapeutic interventions.

The physicians and other healthcare providers have strong associations which take care of their interest, but the patients have no association to look after their interest. Most of the time, if the physician makes an arbitrary decision without informing the patient, patients can do nothing against malpractice and its adverse effects in Bangladesh and India.

Every country has its laws and rules to regulate the clinical practice of physicians. In Bangladesh and India, there are laws and regulations. Still, implementation is very rare or

impossible as records of medical practice are not kept. The physicians' associations are powerful and go for a strike if any action is taken against a physician.

In Canada, the physician has to follow the acts, such as Medical Act, Public Health Act, Health Insurance Act, Public Hospitals Act, Health Care, Consent Act, Mental Health Act, Ethical Code, etc. In the US, there are a number of laws and regulations to prevent the malpractice of physicians, and the implementation of them is also satisfactory. Patients can go to the court for their harm.

The law has given a crystal-clear picture of what a physician can do or cannot do. To control or guide the physician, the government has promulgated the laws. On the other hand, breaking the rules and laws impacts prescription quality. A substandard prescription increases treatment cost and patients' suffering; conversely, a high-quality prescription reduces treatment cost and patients' suffering, which is analyzed in the next part.

#### Part 4: The Consequences of Breaking an Oath or the Code of Professional Conduct

rule utilitarianism suggests that following a rule can bring a positive result. In clinical practice, for achieving a good result, the physicians should decide on the code of professional conduct upholding the oath that is sworn upon graduation. The physician should also abide by the government's rules and professional procedures in selecting medication, pathological test, hospital admission, and surgery. For clinical decision-making, physicians follow a specific procedure to avoid any mistakes. Following the process, physicians can make quality decision regarding patients' health and appropriate treatment. However, external factors such as the owners of pathological labs, pharmaceutical companies, private hospitals, clinics, and nursing homes influence physicians to write their products in prescriptions, so that they can earn more revenue.

The government's regulation and the role of the patient's decision-making are also factors, but physicians avoid these. Physicians should consider their patients' interests first; however, they consider the benefit of the companies that have influenced them. The physician falls into the trap of a conflict. The conflict induces the physician to make unethical decisions keeping the patient in the dark. The best outcome is not produced when the physicians break the oath and do not follow the code of professional conduct, which evident the justification of the rule- utilitarianism theory. The following diagram shows how the physician makes the clinical decision and how affects the prescription.

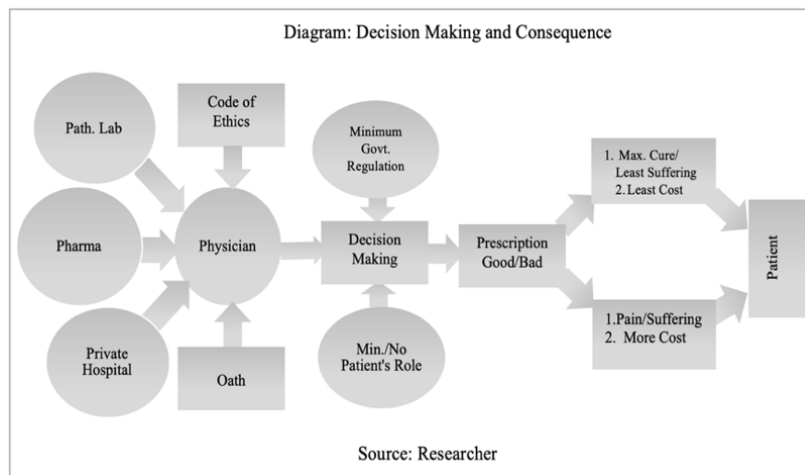


Fig. 4: Decision-making and its consequences.

Strictly speaking, from the rule-utilitarian viewpoint, the physician has to follow the rules that would promote aggregate utility if everyone were to follow them. From the rule-utilitarian viewpoint, the physician's primary duty is to follow the professional code of ethics and oath that can produce the patient's maximum utility that is the maximum cure with the least cost and suffering. In some countries, like Bangladesh and India, physicians violate ethical rules and government regulations in clinical practice that enhances people's sufferings and treatment cost. On the other hand, in Canada and the United States of America, physicians are engaged in clinical malpractice to avoiding legal litigation and, sometimes, negligence. None of the countries is free from the accusation of violating ethical rules.

