The Ethical Justification of Increasing Awareness of Preventive Medicine among Healthcare Professionals, Patients and the General Public in the United States

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THE ETHICAL JUSTIFICATION OF INCREASING AWARENESS OF PREVENTIVE MEDICINE AMONG HEALTHCARE PROFESSIONALS, PATIENTS AND THE GENERAL PUBLIC IN THE UNITED STATES

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ABSTRACT

THE ETHICAL JUSTIFICATION OF INCREASING AWARENESS OF PREVENTIVE MEDICINE AMONG HEALTHCARE PROFESSIONALS, PATIENTS AND THE GENERAL PUBLIC IN THE UNITED STATES

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While practiced for centuries, preventive medicine has received increased attention during the recent times. Preventive medicine has a distinct mission to protect, promote, and maintain health as well as to prevent diseases, disabilities, and premature deaths. It aims to fulfill its mission through the combined form of clinical intervention and health promotion. In the recent years, preventive medicine has begun to lean more towards the clinical interventions, taking away from the health promotion. This imbalance has caused preventive medicine to lose its effectiveness in fulfilling its mission. One of the leading causes for such imbalance is the lack of proper and adequate knowledge among healthcare professionals, patients, and the general public. Reintroducing preventive medicine through proper education is the necessary step required to reduce high rate of preventable diseases and increase individual quality of life. The first step of reintroducing preventive medicine is to educate the healthcare professionals on the
importance of practicing preventive medicine in its combined form. Healthcare professionals are then responsible for reintroducing preventive medicine to patients and the general public through their daily practice. The Preventive Model and the Preventive GP Model are designed to assist healthcare professionals in reintroducing preventive medicine among patients and the general public, respectively. The models categorize the different areas that need to be addressed, into three sections: risk factors, preventive measures, and plan of action. They are designed and implemented using the collaborative work of the medical team, public health sector, and the education board.

Keywords: preventive medicine, prevention, health promotion, patient care, education, healthcare ethics
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Chapter 1
Introduction

“An ounce of prevention is worth a pound of cure” ~ Benjamin Franklin

General Introduction:
Eighteenth century’s famous quote, by one of the Founding Fathers of the United States, Benjamin Franklin, continues to be prevalent today, particularly in the field of preventive medicine. Preventive medicine has been practiced for centuries, but it has received increased attention during the recent times. It has been perceived that daily practice of preventive medicine is more valuable in maintaining and enhancing individual quality of life, over any other methods of medical practices. Preventive medicine has a distinct mission to protect, promote, and maintain health as well as to prevent diseases, disabilities, and premature deaths. Due to its unique mission of preventing diseases before its onset, preventive medicine outshines other medical practices, which begin treatments after the diagnosis. Preventive medicine aims to fulfill its mission through its combined form of clinical intervention and health promotion.

Unfortunately, through the evolution of preventive medicine and the medical practice itself, preventive medicine has lost its original concept, transforming into an idea that no longer achieves the mission of the practice. In the recent years, preventive medicine has become increasingly clinicalized due to the exclusive medical advances and clinical interventions, which healthcare professionals promote in their practices. Such clinical interventions have progressively taken away the importance of practicing preventive medicine in its combined form, as well as given the population, at large, the illusion that they do not have a responsibility for
their own self-care. Despite the growing consensus that there are great health benefits of practicing preventive medicine, the rate of practicing among the patients, and the general public continues to diminish.

One of the leading causes for the degradation of preventive medicine is the lack of proper and adequate knowledge among healthcare professionals, which results in the lack of adequate knowledge among patients, and the general public. As the imbalance of preventive medicine leaned more towards the clinical interventions, healthcare professionals have become less aware of the importance of practicing preventive medicine in its combined clinical intervention and health promotion form. The reduced awareness of preventive medicine not only resulted in improper practices of preventive medicine, but it also created a biased environment about its importance among the healthcare professionals.⁴ As a result, patients and the general public, likewise, began to lack the basic awareness of preventive medicine and its application to maintain a healthy lifestyle and an overall quality of life.

Through a cascade of events, as the knowledge of preventive medicine decreased, the perceived importance of preventive medicine within Western medicine has also diminished significantly for healthcare professionals, patients and the general public. This devaluation of preventive medicine has been associated with a dramatic rise in preventable disease rates. These diseases include, but are not limited to obesity, cardiovascular diseases, and certain types of cancers.⁵ Sharon Hull indicates in her article that in current times, preventable diseases make up approximately 80% of the burden of diseases in the United States.⁶ Moreover, the study concludes that preventive medicine alone can reduce a high rate of preventable diseases while increasing the quality of life. No other form of medicine, except preventive medicine, has shown to have as dramatic of an impact on overall preventable disease reduction.⁷ Refocusing on
preventive medicine through proper education, and helping healthcare professionals, patients and
the general public understand the importance of practicing preventive medicine may, therefore,
be the next major challenge for the medical world to accomplish. Through the upcoming
chapters the project will aim to argue why, at the level of competent adult patients and healthcare
professionals’ interactions, preventive medicine is ethically preferable over other goals of
medicine and explores ways in which the ethical significance of preventive medicine can best be
promoted among healthcare professionals, patients and the general public.

**Objective of the DHCE Project:**
Preventive medicine is defined as the branch of medical practice which focuses on the protection
and promotion of health as well as the prevention of disease, disability, and premature death. Preventive medicine is classified into four categories: primal and primordial, primary, secondary
and tertiary prevention. Primordial prevention refers to measures designed to avoid the
development of risk factors during the early part of life; primary prevention practices to prevent
the disease before it develops through clinical interventions and health promotion; secondary
prevention is the early detection of a disease with measures to prevent or cure it; and tertiary
prevention is the attempt to stop the bodily and community spread of a disease. Although
secondary and tertiary prevention can overlap with other forms of medical practice, the most
unique and beneficial aspect of preventive medicine is the notion of primary prevention. Primary
preventive medicine is the core focus of this project.

In the recent years, preventive medicine has become largely clinicalized and it has
evolved into something that is no longer practicable by patients and the general public without
the assistance of healthcare experts. Healthcare professionals themselves are not emphasizing the
importance of preventive medicine and the key role it plays in enhancing quality of life. Instead, their primary focus is on the treatment of symptoms, after the onset of the disease. When healthcare professionals do include preventive medicine in their practice, they rely heavily on clinical interventions such as screenings and immunizations. They fail to consider that an important aspect of preventive medicine is to have a detailed conversation with patients and discuss everyday life choices, which can help promote healthy lifestyle and prevent many common chronic diseases.

The shift in preventive medicine, from an emphasis on the health promotion education to clinical interventions, have also caused patients to lose the ability to make autonomous informed decisions concerning their personal health and wellbeing. They are no longer aware of the importance of preventive medicine and its benefits in implementing it in their daily routine. Regarding the general public, even with various insurance companies, and medical facilities offering preventive services, they seem to know less and less about the benefits of preventive medicine. This type of knowledge gap concerning the benefits of preventive medicine is primarily since healthcare professionals, patients and the general public now lack the basic knowledge of what preventive medicine is and the important role it plays in promoting a healthy lifestyle. Addressing this knowledge gap would, therefore, be the key to reducing the rate of preventable diseases and promoting overall health and wellbeing. Therefore, this project argues why, at the level of competent adult patients and healthcare professionals’ interactions, preventive medicine is ethically preferable over other goals of medicine and explores ways in which the ethical significance of preventive medicine can best be promoted among healthcare professionals, patients and the general public.
Outline of the Project

The project is divided in five chapters. Chapter one will provide an introduction for the project. Chapter two will address the history and evolution of preventive medicine, as well as define preventive medicine to its current state. Furthermore, it will demonstrate the ethical need to increase awareness of preventive medicine by analyzing the key advantages of preventive medicine practices over other goals of medicine. Lastly, it will explore the reasons for healthcare professionals, patients and the general public to lack awareness on the importance of practicing preventive medicine.

Chapter three will provide ethical support for educating healthcare professionals on the importance of practicing preventive medicine. It will explore various stages of a healthcare professionals’ career and recognize where increased education on preventive medicine can be implemented to reduce the knowledge gap. Additionally, it will address how healthcare professionals can incorporate preventive medicine in their everyday practice, adhering to their moral obligation as moral agents.

Chapter four will demonstrate the ethical importance of educating patients and the general public on the importance of preventive medicine. The chapter will then propose effective education models, which will be best used to education patients and the general public, and discuss the collaborative efforts required to successfully implement the models. The last chapter, chapter five, will provide concluding remarks, discussing how healthcare professionals, patients and the general public in the United States would benefit from a future widespread education in the realm of preventive medicine.
Subsequent Chapters

To pursue the thesis, the chapters will proceed as follows. Following the introductory chapter, chapter two will discuss the history and evolution of preventive medicine, leading to the current definition of preventive medicine. Chapter two is divided into three sections, history and evolution of preventive medicine, definition of preventive medicine, and lack of awareness of preventive medicine.

In the first section, history and evolution of preventive medicine, the chapter begins with the subsection of Early History, when the first evidence of preventive medicine was recorded, during the Sumerian civilization.\textsuperscript{14} The early history continues into the Greek empire, during the time when medicine and surgery began to surface through herbal and spiritual practices as well as gave rise to various surgical methods. Greek period is followed by the Ancient Roman empire and the Middle ages, which reverses much of medical and public health advances.\textsuperscript{15}

The second subsection focuses on the Modern period, when focus on anatomy and physiology gave rise to practicing preventive measures through diet and exercise.\textsuperscript{16} Literary works started presenting the basics on what individuals should do to maintain a healthy lifestyle. An example of this is George Cheyne’s book *The Essay of Health and Long Life (1725)*, which is one of the first works to give basic instructions on how to be healthy through proper diet, exercise, and hygiene.\textsuperscript{17} The Modern period, stretched over two centuries was the most active time period for medicine and public health.\textsuperscript{18} The final subsection discusses the Contemporary Period, during when preventive medicine became a specialty in the United States that focused on the prevention of diseases and promoting healthy lifestyles.\textsuperscript{19}

The second section of Chapter two discusses the definition of preventive medicine as it has evolved through time.\textsuperscript{20} In the first subsection, the branches of preventive medicine are
defined in detail, with implications for the overall mission. Primary prevention is the focus of this project and will be addressed simply as preventive medicine throughout the project after its original description in this chapter.

The second subsection addresses the role of health promotion in the society, and its collaboration with preventive medicine to promote education regarding increased quality of life. The last subsection discusses the advantages of practicing preventive medicine among healthcare professionals, patients, and the general public. Preventive medicine differs from other forms of medicine in that it attempts to take measures before the onset of disease. This allows for a series of advantages for the patients and as well as for the general public.

The last section, lack of awareness of preventive medicine, discusses how the current conceptualization of preventive medicine is the result of a cascade of events reducing the awareness of the importance of preventive medicine. Improper information has also led to a reduction in proper practices of preventive medicine among the healthcare professionals as well as patients and the general public. The first subsection discusses the reasons healthcare professionals have a diminished awareness of the importance of preventive medicine. It explores the multi-level factors that ultimately caused healthcare professionals to have a reduced awareness on the importance of the preventive medicine.

The following subsections discuss the lack of awareness among the population who are patients and the general public, respectively. It is difficult to comprehend that one can become sick or be diagnosed with an irreversible disease when one is healthy. A proper conversation is required with a healthcare professional to explain the necessity of practicing preventive medicine both from the medical aspect as well as from the health promotion aspect. Medical practices
have changed drastically over the years, and there is a lag in the knowledge of self-responsibility to practice preventive medicine.$^{28}$

Chapter three will focus on the ethical support of educating healthcare professionals on the importance of practicing medicine. To effectively practice preventive medicine, there is a need to precisely define preventive medicine for the healthcare professionals as well as increase the awareness of its importance in medical practice. Much of this can be accomplished by enhancing knowledge through proper educations and adequate trainings.$^{29}$ Chapter three is divided into two sections: educating healthcare professionals on preventive medicine, and practicing preventive medicine.

The first section discusses the importance of educating healthcare professionals on the notion of preventive medicine and its role in increasing individual quality of life. Preventive medicine is currently used more from its clinical intervention aspect than from its health promotion prospect.$^{30}$ This imbalance is primarily caused by the improper education regarding the importance of the health promotion prospect. Subsection one focuses on the ethical importance of educating healthcare professionals, the moral agents on whom the trust of human life is placed.$^{31}$ Educators have a moral obligation to provide healthcare professionals with all the necessary tools to help improve patients’ quality of life.$^{32}$ The second subsection discusses the benefits of increasing awareness of healthcare professionals, while the last subsection discusses the benefits of promoting preventive medicine. It is expected that upon increasing the healthcare professionals’ awareness on the effectiveness of preventive medicine, they would promote preventive medicine through their daily practice.$^{33}$

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Section two discusses practicing preventive medicine, with the subsections focusing on the ethical importance of practicing preventive medicine, and increasing communication and the collaboration between healthcare professionals and medical staff. Healthcare professionals’ moral obligation to their patient is outlined, with a discussion on the importance of the Hippocratic Oath and the moral principles of ethics. Patients are not aware of all the guidelines because they have not been conveyed to them. Healthcare professionals, under their moral obligation, should practice preventive medicine holistically to help improve patients’ quality of life.

Subsection two discusses the healthcare professional-patient communication, as an integral part of practicing effective preventive medicine. A healthy dialogue is necessary for the patients to understand preventive medicine holistically. The rapid pace of a medical practice and the complexity of the medical system would make it impossible for healthcare professionals to practice preventive medicine successfully without the support of their medical staff. The third section discusses the importance of collaboration between healthcare professionals and medical staff.

Chapter four will focus on the ethical support for educating patients and the general public on the importance of preventive medicine. Currently, preventive medicine is not practiced effectively by patients or by the general public, despite its benefits to increase and maintain the quality of life. This is primarily due to the lack of proper education on preventive medicine. Chapter four is divided in three sections, educating patients and the general public, creating effective education models for patients, and creating effective education models for the general public.
Section one is divided into three subsections. First subsection discusses the ethical rights of the patients to be fully informed about their health conditions and the corresponding diagnosis, prognosis, and treatments available. The subsection further defines the ethical values which serve as the foundation to build the ethical responsibility and obligation healthcare professionals have towards their patients. There is also an ethical responsibility to educate the general public on the importance of preventive medicine. The responsibility falls on the representatives of public health and the community.

Subsection two discusses the advantages of educating patients and the general public, with increasing awareness being the key advantage. As patients and the general public become aware of their roles and responsibilities to increase their quality of life, they will have an added interest to make healthy life choices. The last subsection goes further into promoting healthy lifestyles for patients and the general public through the use of various examples presented in various scholars’ research.

Section two focuses on creating effective education models for patients, which will re-introduce the health promotion prospect of preventive medicine. The first subsection will focus on the construction of the educational model. The goal of the education model is to promote an integrated preventive medicine practice. Therefore, it would require educating patients on proper diet, physical activity, hygienic care, and sleep-cycle, in addition to its beneficial effects on the human body. The subsection will further dive into literary examples to extrapolate various models and develop an effective model to promote preventive medicine among patients. The model would be created to help the patient population at large, but it would also have the flexibility to incorporate special cases. The second subsection discusses ways to effectively implement the education model via healthcare professionals and their medical staff. Given the
population, the implementation locations would be in clinical settings or outpatients hospital settings. The collaborative responsibility is the focus of the last subsection, which discusses the need of multiple representatives of various specialties and subspecialties to join forces to effectively implement the education model.\textsuperscript{48}

The last section discusses creating effective education models for the general public. There are some additional challenges to educating the general public based on their daily lifestyle and routines.\textsuperscript{49} Therefore, a more creative measure would be needed to construct effective education models for the general public.\textsuperscript{50} Subsection one discusses the construction of an education model, that will be most effective for the general public.

Subsection two discusses the implementation of the education model for the general public would require various members of the community to be involved.\textsuperscript{51} The last subsection discusses the collaborative responsibility which is required to construct and implement an education model. The education model for promoting preventive medicine practice requires representatives from various representative, including, but are not limited to, representatives from the medical field, the preventive medicine field, the health promotion field, the education field, and the media production field for its construction and implementation.

Chapter five will wrap up the project with concluding remarks on the benefits of reintroducing preventive medicine in its combined clinical intervention and health promotion form. The original definition of preventive medicine, comprising of clinical intervention and health promotion is not being changed, but rather the definition is being reimplemented in its original form. Increased awareness would empower healthcare professionals to promote preventive
medicine in their daily practice and encourage patients and the general public to promote a healthy lifestyle.
Chapter 2
Evolution and Definition of Preventive Medicine

Various forms of preventive medicine have been practiced for centuries before its official term came to light in the 1940s. As medicine evolved rapidly over the years, preventive medicine underwent many changes side-by-side as well, becoming a conjunction of clinical intervention and health promotion. While it originated with proper hygienic care by primitive man and early civilizations, it has now become more advanced in its practice and definition. Directly and indirectly, preventive medicine continues to be an asset to individuals’ quality of life.

A discussion on preventive medicine requires an understanding of its historical evolution and a precise definition of the term since it has undergone rapid development. This chapter is divided into three sections, providing a brief history, discussing the current definition, and exploring the reasons why preventive medicine continues to face a dramatic decrease in its practice by healthcare professionals, patients, and the general public. In the first section, the history and evolution of preventive medicine, there are three subsections of the Early History, the Modern period and the Contemporary period. Each phase discusses the series to historical events which played a crucial part in building preventive medicine to its current definition.

The second section, the definition of preventive medicine, defines the term as it is currently used in everyday practice. The section branches into three subsections, defining the term in detail with implications for the overall mission, addressing the collaboration with health promotion to fulfill its mission, and outlining the benefits of preventive medicine. The last section, lack of awareness of preventive medicine, discusses how the current conceptualization of preventive medicine is the result of a cascade of events reducing the awareness of the
importance of preventive medicine. This section is divided into three subsections, discussing the lack of awareness from the healthcare professionals, the patients and the general public, respectively.

A. History and Evolution of Preventive Medicine

Preventive medicine shares a rich history, which progressed rapidly over time. The origin of preventive medicine can be traced back to the Sumerian civilization around 4000 B.C. Since the early civilization, there has been forms of preventive practices of basic sanitation and health hygiene. While there are several debates that preventive medicine began before the Sumerian civilization, Harry Wain (1970) assert that there are no literatures to support such notion. Preventive medicine began with basic sanitation during the early civilizations and became its own entity with a conjunction of clinical interventions and health promotion, in medical practice during the recent times.

1. Early History

Early history begins with Sumerian civilization and stretches through the Middle Ages’ distressing events. Historical and archeological traces indicate that preventive medicine has been practiced since as the Sumerian civilization through practices of sanitation. There are indications of well-laid drains and cesspools. The Babylonian Era began during 1894 BCE, after the Sumerians split between the North and the South. The Babylonians deserve credit for pioneering many current medical and preventive medicine advances. The people of this era have shown advanced knowledge in sanitation through their ability to bring to water in villages using long distances channels. Although no real policy was in place for proper sanitization, such
practices were always taken seriously among the people in the villages.\textsuperscript{58} This is largely due to their belief and practice of a spiritual life, where they believed that cleanliness was needed in order to keep the gods happy. Upsetting the gods would result in various forms of sickness and discomfort. The healers, or physicians, during this time were the priests, who also preached the same values in their chants and incantations.\textsuperscript{59}

In addition to sanitation, the Babylonians have also pioneered in developing various forms of surgeries, hundreds of medicinal drugs, and the Code of Hammurabi. The Code of Hammurabi is known to be the earliest compilation of laws outlining severe penalties for medical malpractice.\textsuperscript{60} The Code was important because the Babylonians practiced various forms of crude surgeries to treat fractures, injuries, and lance abscesses. They also had various practices to drive off the demons which causes many of the diseases. While not prevalent until the 1800s, the Babylonians also contributed to the idea of germ theory, in which they believed that insects carried and spread the diseases.\textsuperscript{61} There are some areas where certain forms of quarantine and isolation have been located as means to separate the people who are dying. Historical facts suggest that this is the first introduction of the notion of quarantine as preventive measures to help decrease diseases spreading.

While the Babylonian Era have contributed a large amount of knowledge to the field of medicine and preventive medicine, the ancient Greek civilization have also made some remarkable discoveries in medicine. Their progress was due to their willingness to learn the body from the spiritual perspective as well as their natural body. While beginning of Greek medicine goes beyond recorded history, it emerged to the world’s surface around 500 B.C.\textsuperscript{62} Around this time, the priest physicians were known to have a higher knowledge in anatomy because they were among the first to attempt to understand diseases through natural explanations.\textsuperscript{63} They
progressed in medicine and surgery, which included various forms of herbal healing, spiritually 
driven medical practices and various surgical methods, including amputation.\textsuperscript{64}

Much of the influence in medicine stems from the greatest of Greek physicians, 
Hippocrates of Kos. Hippocrates dissociated himself from the Greek magic and gave no 
recognition to symbolism and spirituality.\textsuperscript{65} Instead, Hippocrates concerned himself with the 
prognosis and the diagnosis of the illness. He spent a considerable amount of time learning the 
progression of diseases and making detailed notes to use as references. His work in the field gave 
him a chance to travel often and learn about various diseases and illnesses. He used dietary 
measures as his primary source of treatment for health and illnesses, followed by drugs and 
surgery if diet failed. A number of treaties came down from his work, with the most common 
one being his contribution in medicine with the Hippocratic Oath.\textsuperscript{66}

Despite the advances in medicine, the Greek civilization did not make any contribution to 
preventive medicine from the medical perspectives. However, the Greeks made a giant 
contribution to preventive medicine from a personal hygiene perspective. Their ideal was to 
attain a sound mind and a sound body, which allowed them to be the pioneers of personal 
hygiene and physical education.\textsuperscript{67} The youths of this period spent much of their time in various 
forms of exercise including running, jumping, boxing and wrestling. The system not only dealt 
with the rigid physical activities but also declared that proper diet, bathing and cleanliness, and 
adequate sleep are also key components of personal hygiene.\textsuperscript{68} The Greeks aimed to have great 
physical fitness and good health, and they achieved the ultimate perfection, which has not been 
beaten to this day. Personal hygiene, however, did not save the Greeks from the malaria that 
began to infect many around the 323 B.C. Hippocrates deduced a connection between the swamp 
and the disease, but it was not enough, and the entire civilization began to decline.\textsuperscript{69}
At the time the Greeks began to decline, Rome began to develop as a mighty nation, with the drive of gaining wealth and conquering the lesser empires. They lacked basic medical knowledge and therefore took much of the Ancient Greek’s knowledge of medicine and expanded upon it. One of the areas they expanded upon is the area of surgical procedures because the Romans were in continuous warfare and required mending of serious wounds and injuries. They were the first to establish medical services for their soldiers, later spread to athletes, gladiator and the general public.

Even with such advances, the Romans are better known for their contribution to public health through sanitation over their curative medicine. They are the founders of civic hygiene and public sanitation though the use of paved roads and streets, drains and sewers and public baths and latrines. Romans’ desire to expand their empire led them to reform their public health system in order to ensure the health and strength of the Roman army. Romans remained strong until the empire as whole became a deadly victim of the bubonic plague, lasting approximately sixteen years. During this time, conversion to Christianity became common by the reason of fear, terror, and sadness of the epidemic. Unable to withstand the illness, the poverty and the attacks from the Barbarians, the Roman empire fell in 476 A.D.

When the Roman Empire crumbled, knowledge and culture disappeared for a thousand years, with darkness falling upon the Western civilization. This became known as the Middle Ages, or more appropriately the Dark ages, when the clock of every medical and science advances was running backwards. All the progress with hygiene and sanitation were suspended and the magic, charm, and superstitious rites replaced over the medical treatments. Rise of church’s power suppressed anyone from studying or practicing medicine. Diseases and
illnesses were considered punishments of their sins and could only be cured through prayer and fasting.⁷９ There was noticeable increase in child mortality and a decrease in lifespan.