The physician does not explain the disease and essential interventions and alternatives to the patient well and makes arbitrary decisions and advises the patients to choose the costly intervention instead of more comfortable and cheaper ones. When the volume of resistance from ethical knowledge and the professional code of conduct is weaker than the unethical influence, the physician makes the unethical decision.

An inappropriate prescription may increase the suffering of the patient and the cost of the treatment. Sometimes, the patients are cured, but a considerable amount of money will have been spent. On the other hand, by making decisions follow the code of ethics, cost and suffering can be reduced. In high-income countries like the USA, Canada, the UK, Australia, and New Zealand average adverse events were 9.2%, and almost half of the events were regarded as preventable where the majority of the events were associated with a surgical care provider, and more than half of events were operation or drug-related (Vries et al. 221). In low- and middle-income countries, 134 million adverse events occur in a year, causing 2.6 million deaths. The most detrimental errors are related to diagnosis, prescription and the use of medicine (Black 3).

Although among low- and middle-income countries (LMICs), it is difficult to quantify the quality because of the lack of data, standard metrics, and insufficient research on quality interventions, new estimates suggest that globally between 5.7 and 8.4 million people die every year from poor-quality care in LMICs, which accounts for lost productivity totaling an estimated \$1.4 trillion to \$1.6 trillion annually (Berwick 1317).

Therefore, in the field of health care, with ethical excellence, unethical factors are also active enough to influence the clinical decision-making of the physician, the reflection of the decision of the physician is prescription, and the quality of prescription depends on the ethical decision of the physician which has a relationship with the treatment cost. The suffering and the cost go to the shoulder of the patient and the patient's family.

Everywhere, in developing and developed countries alike, there are violations of the code of professional ethics in clinical practice. That is why, to ensure cost-effective and quality treatment, there should be a system through which they can get a remedy. As it is a question of ethics, an information and communication technology-based automated prescription quality assessment system (APQAS) can be introduced where there will be no manual intervention. In the next part, an automated prescription quality assessment system is discussed.

#### Part 5: Assessing Prescription Quality and the Way Out

Part 4 analyzed the physicians' decision-making process in clinical practice, the unethical influence of health service-related companies, and the outcome of the unethical decision. However, part 5 of the research project proposes assessing the prescription quality and way out of companies' unethical intervention. The discussion testifies that pharmaceutical companies, diagnostics companies, private hospitals, and some other healthcare-related companies induce physicians and promising future physicians to favor the companies, thus violating ethical rules. It is also found that the companies are successful in enhancing their sales volume by pressuring physicians, although prescription quality deteriorates. Two arrangements can be made for (i) cutting off the direct contact between companies and physicians and (ii) keeping electronic health records for automated assessment.

Firstly, the companies' medical representatives (MRs) shall not visit the physicians to disseminate information about drugs. There should be an alternative way to inform the physician of new medicinal drugs.

To support and encourage the improvement of health care through the rational use of drugs, the World Health Organization (WHO) introduced the 1988 Ethical Criteria for

Medicinal Drug Promotion. Section 19 of the criteria is that the companies are responsible for their medical representatives' statements and activities, and the medical representatives should not offer inducements to prescribers and dispensers. Prescribers and dispensers should not solicit such inducements (Ethical Criteria for medical drug promotion 10). Unfortunately, it is not followed as it is just direction without legal enforcement. Suppose the objective of a promotional visit is to inform physicians of drugs. In that case, the companies can inform the physicians through their websites where the details of the new medications including name, doges, ingredients, effectiveness, and price, according to the World Health Organization guidelines. The physicians can select the intervention consulting the websites of the companies.

In the case of a clinical trial of new drugs, the companies can sign a contract with the hospital authority or the Medical University authority that will help to follow the research protocol. The physicians shall not have any direct connection with the companies by any means.

Secondly, electronic health record-keeping can play a vital role in establishing the code of professional ethics and other government rules. The United States of America introduced an electronic health record-keeping system in 2009 by promulgating the Health Information Technology for Economic and Clinical Health (HI-TECH) Act for improving health care quality, safety, and efficiency. Electronic Health Record (EHR) is a technology-based record-keeping system where records of patients' treatment are electronically preserved. The EHR is a longitudinal electronic record of patients' health information generated by one or more encounters in a care delivery setting. It includes patient's demographics, progress notes, problems, medications, vital signs, past medical history, immunizations laboratory data and radiology reports. The EHR automates and streamlines the clinician's workflow. It can generate a complete record of a clinical patient encounter that

can support other care-related activities directly or indirectly via an interface, including evidence-based decision support, quality management, and outcome reporting (Seymour et al. 202).

The common functions of the EHR in the USA include recording patient demographic and care management data on patient visits, clinical decision supports, reports required for financial management, quality assurance, chronic disease management, and public health data collection, consents, authorizations, and directives (Knox 3). They use the EHR in three stages: stage 1 focuses on transferring data to EHRs and sharing information, while stage 2 focuses on more rigorous health information exchange, sharing information with patients, and activities such as e-prescribing and electronic labs, and stage 3 focuses on achieving patients' outcomes (Knox 15).

Canada is implementing an interoperable EHR network, introduced in 2001 by establishing Canada Health Infoway to foster and accelerate the building of a pan-Canadian electronic health record network that will manage Canadians' health information. Linking all clinics, hospitals, pharmacies and other points of care, Canada wants to improve Canadians' access to health services, enhance the quality of care and patient safety, and help the health care system becoming more efficient (McGinn et al. 1). The assessment of the electronic records is being done manually. Bangladesh and India have not yet introduced electronic health record systems.

In clinical practice, the format SOAP refers to subjective, objective, assessment/analysis and plan. The SOAP was proposed by Lawrence Ween in 1968 and is used in developed countries for collecting and organizing patients' data, including patients' visits and the reason for visits. (Gagan 15). The SOAP format helps the EHRs in ensuring the accountability of the physician in clinical practice.

The subjective part of the format is the patients' information regarding their health that directly passes to the physician. It includes present problems, current medication, past medical history, allergies, immunizations, family history, social history, review of body symptoms, and other patients' answers to physicians' questions (Gagan 15).

The objective part of the format involves listening to the patient; physicians make decisions for some investigations to be confirmed about the patients' problem. This category includes vital signs, general appears, and patients' mental status, observations from each system that the physician has examined, the previous record, or X-Ray report (Gagan 15).

In the analysis component, the physicians analyze the data they collect from the patients in subjective and objective parts. Analysis must be completed based on the previous parts. This part guides the fourth part that is the planning part of the format. This part is not the repetition of the first two; it is the conclusion based on the previous data (Gagan 15).

The planning part is divided into four sections. The first section of the plan includes all medication, devices, or appliances, recommended for the patients based on the SOAP's subjective part. If nothing is recommended in the subjective part, this portion of planning is omitted. The second section of this part refers to the ordered diagnostics test that results are not yet received or the future order through which patients have to undergo. The third section of this part is called the "patient teaching," where everything is discussed with the patient, family, and caregivers. It is essential to document everything, whatever is given to the patient during the physician's consultation, and the final section of this part is writing future referrals, consultations, and followup (Gagan 15).

The SOAP is a chronologically written document of the physicians against the patients used to make the physician accountable for their work connecting with the computer-based EHR system. It can also save physicians from any illegal or false allegation brought by

the patients. The data, which is documented in the EHRs, can be analyzed automatically with software. It can be judged to find out the accuracy of the physicians' decision.

For finding out the quality of treatment and further improvement there is auditing system. A clinical audit system came to light at the end of the 1990s, and the ultimate goal of the audit is to improve the treatment. Research is also for the improvement of treatment so that sometimes it is tough to differentiate between audit and research. The National Institute for Clinical Excellence of UK has defined a clinical audit as a quality improvement process that is done in a systematic review of already given care against explicit criteria and the implementation of the change. The systematic review and evaluation of the selected health care includes its aspects of the structure, processes, and outcome (Baker et al. 1).

According to the institute, the clinical audit has five steps: selection of a topic, specification of appropriate care, data collection to assess care, implementation of changes to improve care if necessary, and data collection for a second, or subsequent, time to determine whether care has improved. The clinical audit starts with a selected topic and works by comparing it with the standard care. Clinical audit is also depicted as a cyclical activity designed to improve service quality, but both audit and research may utilize similar methodologies or expose participants to risk of the same harm (Cave and Nichols 181).