As the Western civilization spiraled downhill, however, the Eastern empire began to build its civilization, its culture, and its knowledge. The Eastern Romans had the manuscripts and the Arab nations were able to use it as their starting point for practicing medicine. Adding their own knowledge, the Arabian Muslims continued to make significant progress in medicine, as it was left by the Greco-Roman civilizations.⁸⁰

While all of the Greco-Roman civilizations’ efforts were not lost due to the efforts of the Arabian Muslims of the Eastern civilization, the Western period continued to be at its darkest period. Diseases and death increased, and those living lived in the worst conditions of filth, poverty, and famine. The unclean cold water and the overall filthy environment led to leprosy from the eleventh to the fourteenth century.⁸¹ Though still against the medical application, religious orders were put in place to care for the increasing number of lepers. Some monks had opened area to care for them through nutrition, rest, and compassion, as focused by the Christian teachings of love and care for the sick. The fear of the illness led the government and the churches to create leper houses and put the victims in isolation. This was enforced very strictly with the hope to eradicate the disease altogether. This form of isolation, an older version of quarantine, is regarded as one the greatest victors of preventive medicine.⁸² The continued isolation and segregation successfully eradicated leprosy after several centuries of battle. Dealing with leprosy influenced the value of medical thoughts considerably, bringing back some of the teaching which is now practiced by the Arabians. Though there were hesitations, Arabians were cautiously welcomed to come to teach their practices to the Western civilizations’ medieval physicians.
The great victory, however, is not so great beside the bubonic plague the entire civilization faced in 1348 with interval waves of it until 1388.\textsuperscript{83} The plague of Black Death killed between a third and a half of the population, weak and elderly being the first victims. It is recorded that the other reason that leprosy was eradicated was due to the fact that they were the first ones to die from the Black Death.\textsuperscript{84} This became the darkest of times where the core of humanity failed. People turned against each other in order to survive. There was nothing good about it, and it damaged everyone, bowing down to fear. While there were still beliefs that plague was a punishment on mankind, the mere fact that it was contagious was accepted as a whole. To battle this, strict quarantines, a forty-day detention period, were put in place along with banning ships and travelers from entering who were coming from infected cities. The Black Death forcibly created the system of quarantine, along with sanitary control and disinfection. These forms of control continued to help battle the multiple outbreaks of the plague until the seventeenth century when these epidemics began to retrogress. The Middle Ages came to an end when they became feeble and weak, and fell before the Ottoman army of the Turks in 1453.\textsuperscript{85}

The early history demonstrates a lot of ups and downs in the progression of medicine and preventive medicine. This period also faces the most challenges with illness and diseases. While the Greeks and the Romans had made considerable advances in prognosis and treatments in medicine, taking a more secular approach, the fall of the Roman empire undid much of the advances by reintroducing magic and superstitious rituals. It was the tragedy of diseases, including the leprosy and the Black Death, that led to some reintroduction of medical practices as well as some preventive measures and public health acknowledgments.
2. **Modern Period**

The Modern period reintroduces medicine and preventive medicine in all civilizations. It is also the period where preventive medicine begins to emerge under medical techniques, in addition to public health innovations. The Modern period begins with the Renaissance, which is known to bridge the gap between the Middle Ages and the Modern period and ends at the end of World War II. In the three hundred years of the Renaissance, mankind pulled away from the darkness of Middle Ages and remerged into medical and scientific advances. During this time, people revived the teaching and advancements of Greeks and Romans with the help of the original Greek manuscripts. Religious dogma was questioned, more specifically the man’s earthly trial being the preparation for heavenly redemption. Changes were happening in all areas with knowledge and innovations flourishing. Discoveries were happening at a rapid pace. But despite the rebirth of many areas, the Renaissance did not make much expansion in preventive medicine and public health. The need of cleaner community, distributing water supply and other public health work were done by the laymen, and not physicians. The Renaissance began to fade with the explosion of syphilis, a commonly sexually transmitted disease, but the outbreak of syphilis also lead to increased clinical observation to recognize the new unrecognized diseases.

As started during the Renaissance, The Modern period was considered to be the golden-age of science and much focus was given on studying the anatomy and physiology of the human body. Mysticism, witchcraft, and other superstitious rituals went under critical scrutiny, and men of medicine finally began to move towards the progressive pathways of investigation and experimentation. While proper hygiene and sanitization were continuously in progress to find ways for improvement, focus on anatomy and physiology gave rise to practicing preventive
medicine as means to heal the body from within as well as without. The misconception of the superstitions behind the onset of a disease began to crumble.

The seventeenth century continued to be a time of great advancement in medicine with dedicated scholars in the field. This timeframe also gave rise to the first set of vaccinations because of the smallpox epidemic.\textsuperscript{90} It took decades to formulate the idea and turn it into acceptable medical practice by Edward Jenner.\textsuperscript{91} Originally his idea was rejected by the Royal Society when he wanted to publish his findings, claiming that it would ruin his reputation. Determined, he published it privately and became the first vaccine to use as a preventive measure for smallpox. This was giant leap for preventive medicine and is used effectively to this day.

A sense of self-responsibility began to become prominent in everyday action. While sanitizations were continuously being monitored by the ministries of health, the idea of diet, exercise and rest began to become the healthy way of life through the research of scholars and researchers. Literary works started presenting the basics on what individuals should do to maintain a healthy lifestyle. An example of this is George Cheyne’s book \textit{The Essay of Health and Long Life (1725)}, which is one of the first works to give basic instructions on how to be healthy through proper diet, exercise, and hygiene.\textsuperscript{92} Many of the scholars of this time began to follow Hippocratic’s method of medical practice to begin to promote preventive medicine.

George Cheyne’s work became even more important when another huge victory for preventive medicine was given by Dr. James Lind and Dr. John Pringle in 1753.\textsuperscript{93} Surgeon’s mate in the Royal Navy, Dr. Lind hypothesized and proved that the long-lasting disease, scurvy, is in fact a nutrition deficiency disease. Adding fresh fruits and vegetables can effortlessly prevent scurvy from affecting men, a disease that killed the most number of sailors than any other diseases combined. Dr. Pringle, surgeon general of the English Army played a big role in
improving the health and morale of the army. He focused on the importance of proper hygiene, sanitization, adequate nutrition, proper rest, and exercise of the soldiers. His suggestions transformed the army life, increasing their quality of life as well as their expectancy. Dr. Lind and Dr. Pringle’s work began to gain recognition of the importance of preventive medicine, without its actual term coming to light. It began to become clear that prevention is more within the power of mankind than of the curing of the body after an illness strikes.

The greatest contribution to health and welfare of humanity was done by Louis Pasteur. Louis Pasteur’s Germ Theory in 1850, led to an opening to vast medical researches, at a microorganism level, and medicine advanced at a rapid pace. During this time, antiseptic surgery and anesthesiology were developed as research continued on different medical issues such as bacterial infections, and insect transmitted diseases. Until this time, it was never clear what caused many of the dreadful diseases and plagues, but Pasteur’s Theory began to kill all the superstitious, giving rise to many innovative researches. These researches launched the science of preventive medicine.

The United States began to advance in medicine during this time as well, with the nations’ first hospital, Pennsylvania Hospital, being founded in 1751 by Dr. Thomas Bond and Benjamin Franklin. It is recorded that American population were healthier than their European counterparts, but the giant number of immigrations began to bring in many of the diseases. Along with the diseases, however, the Europeans also brought some of their medical advances. In 1800 Edward Jenner’s innovative work came to light in the United States, and it met the interest of Dr. Benjamin Waterhouse, professor at the Harvard Medical School. He requested to receive the vaccine content and in 1800 vaccinated his five-year-old son to for preventive measures smallpox. He was the first person be vaccinated in the United States.
Nearly half a century later, the United States found itself submerged in the Civil War from 1861 to 1865. This is known as one of the bloodiest wars that the United States has ever known to face. During that time, preventive measures received much attention since a greater number of deaths resulted from preventable diseases than from the actual battles. Contributing factors to preventable diseases included poor sanitation, overcrowded camps, poor diet lacking vitamin C to prevent scurvy, and lack of immunity to childhood diseases. Preventable diseases for those that vaccines were already invented and circulated years before the war were not accessible for the soldiers. Proper hygiene and sanitization assumed priority over other forms of preventable measures to keep disease rates low, even though the vaccinations did not become available. The detrimental situation of the soldiers led to much medical and surgical advances in the United States, some of which have already been invented in other parts of the world. Some preventive measures also made advancements, including drugs for malaria prevention and a specialized form of quarantine to eliminate yellow fever. Preventive medicine worked in a combination of two entities: medicine and public health.

Civil War shed lights on the importance of preventive medicine as did World War I from 1914-1918 and World War II from 1939-1945. World War I and World War II dealt with numerous unsuitable conditions, which caused countless preventable illnesses and diseases to surface. These unsuitable conditions include, but are not limited to trench feet, poor hygienic culture, lack of proper nutrition, and the spread of diseases. In addition to the common issues, each World War also gave way to big medical advances. The influenza epidemic of 1918 in the United States affected a large number of people during World War I, and the vaccination helped save many lives. In addition, World War I also gave rise to aerospace medicine, a branch of preventive medicine, focusing on the health and safety of the airmen and their assists. The
biggest contribution to medicine and preventive medicine from World War II was penicillin, the drug to cure the first human bacterial infection, proving to researchers the vital importance of the drug to save lives. As detrimental and tragic it was, both wars also gave the opportunity to test new medical techniques and further research to make medicine as advanced it is today.

Lastly, deficiency diseases also contributed to preventive medicine. Diseases and illnesses were known to occur at the presence of harmful factors, such as poison, bacteria, or other hazardous reagents. Therefore, the idea that a disease could be caused by lack of something, was an idea that was not easily accepted at the beginning. While the curiosity of many researchers stirred experiments to understand this notion, it was not until 1911 that vital- amines, more popularly known as vitamins, came to light. The importance of proper nutrition was encouraged from Hippocratic’s time, however, understanding why it was important became the source of the next best thing for maintaining a healthy quality of life. Proper vitamins are an essential part of healthy life, and they are used worldwide every day as preventive measures.

The Modern period plays a big role in how preventive medicine began to shape into its current definition. Not only did this period had to undo the damages of the Middle Ages, it also moved forward in various directions with innovative measures of vaccinations, medications and vitamins. The Renaissance period did not necessarily make a great contribution to the medical advances, but it was responsible for bringing back much of the influences of the Greek and Roman empires. During this period, mankind was also able to tear away from the religious stipulations and had the freedom and opportunity to have a secular approach to understanding the world around them. Each of the wars played a crucial role in advancing in medicine and preventive medicine, since the poor conditions of the soldiers caught the attention of authorities and began to take actions for drastic improvements.
3. **Contemporary Period**

The Contemporary period began at the end of World War II and continues on to today. After the second World War, advances in the preventive medicine continued. Preventive medicine, in combination with all its counterparts of public health and general preventive medicine, aerospace medicine and occupational medicine have made a significant contribution to the health and wellbeing on mankind.\textsuperscript{105} During 1949, the American Medical Association (AMA) approved the American Board of Preventive Medicine and Public Health Inc. on the AMA’s council of medical education.

The medical community made this decision after recognizing that preventing diseases would actually be better for mankind, as well as save more lives and money than providing actual cures for some of the preventable diseases. Military doctors and public health practitioners were among the first health care professionals to realize that preventing disease was often a less costly and more effective alternative to treating patients who became sick.\textsuperscript{106} With its overwhelming approval and interest among the parties, over 2,500 physicians became certified by the Board. Consequently, in 1954, preventive medicine one of the twenty-four specialties in the United States, known as the American College of Preventive Medicine (ACPM), and it focused on the prevention of diseases and promoting healthy lifestyles.\textsuperscript{107}

In the next few years, the ACPM spread in all the states as well as Canada and Europe. They focused on the practice, research, publication, and teaching of evidence-based preventive medicine across the nations.\textsuperscript{108} Preventive medicine and public health became two distinct separate branches, though continued to provide collaborative support to each other to maintain health and wellbeing of the population.\textsuperscript{109} With trained physicians on board, preventive medicine became focused on the clinical advancements along with providing guidance through health
promotion on proper nutrition, exercise, and personal hygiene. Public health’s focus, on the other hand, was on protecting and improving the health of a community, as by preventive medicine, health education, control of communicable diseases, application of sanitary measures, and monitoring of environmental hazards.

The progression of immunizations of many preventable diseases, and the advancement of the modern technologies, such as X-ray and ultrasound machines began to clinicalize preventive medicine at a faster pace. The X-ray machine was created in the 1800s and became a landmark for successful surgeries of broken bones. Before X-ray machines were invented, broken bones, tumors and the location of bullets were all diagnosed by physical examination and a physician's best guess. On the other hand, the ultrasound machine was invented in the 1950s, basing the idea from an instrument used to detect industrial flaws in ships. Though originally created for treatment purposes, these innovative machines began to play an important role in clinical intervention aspect of preventive medicine.

Between the strong backing of medicine and its advanced technologies, and public health’s collaborative separate division, preventive medicine began to function more through the use of clinical intervention, shying away from the education of self-responsibility of self-care through proper diet, exercise, personal hygiene, and sleep-cycle. Medicine continues to grow at a rapid pace and medical education continues to evolve to keep up with the rapid changes. Physicians, even after being trained in preventive medicine, used their medical knowledge proportionally more to practice preventive medicine through clinical intervention over practicing health promotion. With public health’s success with sanitation, and clean water, and authorities playing a definitive role in food safety, much of preventive measures were being regulated automatically. This led to a decrease in physicians practicing preventive medicine to its fullest
potential. In addition, despite its medical counterpart, many healthcare professionals continue to remain very hostile towards the branch of preventive medicine, adhering to their medical ideology of medicine being established for curative purposes.\textsuperscript{115}

Preventive medicine came down a very long history with much obstacles and little success in the beginning. While there were some advances during the Greek and Roman Empires, the Middle Ages reversed the efforts, leaving disease and illness as punishment of God on mankind.\textsuperscript{116} As medicine began to progress during the Modern period, preventive medicine also began to officially come to light. Advances in the germ theory, along with other scientific contributions from the war periods, led to a rapid pace of proregression all the way into the Contemporary period. During the Contemporary period, preventive medicine gained numerous positive attention and popularity, and resulted in becoming its own medical branch in 1954. Despite its popularity, the practice of preventive medicine began to shift towards its medical counterpart more and shying away from educating people on self-responsibility. Today, many healthcare professionals feel a form of hostility towards preventive medicine, and it is negatively affecting their practice.\textsuperscript{117} After its long battles to become recognized, preventive medicine seems to have another battle to overcome in its current time.

\textbf{B. Definition of Preventive Medicine}

Preventive medicine has come down a long path of history, from as early as the Sumerian civilization around 4000 B.C. Since then it has undergone many advancements as the world invited new science innovations and medical technologies. Due to its rich history and continuous evolution, the definition of preventive medicine has changed drastically, going from a combination of preventive medicine and public health, to becoming its own branch in medicine.
Despite the changes in its definition, however, preventive medicine’s mission continues to focus on the health, wellbeing, and quality of life of individuals and communities. In order to further discuss the notion of preventive medicine, it is important to recognize a precise definition of the term.

1. **Definition of Preventive Medicine**

Preventive Medicine is a branch of medical practice that focuses on the health, wellbeing and the quality of life of individuals, and communities through its combined practice of clinical intervention and health promotion. Preventive medicine’s mission is to protect, promote, and maintain health as well as to prevent disease, disability, and premature death. Preventive medicine has three specialty areas: aerospace medicine, occupational medicine, and public health and general preventive medicine.

Aerospace medicine, formally known as aviation medicine, came to light in 1909 and grew rapidly during the first World War. Aerospace medicine focuses on the clinical care, research, and operational support of the health, safety, and performance of pilots, crewmembers and passengers of air and space vehicles. It also provides the same services to the personnel who assist operation of such vehicles from ground. This population often works and lives in remote, isolated, and enclosed environments in which the physical and psychological conditions are very stressful. Practitioners strive for an optimal human-machine match in occupational settings rich with environmental hazards and engineering countermeasures. While, primarily used during the war, aerospace medicine stretched to all people starting 1929.

Occupational medicine, the preventive discipline of treating workers on the factory floor, is dated back from the turn of the 20th Century. It focuses on the health of workers, including the
ability to perform work, the physical, chemical, biological, and social environments of the workplace; and the health outcomes of environmental exposures. The secondary objective is to maintain and increase productivity and social adjustment in the workplace. Practitioners in this field address the promotion of physical and mental health and wellbeing in the workplace, and the prevention and management of occupational and environmental injury, illness, disability, and death. Public health and preventive medicine works in collaboration for the projects relating to aerospace medicine and occupational medicine.

Public health and general preventive medicine focuses on promoting health, preventing disease, and managing the health of communities and defined populations. These practitioners combine population-based public health skills with knowledge of primordial, primary, secondary, and tertiary prevention-oriented clinical practice in a wide variety of settings including clinics, hospitals, as well as the community at large aiming to minimize the burden of diseases and associated risk factors. This is done through various channels, including educating about healthy habits, adopting healthy choices, and taking prevention measures through vaccinations, annual examinations and various screenings.

Within the public health and general preventive medicine spectrum, preventive medicine is divided into four subdivisions: primal and primordial, primary, secondary, and tertiary prevention. The goals of all four prevention branches are to help patients and the general public maintain a healthy lifestyle, prevent diseases, and build an enhanced quality of life. This should be attained by developing the physique of an individual to develop the immune system to aid in resisting diseases, by removing the conditions of diseases and propagations, and by postponing death.
Primal and primordial prevention came to light in the recent years after recent discoveries in molecular biology. Primordial prevention refers to measures designed to avoid the development of risk factors during the early part of life. This preventive measure consists of providing future parents with pertinent, unbiased information on primal health and supporting them during their child's primal period of life, which is from conception to their first birthday. Support includes both medical and health promotional cares. Medical support includes the health of the mother, genetic testing, and counseling for the parents. Health promotion provides assistance to future parents in planning and reorganization for them to provide their upcoming child with adequate attention, as well as secure physical and affective environments from conception to first year.\textsuperscript{125}

Primary prevention is the focus of this project and will be addressed simply as preventive medicine throughout the project after its original description in this chapter. The goal of primary prevention is to take measures to prevent diseases from developing.\textsuperscript{126} It consists of traditional health promotion along with clinical interventions. The population of this group are often physically healthy people who may or may not have genetic biomarkers or environmental risk factors, or have minor concerns from developing a disease or experiencing an injury.\textsuperscript{127} Preventive medicine focuses on various avenues. These avenues include, but are not limited to immunizations against disease, screenings and testing, maintaining a healthy diet, rest, and exercise regimen, and avoiding harmful activities such as, smoking, drinking alcohol and having unprotected sexual intercourse.\textsuperscript{128} The World Health Organization describes the objectives of primary preventive medicine as:

“Actions aimed at avoiding the manifestation of a disease (this may include actions to improve health through changing the impact of social and economic determinants on health; the provision of information on behavioral and medical health risks, alongside consultation and measures to decrease them at the
personal and community level; nutritional and food supplementation; oral and dental hygiene education; and clinical preventive services such as immunization and vaccination of children, adults and the elderly, as well as vaccination or post-exposure prophylaxis for people exposed to a communicable disease).”

The World Health Organization further explains the responsibilities and actions of primary preventive medicine to achieve its objectives, using both, medical interventions as well as the health promotion outreach:

“Vaccination and post-exposure prophylaxis of children, adults and the elderly; Provision of information on behavioural and medical health risks, and measures to reduce risks at the individual and population levels; Inclusion of disease prevention programmes at primary and specialized health care levels, such as access to preventive services (ex. counselling); and Nutritional and food supplementation; and Dental hygiene education and oral health services.”

Secondary prevention focuses on slowing down or halting the progression of an already diagnosed disease in its early stages. It consists of early diagnosis and prompt treatment, when applicable, to contain the disease and prevent its spread to other individuals. In addition, it also supports in providing disability limitation, as means to prevent potential future complications and disabilities from the disease. Using syphilis, as an example, early diagnosis and prompt treatment for a syphilis patient would include a course of antibiotics to destroy the pathogen and screening and treatment of any infants born to syphilitic mothers. Disability limitation for syphilitic patients includes continued check-ups on the heart, cerebrospinal fluid, and central nervous system of patients to curb any damaging effects such as blindness or paralysis.

Tertiary prevention helps people manage long-term or terminal health problems by focusing on the mental, physical, and social rehabilitation, using various channels of healthcare. Unlike secondary prevention, which aims to prevent or halt and disabilities arising
from the disease, the objective of tertiary prevention is to maximize the remaining capabilities and functions of an already disabled patient. Goals of tertiary prevention includes preventing pain and damage, halting progression and complications from disease, and restoring the health and functions of the individuals affected by disease.\textsuperscript{136} Returning to the example of syphilitic patients, rehabilitation includes measures to prevent complete disability from the disease, such as implementing work-place adjustments for the blind and paralyzed or providing counseling to restore normal daily functions to the greatest extent possible.\textsuperscript{137}

Specialists in the field of Preventive Medicine are licensed medical physicians with an additional master’s degree in Public Health.\textsuperscript{138} Their knowledge and skills are gained from a combination of medical, social, economic, and behavioral sciences, each providing a key component on how to adequately practice preventive medicine.\textsuperscript{139} While their roles and responsibilities expand based on where they are practicing, their underlying mission is to identify and create prevention programs for individuals as well as various health care delivery organizations.\textsuperscript{140} General practitioners are the most common of the healthcare professionals to practice preventive medicine, even though all healthcare professionals are strongly encouraged to practice it.\textsuperscript{141} The primary reason for this is because patients most commonly see their general practitioners for annual routine examinations and also for any start of an illness, before any other specialists. While specialists undergo extensive training, all healthcare professionals also undergo medical trainings to practice preventive medicine in clinical setting.\textsuperscript{142}

Preventive medicine has a lengthy definition, primarily due it incorporation of various areas to attain the health and wellbeing of people in an individual level and within the community. The focus of this paper will be on the primary preventive medicine, under the public health and general preventive medicine branch. The aim of primary preventive medicine is to
take measures to prevent diseases from developing. This is the only form of medical practice, which aims to outreach to people before they become victims or preventable, yet irreversible chronic diseases. It uses the combination of health promotion collaboration with clinical interventions in medical advances, to reach its mission. For the remainder of the project, primary preventive medicine will simply be referred as preventive medicine.

2. **Collaboration with Health Promotion**

A critical part of practicing preventive medicine is attaining necessary information through clinical interventions and providing proper education regarding the required actions necessary to prevent the onset of the diseases and maintain an enhanced quality of life. Therefore, preventive medicine relies heavily on public health’s notion of health promotion to help educate patients and the general public concerning health and wellbeing of individuals, as well as how to maintain an enhanced quality of life. Health promotional activities do not target a specific disease or condition but rather promote health and well-being on a very general level through communication, educations and examples.

Health promotion activities are non-clinical daily life choices that are effective to prevent disease and create a sense of overall wellbeing. It is the process of empowering individuals to increase control over, and to improve, their health through various measures. To reach a state of complete physical, mental and social health and wellbeing, individuals or group must be able to identify and to realize objectives, to satisfy the needs, and to change or cope with the environment. The World Health Organization recognizes health promotion as an important component in the success of preventive medicine practice, stating:

“Health promotion is the process of empowering people to increase control over their health and its determinants through health literacy efforts and multisectoral action to increase healthy behaviors. This
process includes activities for the community-at-large or for populations at increased risk of negative health outcomes. Health promotion usually addresses behavioral risk factors such as tobacco use, obesity, diet and physical inactivity, as well as the areas of mental health, injury prevention, drug abuse control, alcohol control, health behavior related to HIV, and sexual health.

Disease prevention and health promotion share many goals, and there is considerable overlap between functions. On a conceptual level, it is useful to characterize disease prevention services as those primarily concentrated within the health care sector, and health promotion services as those that depend on intersectoral actions and/or are concerned with the social determinants of health.”

The World Health Organization further explains the responsibilities and actions of health promotion in order to achieve its objectives in providing a collaborative support to practicing preventive medicine:

“Policies and interventions to address tobacco, alcohol, physical activity and diet;
Dietary and nutritional intervention should also appropriately tackle malnutrition, defined as a condition that arises from eating a diet in which certain nutrients are lacking, in excess (too high in intake), or in the wrong proportions;
Intersectoral policies and health services interventions to address mental health and substance abuse;
Strategies to promote sexual and reproductive health, including through health education and increased access to sexual and reproductive health, and family planning services;
Strategies to tackle domestic violence, including public awareness campaigns; treatment and protection of victims; and linkage with law enforcement and social services.”

Health promotion plays a critical role in empowering preventive medicine to be successfully practiced. It supports the nonclinical process of healthy living in understanding the importance of proper nutrition, exercise, personal hygiene and rest. It also promotes actions to follow the education, to help individuals and communities as a whole to maintain the health and wellbeing of self and others. Physicians who successfully practice preventive medicine in
clinical or hospital settings use clinical interventions for information, and health promotion to communicate the importance of certain practices for a better quality of life.

3. **Advantages of Preventive Medicine**

In reducing the rate of preventable diseases among individuals and the communities at large, a healthier nation can be expected, with a reduced rate of preventable diseases. A study by Mokdad and colleagues displays that approximately half of all the deaths that occurred in the United States in 2000 were due to preventable behaviors and exposures. Leading causes of preventable death includes cardiovascular disease, chronic respiratory disease, unintentional injuries, diabetes, and certain infectious diseases. This same study estimates that 400,000 people die each year in the United States due to poor diet and a sedentary lifestyle. During this era, it is becoming increasingly important to practice preventive medicine, given the immense rise in chronic diseases and deaths from the preventable diseases.

Preventive medicine differs from other forms of medicine in that it attempts to take measures before the onset of disease. Preventive medicine accomplishes this through the combined form of clinical interventions and health promotion. Its goals make preventive medicine the most loyal form of medical practice towards a heightened quality of life. Due to its mission, preventive medicine has key advantages over other goals of medicine. Advantages of preventive medicine include, but are not limited to, reduced rate of preventable diseases, increased quality of life, and reduced mortality rate. Preventive medicine, therefore, is the prime solution needed for a healthier nation.