Clinical audit reviews a selected service of more than one physician to find out the weakness and make suggestions for improvement. On the other hand, an APQAS of the clinical practice of the physician examines the unethical and intentional practice for personal gain leaving the patient's interest. Hence, a device needs to be developed by which, from the EHR, the physicians' prescription quality can be measured electronically without manual touch. An APQAS can automatically analyze the quality of the prescription using the data from the records. It can provide the result regarding the physician's performance, treatment quality, and

cost. Whenever it needs, the physician and the authority also can perceive the performance of the physician from the APQAS.

For this system, a server should be established with which all the physicians, pharmacies, and pathology laboratories of an administrative unit shall be connected. In that server, all records including, pathological examination reports, x-reports, MRI report, CAT scan reports, or whatever documents are generated for the sake of treatment, shall be stored. Once it is stored, it must not be deleted. If any information is changed, it shall be recorded with date and time. A central server can be established connecting all units' servers under the ministry of health. Some of the developed countries, including Canada and the USA, already have such networks.

On the other hand, Bangladesh, India, and some other developing countries do not yet have EHRs. However, unethical clinical practice and violations of the code of professional ethics are widespread there. Implementing EHRs and APQAS in Bangladesh and India can improve prescription quality and save treatment costs. The people shall benefit directly, and the governments can comfortably establish accountability in the health service. It can also produce an excellent result for the USA and Canada reducing manual intervention and saving person-hours.

#### Part 5.1: How APQAS Works

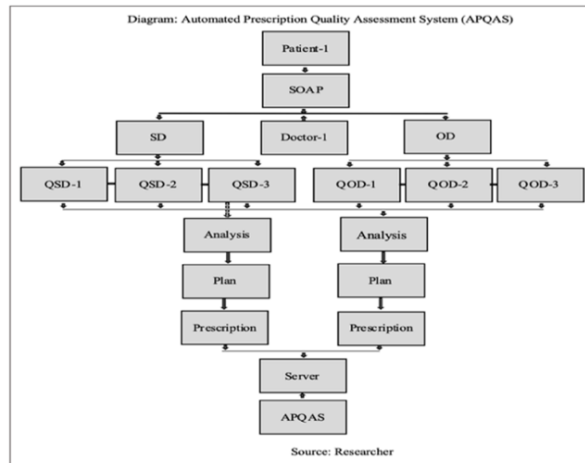
The system shall connect all physicians with a single network, and prescriptions and other patient records should be kept using the same software. Presently, physicians are using different software purchasing from the market. According to the SOAP, the physician analyzes subjective and objective data and makes a plan and prepares prescriptions. If the physician can confirm a diagnosis by analyzing subjective data, they can make an intervention plan; otherwise, they advise the patient for a pathology test. After receiving the pathology test result, the physician analyzes subjective and objective data and make a plan,

and he or she prepares prescriptions. In this diagram, qualitative and quantitative subjective data (QSD) data, for example, are indicated by QSD-1, QSD-2 and QSD-3, QOD-1, QOD-2 and QOD-3 qualitative and quantitative objective data. Data can be more than 3, 4, 5, and so on.

It can work in two stages, (i) problem identification and (ii) intervention selection. In problem identification, the patient's information can be converted into quantitative data, such as temperature, blood pressure, blood counting, etc. and by analyzing data, the software can identify the patient's problem. In addition to this, qualitative data can be included as yes or no in the proposed software. When the problem is identified, the intervention suggestion is easy, and this system can give the best option for intervention. To design software for APQAS, an IT team needs to work closely with a specialists' group of physicians comprising all the departments of specialization.

The prescription quality automatically can be assessed using the new software, specially made for this purpose. Lastly, the authorized person can log into the computer and obtains the result of a physician's prescription quality for a calendar year or any period. The concerned authority can print the required physician's overall quality of prescription and cost against each prescription. As all physicians are under a single network, it can save time and travel for the officials engaged in this regard. By Checking prescriptions from the records, the authority can advise the physician for quality improvement or can send them for further training or recommend punitive action. Consequently, if the authority finds some good practices that produce excellent healing and cost-effective results, it can advise physicians to use it as a therapeutic intervention.