Various researches and studies conclude that preventive measures, such as annual checkups as well as proper diet and exercise can reduce the rate of these diseases and increase
the health and wellbeing of individuals.\textsuperscript{154} Some of these diseases, while can be preventable, may not be irreversible or curable, and can reduce life expectancy.\textsuperscript{155} Using diabetes as an example, individuals who are at risk of being diagnosed with diabetes, may feel that they are imprisoned by the disease. It will not only change patients’ lifestyle, but it also reduces their life expectancy. Proper practice of preventive medicine through maintaining a proper diet and exercise, followed by annual check-ups would definitely reduce the risks of being diagnosed with diabetes.\textsuperscript{156} However, once an individual is diagnosed with diabetes, it can neither be reversed, nor cured. Therefore, early detection through annual examinations and adaptations to a proper lifestyle are necessary to help maintain a good and healthy lifestyle without the complication of disease.

Another great advantage of preventive medicine is the reduction of medical cost. Medical care in the United States is known to be expensive. Taking appropriate measures to practice preventive medicine can lead to a cost reduction on individual health care costs.\textsuperscript{157} Health care cost includes, but are not limited to, hospital or clinic visits, various forms of tests, and medications. Healthy lifestyle, on the other hand, includes annual check-ups, proper nutrition and adequate exercise and rest, and the cost is a fraction of the medical cost. Various researches have shown that practicing preventive medicine has led to a decrease in chronic diseases; it is also proven to be one of the cheapest ways to stay healthy and have an increased quality of life.\textsuperscript{158} Even as early as Hippocratic times, proper nutrition and exercise combined with rest and proper hygiene was the answer to maintain a healthy quality of life.\textsuperscript{159}

Preventive medicine is best practiced when clinical interventions are combined with health promotion. The clinical intervention provides the scientific explanations at a molecular level as well as provides the required tests and vaccinations for preventable diseases. Alternatively, the health promotion counterpart provides education and guidance on self-care and
self-responsibility to maintain a healthy lifestyle, which plays a crucial part in preventing chronic irreversible diseases.\textsuperscript{160} Being that it is the only form of medical practice that allows to prevent diseases before its onset, preventive medicine has an advantage over other forms of medicine. Practicing proper preventive medicine has great advantages from saving costs on medical care to maintaining an enhanced quality of life. History has repeatedly shown that even the greatest empires can fall when individuals and communities suffer from inadequate health and wellbeing. Preventive medicine aims to not let history repeat itself in the world of healthcare.

C. Lack of Awareness of Preventive Medicine

The first duty of medicine is not to cure the disease, but to prevent it.\textsuperscript{161} Preventive medicine has a long history, in which its gained necessity made room for it to become a separate branch in medicine. Since then preventive medicine has been practiced worldwide. However, the current conceptualization of preventive medicine is different from its original approach from the 1950s. While preventive medicine was developed under the combination of clinical interventions and health promotion, the advances in the realm of clinical interventions overshadowed its counterpart.\textsuperscript{162} Preventive medicine’s conceptualization shifted from public health and health promotion’s proper diet, exercise, and hygienic care to Western medicine’s clinical interventions of vaccinations, annual screenings and various tests.\textsuperscript{163} This remains not only an inaccurate portrayal of preventive medicine, but it also presents difficulty in accomplishing the goals of preventive medicine.

1. Healthcare Professionals
As preventive medicine started to rely more on clinical interventions, educating patients and the general public on proper self-care, self-responsibility, and healthy lifestyle began to diminish from the proper practice of preventive medicine. Healthcare professionals conceptualized preventive medicine as nothing more than the vaccinations, annual screenings and various tests, as needed, and began to spend less time discussing patients’ individual responsibilities for proper nutrition, physical activities, hygienic care and sleep-cycle. Such imbalance in the practice began to completely eliminate the health promotion component. Many healthcare professionals, who were already hostile towards the branch of preventive medicine, use the clinical interventions as means to shy away from proper practice of preventive medicine. They believe that practicing medicine should be about curative care with certified prognosis, diagnosis and treatment. Preventive medicine did not fit the criteria of medicine, according to their medical ideology.

The importance of preventive medicine is seen to be devalued at the start of a healthcare professional’s career, at medical school. Camille Ann McNicholas evaluates various medical school curricula in her dissertation, and demonstrations that medical schools spend minimal time teaching the importance of preventive medicine as well as how to effectively practice it. Supporting her, Alfred Maxmillion Pheley III indicates that medical students admit that it is easy for them to discuss with patients the availability of the annual screenings and vaccinations as a protocol, but it is difficult to have conversations about lifestyle changes because of the passiveness of its teaching in the rigorous medical school curriculum. Other scholars in the field also provided the same conclusion that healthcare professionals indeed lack the skills to engage in preventive medicine conversations with patients due to their inadequate education on preventive medicine, and improper communication skills.
In the recent years, the practice of preventive medicine has decreased among the healthcare professionals. Studies show that over 50% of the healthcare professionals, more specifically physicians, fail to practice preventive medicine as it is endorsed by the US Preventive Services Task Force, the Association of American Medical College, and the Institution of Medicine. While it is easy to blame the healthcare professionals for not adhering to their moral duty, scholars conclude that healthcare professionals may not be directly at fault for their poor practice. Medical school curriculums do not have the necessary training incorporated to provide the adequate educate on the importance of holistically practicing preventive medicine. Therefore, healthcare professionals are lacking the skill to effectively practice it.

Over the years the practice of preventive medicine began to rely on clinical interventions, over health promotion. Such vaccinations, annual screenings and various tests, as needed; and they are very standardized according to age and gender. As preventive medicine began to have a stronger affinity towards clinical interventions, it began to take a larger role in the everyday practices, while the health promotion component began to disintegrate. Over time healthcare professionals became better at practicing the clinical interventions of preventive medicine due to their strong education on the sciences, and started to further lose the ability to comfortably converse with patients about patients’ responsibilities to incorporate and practice preventive measures. Since the clinical interventions of preventive medicine is unable to fill the void of the health promotion component, healthcare professionals are not practicing preventive medicine effectively.

Preconceived notions have also been a barrier against learning or expanding one’s knowledge. This can pose as a dangerous trait in medicine and healthcare professionals have
shown a tendency to have a preconceived notion as part of their medical ideology, that preventive medicine is unnecessary and is a backwards step from the goals of medicine.\textsuperscript{174} For this reason, many healthcare professionals, more specifically physicians, have a hostile attitude towards preventive medicine.\textsuperscript{175} Due to such preconceived notion, healthcare professionals have a psychological barrier against learning the importance of preventive medicine. Christine Delnevo discuss in her dissertation how the attitude of healthcare professionals plays a significant role in the types of medical services offered to patients.\textsuperscript{176} In the case of preventive medicine, because many healthcare professionals have negative preconceived notion, it is often not effectively practiced.

Healthcare professionals, and more specifically the physicians have the largest influence in medicine, and therefore they are the best group of specialties to be proactive in promoting preventive medicine through their daily practice. In spite of everything, it is said that the primary goal of medicine should not be to cure the disease, but rather prevent it from occurring. Unfortunately, healthcare professionals have been taking a back seat in practicing preventive medicine to its fullest potential, slowly eliminating the health promotion component.\textsuperscript{177} While it is easy to blame the healthcare professionals for their lack of properly practicing protocol, a deeper insight indicates that they themselves lack the proper education to practice preventive medicine. Pairing lack of education with preconceived notion and hostility, healthcare professionals have completely changed the practice of preventive medicine, focusing only on the vaccinations, annual screenings and various medical tests.

\textbf{2. Patients}
Preventive medicine is not an easy concept to practice, especially when an individual is deemed physically healthy, even if they may have certain genetic biomarkers or environmental risk factors, or have minor concerns from developing a disease or experiencing an injury. It is a challenge for individuals to plan and execute healthy eating habits and maintain proper physical activities, especially when it is an inconvenience to their daily schedule. It is difficult to comprehend and often very frightening to conceptualize that one can become sick or be diagnosed with an irreversible disease when one is healthy. A proper conversation is required between healthcare professionals and patients to comprehend the necessity of practicing preventive medicine, both, from the clinical intervention standpoint and the health promotion perspective. With the current conceptualization of clinical intervention being the sole component of preventive medicine, patients no longer feel that they have the self-responsibility to take preventive measures to manage their own health. Patients now rely heavily on their healthcare professionals for a diagnosis and treatment, with a quick prescription to swiftly fix the illness.

Communication between healthcare professionals and patients has been regarded as the core of medical ethics since the beginning of medicine. Proper communication leads to a relationship between healthcare professionals and patients, where a good rapport is built through trust and compassion. A strong rapport increases the effectivity of medical appointments in which patients have a higher tendency to listen and remember their healthcare professionals’ instructions and recommendations. However, proper communication continues to face various challenges from the healthcare professionals’ standpoint. This poses an additional problem when healthcare professionals are left responsible to communicate the importance of preventive medicine, a notion which they lack proper knowledge in and a notion which many have a hostile
attitude towards.\textsuperscript{181} Their inability to properly communicate the importance of practicing preventive medicine have resulted in patients’ lack of proper awareness. As healthcare professionals only discuss the annual vaccinations and annual screenings, it has become the norm of the patients to understand that preventive medicine is nothing more than that, even though it is essential for patients to be aware of their body and health, and be more responsible for their daily healthy habits in their everyday routine.

In medicine, patients face multiple barriers which prevent them from having adequate knowledge about healthcare. Similar barriers are present with patients when trying to understand the importance of practicing preventive medicine. Health illiteracy stands as a firm barrier against understanding the importance of preventive medicine because it takes away patients’ ability to grasp the importance of their own wellbeing.\textsuperscript{182} Health illiteracy can be caused because of low education, language barrier, and age.\textsuperscript{183} Patients with health illiteracy have shown to be worse off in understanding their own responsibility to self-care and are generally victims of preventable chronic diseases.

False presumption is another common mistake which can be linked to improper communication between healthcare professionals and patients. Since the importance of health promotion component of preventive medicine is not accurately communicated, patients are under the false presumption that they do not have a responsibility of self-care.\textsuperscript{184} In this nation, medication is prescribed often and quickly. This further strengthens the false presumption that for every discomfort, there is a prescription to help. This form of false presumption sets a barrier against learning the importance of preventative medicine among patients, and it creates an uneducated population to whom even simple concepts of proper diet, physical activities, hygienic care, and adequate rest and sleep are becoming unfamiliar.\textsuperscript{185}
Patients’ lack of awareness on the importance of practicing preventive medicine is the direct result of healthcare professionals’ lack of awareness on the importance of preventive medicine as well as their inability to properly practice it. Patients rely completely on their healthcare professionals on information and instructions but have become accustomed to the fact that preventive medicine is nothing more than vaccinations and annual screenings. As patients have become less aware of the importance of practicing preventive medicine to maintain health, wellbeing and an over quality of life, they have lost the sense of self-responsibility for maintaining proper physical and mental health. Instead, they have become more depended on prescription and non-prescription medications.

3. General Public

The general public must be categorized differently from patients because of one key element. While patients may have certain biomarkers and risk factors, already experienced symptoms and/or have preexisting condition, the general public are the group of individuals who have not felt any form of unpleasant symptoms and have not been diagnosed with any disease. They are considered to be the most ‘healthy’ group of individuals. Therefore, they are the group that is least aware of the importance of practicing preventive medicine. It should be noted that individuals within the general public population can have certain biomarkers and risk factors. However, without the appropriate clinical interventions, it is not possible to have an accurate idea if this is true or not. For the purpose of this project, the general public are considered as healthy individuals without certain preexisting conditions and/or biomarkers and risk factors.

In today’s society, lifestyles have become much more sedentary with excess consumption of unhealthy food, as well as excessive alcohol and tobacco use. Even though the combination of
this is hazardous for health, this has become society’s acceptable norm. In fact, this form of lifestyle is encouraged through media, social gatherings and professional routine. Researchers in the field conducted various studies and have concluded that the general public may know that eating a balanced nutrition and proper exercise is a good idea, most do not know why it is good for them, how much of it is good for them and how to incorporate it in their everyday routine. Health promotion is a key factor in helping to promote education on proper diet, physical activity hygienic care, and sleep cycle.

The general public have the greatest disadvantage in being able to practice preventive medicine, since they are least likely to see any healthcare professionals. History shows that mankind battled against over hundreds of hurdles to survive, starting from poor nutrition, improper hygiene, to the plagues and the war zones. Now, however, mankind’s biggest battle is overcoming the lack of proper knowledge on self-care and self-responsibility to maintaining health, wellbeing and an overall quality of life. Once known to be hunters and gatherers, humans are now fighting to stay alive due to their own bad habits of poor nutrition, unhealthy choices and sedentary life.

D. Conclusion

For centuries, preventive medicine has been evolving and adapting to the old and the new health concerns, earning its place as one of the twenty-four specialties that is recognized by The American Board of Medical Specialties. Each part of history plays a critical role in the development of preventive medicine, giving it the definition, it has today. Due to its unique feature, it poses multiples benefits toward individual and community health, wellbeing, and the overall quality of life. Overtime, however, the conceptualization of preventive medicine has
shifted from a clinical intervention and health promotion standpoint to only clinical interventions. Lack of awareness of the benefits of preventive medicine as well as how to practice preventive medicine has negatively affected the healthcare professionals, patients and the general public.
Chapter 3

Ethical Support for Educating Healthcare Professionals on the Importance of Practicing Preventive Medicine

Since the Sumerian civilization, preventive medicine has proven to be the most effective form of practice to avert many irreversible diseases. Through historical timeline, the diseases range from but are not limited to leprosy, polio and dysentery, to more current diseases of obesity, cardiovascular diseases, and certain types of cancer.\textsuperscript{188} Repeatedly, effective practice of preventive medicine has been the primary source of reducing the disease rates, bringing many outbreaks and occurrences to a complete halt. Based on its importance, the rational conclusion would be for healthcare professionals, patients, and the general public to incorporate preventive medicine in their daily routines and practices.\textsuperscript{189} Undeniably, preventive medicine is practiced frequently by today’s healthcare professionals. However, the problem arises with preventive medicine in that it is not practiced to its fullest potential. Preventive medicine is composed of two components, clinical intervention and health promotion.\textsuperscript{190} Currently preventive medicine is practiced most commonly only through the clinical interventions of vaccinations, annual examinations and various screenings.\textsuperscript{191} In fact, preventive medicine has become synonymous to vaccinations in many areas of healthcare practices, giving it the illusion that the only form of preventive practice exists is the proper delivery of vaccinations. Its counterpart of health promotion has become non-existent from the everyday practice by the healthcare professionals, causing a downfall of the practice among all parties, and an upward increase in the rate of preventable diseases.\textsuperscript{192}
Various key factors, over the years, have created a barrier against practicing preventive medicine effectively, leading to an overall decline in the practice. The factors are influenced by a multi-layer system within the medical umbrella, including insurance companies and policies, medical ideology, and the lack of adequate knowledge. In recent years, insurance companies have begun to cover various ranges of preventive medicine practices such as annual screenings and vaccinations. However, as Overland indicates in her article, the services that are offered for free by the insurance companies, are not clearly discussed with the patients and the general public alike.193 Neither the insurance companies, nor the healthcare professionals discuss the free availability of the various preventive cares available. As a result, patients and the general public are not aware of their existence, and therefore the usage of it is lower than anticipated. Critics declare that the patients’ lack of interest in preventive medicine, as indicated by the low number usage, is an indication that preventive medicine is not effective.194 However, as Overland indicates, the low usage is a result of patients and the general public being unaware of its availability under their insurance policy. It can be argued that the guidelines on preventive medicine are written in the policy and it is the patient and the general public’s responsibility to comprehend what is covered in individual policies. This is true to some extent, but it is also a common known factor that policies are often very complicated to read. Majority of the population, therefore, rely on the basic knowledge of what is typed on front of the insurance card, and the specific answers that agents provide. With it being a relatively new feature, insurance companies need to be forefront in their discussion about the preventive medicine’s free services.

Insurance companies focus primarily on their services for curative medicine, as do healthcare professionals. Both parties have shown preference of curative medicine, over
practicing preventive medicine. Preventive medicine is not considered to be a true practice of medicine, because it attempts to avert the disease before its onset. At this phase, there may be indication of a disease, but the actual disease is not present. The true practice of medicine is considered to be the diagnosis and treatment of the disease. Such form of medical ideology has created a barrier between the reality of preventive medicine’s effectivity and its importance among the medical world. Healthcare professionals not only not practice preventive medicine, they also do not encourage the practice to their patients. Healthcare professionals are equally aware that most insurance companies now provide some form of preventive measures, but they do not discuss the details with their practice due to their medical ideology.

Healthcare professionals further supports the medical ideology of curative medicine over preventive medicine because of curative medicine’s anticipated immediate solution. Medicine practices the diagnosis of a disease and provide treatments through prescribed medications. Prescribed medications run through a course of few days, and the discomfort of the disease lessens every day. In chronic conditions, medications are prescribed for the remainder of the patient’s lifespan, with continuous monitoring of its effects through bloodwork. Other than the daily reminder to take the prescribed medications, curative medicine does not require any additional lifestyle changes. Preventive medicine, on the other hand, requires a lifestyle change for a disease that has not occurred yet. It requires patients and the general public to monitor their food intake based on individual need, find scheduled time for physical activities and maintain proper hygiene and sleep cycle on a daily basis. For the majority of the population in the United States, preventive medicine will require one or all four areas to be changed in their lifestyle. While the risks are present, without the actual onset of the disease, it becomes a bigger challenge for healthcare professionals to convince their patients to make the necessary changes to their
lifestyles. The challenge is especially higher because healthcare professionals are also reluctant in regard to its effectivity.

The medical ideology followed by the insurance companies as well as the healthcare professionals is the direct result of inadequate knowledge of the importance of preventive medicine in its original composition. In fact, the main reason preventive medicine is practiced only through its clinical interventions is because healthcare professionals acknowledge such practices as adequate medical practice. They are unaware of the importance of the health promotion component of preventive medicine, and therefore do not recognize its value for the overall quality of life for their patients. Their inadequate knowledge has also become the foundation of many healthcare professionals’ hostility towards preventive medicine.

Preventive medicine has undergone many evolutions since 4000 B.C., becoming one of the twenty-four recognized practices by the AMA. Despite its success in increasing the quality of life of individuals and the community as a whole, however, the practice is no longer as effective as it once was in decreasing the rate of preventable diseases. At this point, therefore, it has become essential to reintroduce preventive medicine through proper education and adequate training. It can be anticipated that upon receiving proper training in preventive medicine, healthcare professionals would then effectively practice it in their daily practice. Their effective practice and positive reinforcement would begin to raise its acceptance and implementation among the patients and the general public. The focus of this chapter is to explore the importance of educating healthcare professionals in preventive medicine, as well as determine how preventive medicine can be implemented in their daily practice. The chapter is divided into two sections, educating healthcare professionals in preventive medicine, and practicing preventive medicine. In the first section of educating healthcare professionals on
preventive medicine, there are three subsections. The first subsection discusses the ethical importance of educating healthcare professionals on the importance of preventive medicine. The second subsection discusses the needs and benefits of increasing awareness of the healthcare professionals. The section concludes with the subsection promoting preventive medicine, which discusses the needs and the benefits of promoting preventive medicine, through their everyday practice.

The second section, practicing preventive medicine, is divided into three subsections as well. The first subsection, ethical importance, highlights the moral and ethical obligations of healthcare professionals to practice preventive medicine. The second subsection discusses the need to increase effective communication between healthcare professionals and patients to effectively practice preventive medicine. Lastly, the final subsection, the collaboration between healthcare professionals and medical staff, discusses the need for a collaborative team effort between all parties in the medical practice to successfully apply preventive medicine to its fullest potential.

A. **Educating Healthcare Professionals on Preventive Medicine**

Currently, the United States is facing a drastic increase in diseases related to poor health conditions that can otherwise be prevented with the proper practice of preventive medicine. These diseases include, but are not limited to obesity, cardiovascular diseases, and certain types of cancers. Many of these diseases are preventable with proper lifestyle changes, combined with proper screenings and appropriate annual check-ups. While preventable, many of the diseases are not reversible. This is a grave concern because statistically the numbers of preventable diseases are continuing to increase even when there are proven methods to reduce the rates of
such diseases. At this point, it is vital that preventive medicine is reintroduced in healthcare professionals’ everyday practice.

While there are multilayered factors that play a role in preventive medicine not being practiced to its fullest potential, the core of the issue can be identified as the inadequate education of the healthcare professionals. In today’s clinical practices, healthcare professionals are practicing preventive medicine only through its clinical intervention rather than the combined form of clinical intervention and health promotion. This imbalance creates a negative effect on the preventive medicine’s mission to help patients and the general public in averting diseases before their onset. Furthermore it restricts the ability for individuals and community at large to enhance and maintain a quality of life.

Healthcare professionals’ lack of awareness of the significance of preventive medicine, and lack of knowledge on how to implement it in their daily practice can largely be blamed on the teaching methods and the curriculums. As the curriculums continue to shift priority, medical students have begun to become less familiar with the importance of practicing preventive medicine in its combined form. In fact, their lack of awareness has created the illusion that preventive medicine does not go beyond the clinical inventions. Their improper knowledge has a direct effect on their practice, and hence a negative effect on their patients and the community they serve. Even with the medical advances and the available resources, there is now a sicker population than ever before. Hence, it has become imperative to educate the healthcare professionals on preventive medicine to help bring forth a healthier population. While healthcare professionals are defined as anyone who is a physician, podiatrist, dentist, chiropractor, clinical psychologist, optometrist, nurse practitioner, nurse-midwife, clinical social
worker, and many other related staffs, the scope of this chapter will define healthcare professionals specifically as physicians, unless otherwise noted.

1. Ethical Importance

Across the nation, healthcare professionals are recognized as virtuous moral agents. Their profession encompasses the moral responsibility of putting patient’s health, dignity and their autonomy first. Under the ethics of care, healthcare professionals have a set of moral codes and virtues, which they must adhere to, to successfully carry out the mission of their profession. It is recognized that they are professionally and morally responsible for the health and wellbeing of human lives. Individuals and the community at large place a higher level of trust among healthcare professionals over other professionals. Along with trust, there are also a set of expectations from healthcare professionals and their ability to provide adequate patient care. A competent and compassionate healthcare professional is expected to have the adequate knowledge of science and medicine for prognosis and diagnosis. Moreover, they are expected to be able to answer all questions and concerns, while helping their patients make autonomous informed decisions regarding their health care. Due to the nature of patients’ conditions, they are considered to be a vulnerable population who have dependency on their healthcare professionals for not only diagnosis and treatment, but also compassion and guidance. As a result, healthcare professionals are strongly encouraged to have a sympathetic approach with gentle bedside manners.

Alongside vulnerability, patients have often been seen as either frightened or intimidated by the entire experience of hospitals and all healthcare professionals. This fear is more commonly known as the white coat syndrome and affects a large number of populations. It can
be noted through the patients’ increased blood pressure during their visit with their healthcare professionals, which is not otherwise the case. The heightened fear lead patients to not disclose all the information and concerns they have. Furthermore, and perhaps even more dangerously, the fear can also lead to patients lying about their symptoms, the cause or onset of the issue, and/or certain abuses. Healthcare professionals are only able to provide medical attention with the information they have, which have the risk of being a misdiagnosis, should there have been layers of untold incidents and lies in patient’s description of the issues. Therefore, the white coat syndrome can lead to negative effects and an unsuccessful hospital visit for both the healthcare professionals and the patients.\textsuperscript{212} To reduce the white coat syndrome, therefore, healthcare professionals also have a responsibility to create an environment in which patients feel safe and comfortable to share their concerns.\textsuperscript{213}

Practicing preventive medicine would add another layer of complexity for healthcare professionals. They would be required to engage in a dialog with the patient and discuss the possibilities of potential acute and chronic irreversible diseases that they are at risk of being diagnosed with. Currently, patients have a false presumption that when they become ill, their healthcare provider would prescribe a medication, and magically, things will be better. It is difficult for healthy individuals to comprehend that their life can become restricted with a disease.\textsuperscript{214} It is a frightening thought that healthy individuals are not willing to entertain. Preventive medicine encourages a long-term lifestyle change, which can aid in the prevention. Such lifestyles are essentially better for all individuals and the community at large but becoming accustomed to a healthier diet and increased physical activity, while maintaining proper hygiene and sleep cycle are changes that many are unwilling to make without a strong reason. Being at risk of a disease has not been a strong enough reason for individuals to make the changes. Much
of the hesitation can be a result of two factors. The first is the healthcare professionals’ inability to explain the benefits of preventive medicine. Second is the healthcare professionals’ inability to explain the negative effects of acquiring the preventable diseases. Based on their moral responsibility to patient care, healthcare professionals are in need to successfully address both areas. They should be able to use creative measures in their practice to meet the individual needs of their patients.