Fig. 5 is based on SOAP that shows one physician for one patient. The network can connect one physician and multiple patients and multiple physicians and patients in a similar way.



[Here, subjective data (SD), objective data (OD), quantitative subjective data (QSD), quantitative objective data (QOD), qualitative and quantitative (Q), and automated prescription quality assessment system (APQAS) are used in the diagram.]

Fig. 5: APQAS system with one physician.

#### Part 5.2: Data Preservation

Fig. 5 shows that data is stored centrally in a server. It can be stored regionally and nationally and at the same time categorically for assessment and quality develop purposes. In the case of the US, Canada, and India, data can be preserved state or province-wise and in Bangladesh it can be preserved administrative division-wise. On the other hand, data can be preserving in categories like general practitioner (GP) and other specialized subjects.

In every administrative unit, there should be a team that can check the prescription's quality by logging into the system. Based on the prescription quality, which is problem identification and intervention, the team can send a message to the concerned physician for improvement or cling to the current quality. The court can use data as documentary evidence in civil suits filed by the patient against the physician. Once data is entered into the system, it must not be erased. The physician who has posted data into the system can correct it, but the time and date of correction shall automatically be written beside the new entry.

Although APQAS is proposed as the better way to quality assessment and improvement, which can ensure quality treatment with the least suffering and cost, as an idea for implementation, it requires more research.

#### Part 6: Conclusion

The physician should make an ethical decision to ensure the best health service to the patient with the least cost. The external factors like pharmaceutical companies, private hospitals, and pathological laboratories try to influence the physicians to make a clinical decision in their favor that can increase their revenue earnings. Although for improvising new medicine and the marketing of health-related products, inter-dependency between companies and physicians is essential, the unethical business motive is not convenient for the patient. Rule utilitarianism, including the code of ethics, may help the physician to make the proper decision in clinical practice, which helps in preparing a quality prescription. If the physician makes an ethical decision, it positively affects the prescription quality and treatment cost.

Although the physician takes a solemn oath to provide the best service to the patient, in reality, some physicians break that oath or declaration which they make at the time of graduation or taking registration from the professional council. They face conflicts of interest while taking benefits from the companies who are engaged in health service. From the rule-utilitarian viewpoint, they violate ethics and professional code of conduct and make an unethical decision that does not serve the patient best.

The reasons for violating the code of professional conduct in the developed countries are different than those in developing countries. In developed countries, the reasons for violating the code of professional conduct is mostly for avoiding court cases, but it is mostly for financial gain in developed countries. Healthcare management is also different than that of developing countries. In OECD countries, the government-paid insurance schemes are

introduced, which plays a supportive role in ensuring quality prescription. In contrast, in developing countries, government hospitals provide free healthcare with for-profit-based private hospitals, and there is no provision of health insurance. In developed countries like America and Canada, the patient can go to the court for compensation for pain and suffering; however, in developing countries like Bangladesh and India, the patient does not have any scope or limited scope to go to the court.

Physicians are writing decisions in prescriptions, but they are not writing the cause of such decisions. It is essential to write reasons so that it can be useful to justify a physician's clinical judgment.

In developing countries like Bangladesh and India, patients have a minimum or no role in clinical decision-making; however, in OECD countries, patients or their agents can play a role in clinical decision-making, which is useful in protecting clinical malpractice. In developed countries, the physician keeps records mostly electronically, but they are using different software. The records are checked and verified for quality assurance development purposes. Still, in developing countries, record-keeping is neglected, although their professional code requires record-keeping. The APQAS can connect all physicians through a single network and their treatment records should be stored on a server. The competent authority can get information regarding the quality of prescriptions from the system.

Patients receive better services in developed countries; however, they are receiving poor-quality services with more suffering in developing countries. As a result, the patient suffers from physical pain and financial pressure. To ensure quality prescription and further development of treatment, EHR is essential. Software is required to automatically analyze data from the EHR to generate results about the physicians' quality of treatment, cost, and performance. It also can be used for an APQAS that can go a long way to quality assurance and implementing rule utilitarianism. Further research is required for this system.

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