Healthcare professionals’ knowledge is critical in effective patient care and enhancing general public knowledge, making proper education a vital part of healthcare professionals’ medical training. With the amount of expectations being placed on healthcare professionals, it is necessary to prepare them to this ability through proper education and training. Therefore, there is a moral obligation on educators to ensure that healthcare professionals are receiving outstanding educations and trainings in every aspect of medicine that would allow them to improve patients’ quality of life. Education should be spread among their theoretical studies, as well as their practical applications and practices. A collaboration among medical schools, representatives from the public health sector, and the American Board of Preventive Medicine is necessary to create an education curriculum that would further the education on preventive medicine among medical students as well as residents. Furthermore, education models should be established to assist increase in awareness among current practicing healthcare professionals of the changes and updates on the preventive medicine frontier.

There is a universal recognition that healthcare professionals undergo a rigorous curriculum to achieve the ability to assess and address all types of medical emergencies. In fact, according to medical students, their rigorous curriculum begins during their pre-medical years as an undergraduate student. Becoming a professional in this field requires a significant amount of
motivation, dedication, and stamina to undergo the training. Medical schools have carefully chosen the curriculum to evolve motivated individuals into extraordinary physicians.

As science and medicine continue to expand, the medical school curriculum evolves with it constantly to keep future healthcare professionals up to speed with the changes. While the advances allow medical students to be well informed in sciences and medicine, they are losing awareness of other areas in medicine that are just as critical. One such notion is the practice of preventive medicine. Preventive medicine is one of such branches of medicine that aims to promote healthy lifestyle and improve overall quality of life; and should receive much attention from the education branch. It has earned its placement by the AMA due to its powerful contribution to medicine for over multiple decades. Unfortunately, it is no longer taking priority in the curriculum to give adequate education about the importance of preventive medicine in healthy living, nor how to practice it in their everyday practice with patients, as well as how to outreach to the community at large. The students are learning what they are being presented, and their curriculum does not give them the ability to explore outside of their scheduled training.

With the rise in preventable diseases at a steady high rate, it is a critical time to revisit the curriculum, with an emphasis on preventive medicine training, beyond the clinical intervention. This would require training on several tiers. The first level would be the scientific comprehension, which the students are currently receiving from their rigorous curriculum. The second component would be to link the importance of preventive medicine to its scientific background. This link would explain to the trainees on how to explain the practice of preventive medicine to their patients without the medical jargon. Using birth-control as an example, the second component would help healthcare professionals explain to their patients what types of
birth-controls are available, and what would be some of the better options based on the patients’ medical history. At the same time, it would also be important to explain the reasons why some of them are not the best options for the patients. As healthcare professionals learn to link the information, they would be adhering to their moral practice to provide their patients with all the necessary information, allowing them to make informed decisions.

The last component would provide training to future healthcare professionals on how to discuss the actual importance of preventive medicine in everyday life. It will also teach them how to compartmentalize between explaining the necessary clinical interventions and individual responsibility of preventive practice. Preventive medicine requires healthcare professionals to have in-depth conversations with patients regarding various preventive cares based on individual needs, and hold patients accountable for fulfilling their responsibility. This would be the most challenging component of preventive medicine to address because it is completely absent from the curriculum currently. Future physicians are not prepared to have uncomfortable discussions with their patients about lifestyle changes. Alfred Maxmillion Pheley III conducted a study on communication skills among residents for his dissertation and have discovered that residents are reluctant to practice any area, where they have not received adequate training in. In their interviews, they admit skipping over some areas of conversations when they are either uncomfortable, or when they feel that it is not relevant to the patients. Based on their lack of knowledge on the importance of preventive medicine, they seldom feel the need to discuss it with their patients.

Reluctancy stems not only from the lack of proper knowledge, but also from the uncomfortableness of discussing certain features of preventive medicine. In an article by Shah and colleagues, the researchers conducted a study on physicians discussing weight loss with their
patients. One of the most common practices of preventive medicine is to maintain a proper Body Mass Index (BMI) through proper diet, physical activity, and adequate sleep. The results indicated a direct correlation between the weight of the physicians and their discussion on weight loss with their patients. It shows that physicians who were not comfortable with their own weight, or were overweight, discussed weight loss in three ineffective ways. In the first scenario physicians mentioned the need to lose weight casually without leaving any room for discussions, during the second scenario physicians generalized the situation stating that everyone can benefit from a little weight loss and the third was not to address it at all.

Yet, another study by Huang and colleagues revealed that those physicians who were comfortable with their own weight also handled the weight loss discussion with the patients poorly. The results indicated that physicians were short and abrupt in their discussion of weight loss. Patients felt that they were judged negatively due to their weight, patients felt the physicians were not sympathetic with patients’ concern, and lastly patients felt that physicians rushed the conversations without providing any objective guidance on how to solve the issue. Healthcare professionals have a moral obligation to their patients, but currently, they are not well educated or well equipped to handle the discussions for preventive medicine practices. It is the responsibility and the moral obligation of the educators to create a curriculum in which the healthcare professionals have the adequate training to practice preventive medicine effectively.

2. Increase Awareness
The success of preventive medicine is contingent upon it being practiced effectively through its combined features of clinical intervention and health promotion. As medical students are provided with a more comprehensive curriculum, they will evolve into healthcare professionals with a more in-depth awareness of the importance of preventive medicine as well as learn how to
practice preventive medicine in their daily routine. Having an increased awareness of preventive medicine would break their current medical ideology and open them to a new form of medical practice. It would result in a two-fold benefits: providing a healthy lifestyle guidance for the healthcare professionals, as well as providing healthcare professionals the adequate knowledge to assist patients and the general public to enhance and maintain a greater quality of life.

Healthcare professionals would be more susceptible to practicing preventive medicine in their clinical and hospital settings as they become more aware of its value and how to effectively practice it. In discussing preventive practices with patients through a favorable and compassionate environment, healthcare professionals would be able to build a rapport with their patients. These forms of discussions would lead to an open conversation. In an engaged conversation, the patients would also respond positively to regular conversation about what would be useful to have an enhanced quality of life. There are many benefits to practicing preventive medicine in everyday practice. While the lifestyle changes can be a difficult adaptation at the beginning, maintaining a proper diet and physical activity routine, and combining it with the proper hygiene and sleep cycle would give the body what it requires to function at an optimal level. In its physical capacity, effective practice of preventive medicine would build the body’s endurance and stamina, provide the body with a stronger immune system, and boost the body’s metabolism even at rest. In its mental capacity, it would provide a sense of happiness and joy, raise the ability for handle stressful situations, and provide a sense of accomplishment and satisfaction. Most importantly, it would avert many preventable diseases. In all of its combined benefits, patients and the general public would experience a heightened quality of life.
An increased awareness of preventive medicine would further allow healthcare professionals to address medical, therapeutic and alternative medicines with their patients.\textsuperscript{231} Patients have the ethical right to know all of their treatment options before they make an informed decision. Preventive medicine opens up the channel to discuss many options that are not always discussed otherwise. There is also room for creativity in how to help patients maintain an enhanced quality of life. Using weight loss as an example, preventive medicine allows healthcare professionals to discuss various ways of obtaining the goal and deciding on the one that the patients feel would be most beneficial based on their lifestyle. Instead of abruptly stating that weight loss is necessary, preventive medicine would open up the discussion on what fat is and how it is negatively affecting the body’s ability to function at an optimal level.\textsuperscript{232} It would discuss how the fat cells can give rise to preventable diseases and what consequences would the patient face as a result of it.\textsuperscript{233} It would also open up the options of discussing the possible diets, lifestyle changes that are doable for the patients, help set monthly goals, and recommend various physical activities such as home exercises, meditation, yoga and possible membership at gyms.\textsuperscript{234} Weight loss is a difficult subject to discuss for both parties, but preventive medicine would initiate a dialog to be much more pleasant combining various forms of medical practices, and therefore it would lead to a comfortable discussion.

Healthcare professionals would be better at their own daily lifestyle routine with an increased awareness in preventive medicine and gain personal benefits. While moral agents are practitioners at practice, healthcare professionals are still human first. In learning the value of preventive medicine, they would be able to apply many of the factors in their own lifestyle for a healthier wellbeing.\textsuperscript{235} Healthcare professionals would evidently perform better in their practice if they are feeling healthier and would be enthusiastic about the goals of preventive medicine to
enhance the quality of life of mankind. In addition, by undergoing the same preventive measures in their own daily life, they would become more empathetic towards their patients. They would be able to discuss much of their own experiences of what was beneficial in their practice, building a stronger relationship with their patients. Empathy plays a crucial role in building a relationship with patients and practicing preventive medicine would be able to provide that channel. It would be a positive experience for both healthcare professionals and the patients.

It is also anticipated that an increased awareness of the importance of preventive medicine would lead to reduction in some of the hostility which healthcare professionals feel towards preventive medicine. Under their medical ideology, healthcare professionals have a preconceived notion that in order to enhance patients’ quality of life, they need to be treated through curative medicine. For them, medicine is a curative practice, and not a preventive practice. They believe that they have undergone tremendous training to make an advance in the field of medicine. These advances can be done only through curative medicine. This is a false presumption in that only through curative medicine can there be medical advances, and therefore preventive medicine will slow down the progress of medicine. Preventive medicine is not created to reduce the progression of science and medical advances. Instead, it uses the advances to help patients and the general public lead a healthier lifestyle. In making the population at large healthier, it would actually release more resources and finances to focus on other medical researches and advances.

Using Polio as an example, the Polio epidemic has affected children for over a century. Those who got Polio felt muscle wasting and permanent paralysis in different range of severity. This viral infection has reduced the quality of life of many young individuals by paralyzing
them, and their family.\textsuperscript{243} Proper practice of preventive medicine has been the foundation of reducing Polio and now eliminating it completely. Two prominent practices of avoiding Polio is the Polio vaccine created by Dr. Jonas Salk and practicing proper sanitization. Polio is a viral infection that spread by fecal-oral route. This means that proper sanitization, alongside the vaccination, plays a vital role in preventing the resurface of Polio.\textsuperscript{244} As the virus of Polio have been targeted and all measurements are now in place to prevent its occurrence, there is a guaranteed healthier population. Science and medicine established the medications, while preventive medicine implemented the healthy choice for children to be Polio free.\textsuperscript{245} While many healthcare professionals feel that practicing preventive medicine would slow down the progress of advances, it is a misunderstanding of what preventive medicine’s mission is. In targeting the Polio epidemic, it is seen that preventive medicine, in actuality, works as partner to help reduce the rate of preventable diseases and increase the quality of life.

3. Promote Preventive Medicine

Promoting preventive medicine, as it was once practiced, continues to be final goal due to its multilayer benefits for healthcare professionals, patients, and the general public. Studies have shown that it would lead to a healthier population with lower risks of preventable diseases.\textsuperscript{246} As healthcare professionals gain awareness of the importance of practicing preventive medicine, it can be anticipated that they would reintroduce the foundation of preventive medicine in their practice. Healthcare professionals’ increased awareness would encourage them to make changes in their practices in order to promote preventive medicine through their daily activities. While their current practice mostly incorporates the clinical intervention of preventive medicine, gaining awareness would help them incorporate the health promotion prospect as well.\textsuperscript{247} In its
combined form, preventive medicine is most effective in its mission to promote an enhanced quality of life. Healthcare professionals have a responsibility to use their awareness and knowledge and initiate increasing awareness of their patients and the general public as a whole.

There are several ways for healthcare professionals to promote preventive medicine. The most common way would be to have an enthusiastic approach to the benefits of preventive medicine when explaining it to their patients. In the conversation, providing examples of how preventive medicine has helped others, giving specific details pertaining to the patients, would allow the patients to relate. In addition, healthcare professionals can use creative visual aid to explain the core concept of preventive medicine, and its ongoing benefits. Having a positive outlook on preventive medicine would result in an overall positive outcome with an increased patients’ willingness to learn about it. Patients are more apt to listening to something when it is presented with their healthcare professional’s enthusiasm and approval.

In addition to the healthcare professionals and patient interaction, preventive medicine can be promoted before the appointment, starting with the waiting room and up until the patient leaves the clinic or the hospital. Various methods to information guidelines can be provided through magazines, posters, pamphlets, media, and interactive boards. Much of the details regarding the various education models that can be implemented to effectively promote preventive medicine will be discussed in the following chapter. Based on the population and the medical staff availability, different combinations of the models can be used to effectively promote preventive medicine in every clinical practice.
B. Practicing Preventive Medicine

It would be incorrect to state that preventive medicine is not currently practiced, but it would be equally misguided to state that preventive medicine is practiced efficiently.\textsuperscript{252} Across the nation, preventive medicine is practiced through its clinical intervention. Under the preventive medicine umbrella, therefore, charts are being updated to make certain that vaccinations are up to date, flu shots are being offered, and annual exams are being directed.\textsuperscript{253} However, the other major component of preventive medicine, health promotion, is being left unpracticed and given very little to no value. There is a need to shift away from this biased practice and embrace practicing preventive medicine in its combined clinical and health promotion form.\textsuperscript{254}

As healthcare professionals gain awareness through adequate education and training, it would allow them to explore other parts of medicine, which they have not done, due to their medical ideology. A more holistic and precise practice can be anticipated from them. The United States is a diverse nation, built with individuals and communities of different ethnicity, religion and literacy.\textsuperscript{255} Healthcare professionals would need to be mindful of the population they are working with as they begin to reintroduce preventive medicine in their daily practice. There are various education models that healthcare professionals can adopt in their practice, based on the population group they are serving.\textsuperscript{256} While the various models will be discussed in the subsequent chapter, this section will focus on the ethical importance of practicing preventive medicine as well as how healthcare professionals could implement the education models as means to practice preventive medicine in their daily work.

Preventive medicine, as a whole, has a valuable set of treatment and management guidelines to enhance one’s quality of life. The guidelines range from daily lifestyle changes to seeking different medical specialists’ guidance and assistance.\textsuperscript{257} One or a combination of such
guidelines can provide patients with ample ways to maintain quality of life. Patients do not effectively practice preventive medicine and are not aware of all the guidelines because they have not been conveyed to them.\textsuperscript{258} Healthcare professionals, under their moral responsibility to disclose all information and all treatment options, should practice preventive medicine holistically to help improve patients’ quality of life. As they begin to discuss the effectiveness of preventive medicine, the expectation is that patients would be understanding the information and make the decision to make healthy lifestyle changes.

1. Ethical Importance

The white coat ceremony is considered to be one of the most memorable moments for any medical student. It is at this moment that the students become recognized as part of the noble profession of medicine. At this early phase of their medical career, each student is sworn in to their new endeavor with the Hippocratic Oath.\textsuperscript{259} Relevant since Greek Antiquity, the Hippocratic Oath is the moral guideline centered around patient care. In fact, among other promises of practicing medicine, the Oath is a solemn promise to place patient care above all.\textsuperscript{260} As the students then begin their journey of rigorous curriculum of academics, rotations and residency, they evolve into moral agents, whose professional responsibility and moral obligation is to serve their patients with their best interest in mind.\textsuperscript{261}

The Hippocratic Oath, however, is no longer sufficient to define medical ethics as medicine evolves to advancement in various areas.\textsuperscript{262} Therefore, in addition to the Hippocratic Oath, healthcare professionals are also bound by the five focal virtues, which establish the foundations of their moral character and moral responsibility. The five virtues comprise of compassion, discernment, trustworthiness, integrity, and conscientiousness.\textsuperscript{263} The set of these
virtues define the care and compassion of healthcare professionals, placing patient-care at highest regard. Patients deserve the utmost respect and priority from their healthcare professionals. Under this umbrella, healthcare professionals have a moral responsibility to provide complete information on diagnosis, prognosis and treatment options to their patients. Patients have an autonomous right to make informed decisions regarding their healthcare, and healthcare professionals have a moral responsibility to provide the information.264

While healthcare professionals are required to have the five virtues to be considered a moral agent with the appropriate moral characteristics, three of the five virtues play a more definitive role in reintroducing preventive medicine in their every practice. The three virtues (in no specific order) are compassion, trustworthiness, and integrity. Compassion in medical ethics is explained as the ability to focus on patients’ pain, suffering, and disability. It combines one’s ability to sympathize and empathize with the patients, giving healthcare professionals the ability to connect with the patients in their vulnerable state, and having a personal responsibility to minimize their suffering. Those who lack compassion are said to have a moral weakness.265

Compassion plays a critical role in practicing preventive medicine. Healthcare professionals are expected to face patients’ fear in the possible diseases they are carriers of, and the reluctancy in making life style changes. Furthermore, they are expected to be able to address many of their patients’ questions and concerns. Compassion provides healthcare professionals the ability to engage in the health promotion aspect of preventive medicine.

Trustworthiness plays a critical role in building a relationship between healthcare professionals and their patients. The virtue of trustworthiness is the belief in the moral character and the competence of another person.266 It has a practical outcome of promoting a connection between two parties, making health care practices effective. Patients are vulnerable, and the
ability to build a relationship on trust with their healthcare professional provides an assurance and guidance. As patients begin to trust their healthcare professionals, the white coat syndrome begin to disappear, creating a trustworthy environment. Patients begin to disclose more of their concerns, and grow to value their healthcare professionals’ guidance and follow them closely. As healthcare professionals begin to practice preventive medicine effectively, the virtue of trustworthiness will play a critical role as they begin the dialog of adaptations to healthy lifestyle. Patients’ trust would lead to an effective practice and a satisfactory outcome. Having the virtue of trustworthiness speaks volume of the healthcare professional’s moral character, and it will provide positive results in the effective practice of preventive medicine.

Integrity is difficult to define because it is the umbrella of all the virtues, combined. Still, the virtue of integrity is defined as the soundness, reliability, wholeness, and integration of moral character. In having integrity, healthcare professionals encompass the character traits of a moral agent who is faithful to moral values and standards. Integrity does not permit moral agents to digress from their moral commitments. In medicine, integrity continues to be the sounding mind of what is morally right and what is morally wrong. Therefore, integrity plays a critical role in medical care, and it would play an equally important role as healthcare professionals begin to reintroduce preventive medicine in their everyday practice. They have a moral commitment to their patients, and their integrity would strengthen their drive to discuss biomarkers, lifestyle changes and patient responsibilities, despite it being a challenging frontier. Likewise, their integrity would be noticed in their actions and care. Patients would feel a deeper level of connection and be willing to practice preventive medicine as they begin to recognize its importance through their healthcare professionals’ perseverance.
The Hippocratic Oath and the focal virtues serve as a foundation on what defines a moral character. With preventive medicine being the answer for many of today’s medical concerns, it is the moral obligation of the healthcare professionals to practice preventive medicine through its clinical intervention and health promotion aspect. Reintroducing preventive medicine would provide a holistic care for the patients and provide guidelines to maintaining an enhanced quality of life. With patients’ wellbeing being the center of the ethics of medical care, healthcare professionals would adhere to their moral responsibility as they reintroduce preventive medicine.

2. Increase Communication

Proper communication between healthcare professionals and patients has always been regarded as an important element of practicing medicine. Despite its importance, however, there have been challenges on this frontier. Ong and colleagues discuss in their article that effective communication continues to be one the greatest challenges of medicine. Patients have reported to purposely not attend their appointment or lie during their appointments because of their fear of the healthcare professionals’ attitude, giving rise to the white coat syndrome. These challenges have made it difficult to educate patients on the importance of preventive medicine as well as explain their roles and responsibilities to practice preventive medicine. In her dissertation, Cristine Delnevo reported that students understood the science of why certain illness were happening and recognized that proper lifestyle could change the way things are. However, when asked to discuss it with patients, they were not comfortable with discussing certain aspects of patient responsibilities due their improper education in effective communication and inadequate knowledge on preventive medicine. However, other studies have shown that an effective communication between healthcare professionals and patients can have various positive
Therefore, the primary step to implementing the health promotion prospect of preventive medicine is to increase effective communication between healthcare professionals and patients. Therefore, the primary step to implementing the health promotion prospect of preventive medicine is to increase effective communication between healthcare professionals and patients.274

Healthcare professionals’ ability to effectively and compassionately communicate information is key to a successful patient–physician relationship. An open and compassionate communication has shown to create a favorable environment in which patients feel comfortable to share their concerns. It reduces their anxiety of sharing unpleasant information with their healthcare professionals without feeling the fear of being judged negatively or talked down to.276 Healthcare professionals also benefit from this open communication in several ways. By having a trusting relationship, healthcare professionals can be at ease that they do know their patients well. There is a bond between two parties in which both parties are on the same page that there is a concern and together they will discuss the best solution. Healthcare professionals can freely discuss the possible prognosis, diagnosis, treatment options, lifestyle guidance, and possible actions based on their individual needs.277

The United States is recognized as one of the most diverse nations, and therefore, patients have a very diverse background. Diversity ranges in culture, religious beliefs, age, and health literacy.278 Healthcare professionals need to be able to address concerns being mindful of the various ethnic, culture and religious beliefs. Therefore, it would be beneficial to have a specific model for healthcare professionals to use as guidelines on how to effectively communicate. There are a number of models that discuss the appropriate communications skills and provides guidelines for healthcare professionals. Among those, the RESPECT model would be best used to reintroduce preventive medicine. This model provides a comprehensive approach to enhancing communication skills and building a positive rapport with diverse populations. The model takes
special note in incorporating diversity in its approach. According to the committee opinion in the journal of *The American College of Obstetricians and Gynecologists* the RESPECT model is outlined as follows: 279

**Rapport**

Connect on a social level.

See the patient’s point of view.

Consciously attempt to suspend judgement.

Recognize and avoid making assumptions.

**Empathy**

Remember that the patient has come to you for help.

Seek out and understand the patient’s rationale for her behaviors or illness.

Verbally acknowledge and legitimize the patient’s feelings.

**Support**

Ask about and try to understand barriers to care and compliance.

Help the patient overcome barriers.

Involve family members if appropriate.

Reassure the patient you are and will be available to help.

**Partnership**

Be flexible with regard to issues of control.

Negotiate roles when necessary.

Stress that you will be working together to address medical problems.

**Explanations**

Check often for understanding.

Use verbal clarification techniques.

**Cultural Competence**

Respect the patient and her culture and beliefs.

Understand that the patient’s view of you may be defined by ethnic or cultural stereotypes.

Be aware of your own biases and preconceptions.
Know your limitations in addressing medical issues across cultures.

Understand your personal style and recognize when it may not be working with a given patient.

**Trust**

Self-disclosure may be an issue for some patients who are not accustomed to Western medical approaches. Take the necessary time and consciously work to establish trust.²⁸⁰

Maintaining an effective communication can go beyond the face-to-face meeting in this digital era. In fact, the younger generation tends to respond better through technological advances. Technological advances include digital access of electronic health records, patient portals, and web messaging to communicate with their healthcare professionals.²⁸¹ These methods are also favorable for those who have busy schedules and cannot make appointments or who work during the hours when appointments are available. It is also convenient for patients with disabilities who have a difficult time making the appropriate accommodations to attend the appointment. As long as technological advances are monitored, and privacy is protected, this may become the most effective way of communication for this group of patients, who are otherwise hard to locate. This method should only be used with patients who have established a face-to-face relationship, because the initial meeting is critical to build a strong healthcare professional and patient relationship.

It is important to recognize that preventive medicine is a set of guidelines for everyone to follow.²⁸² Each patient’s needs and demands vary based on their individual biomarkers. Effective communication then assist in building an individualized plan in practicing preventive medicine. Using diabetes as an example, individuals with a genetic history of diabetes have a higher chance of becoming a victim of the disease.²⁸³ For patients with such predisposition, preventive medicine will not only guide them to having a balanced exercise and diet routine to maintain the BMI, but it will also lead to a conversation as to how diabetes affects their overall health and
what specific food and activities are helpful versus harmful. Furthermore, practicing preventive medicine will also give patients certain tools that will assist in staying on track. As these conversations take place, it will begin to shift some of the pill dependency to self-responsibility. Pills may have the magic power for some symptoms, but it is not a permanent effective solution to cure any preventable disease.

Another example would be for the general public who are travelling at high risks areas of non-vaccine preventable disease. An example of this is malaria, which is caused by infected mosquito bites. Malaria can cause high fever, headaches, vomiting, and muscle aches. It can last anywhere from seven days to up to a year. While not prevalent in the United States, it is found in over a hundred countries in Asia, Africa, Central and South America, the Pacific, and some parts of the Middle East. There are preventive measures to avoid becoming a victim of malaria, which a healthy individual may not be aware of. There are four ways to tackle malaria, three of which are preventive measures. The first is to be aware of the risk of the area of travel. Having knowledge allows for accurate preparation. Secondly, bite prevention would be the next goal, in which insect repellent would be helpful to pack. In addition, it would be helpful to cover arms and legs, and use other features to help bite prevention. Last one is to discuss with the physician the need to take malaria prevention tablets. The healthcare professional can discuss the need and the course of it, as well as give a prescription for it. Such prevention puts a responsibility on the general public as well as the healthcare professionals.

As effective communication increases between healthcare professionals and patients, other barriers can be broken that prevented effective practice of preventive medicine. One such barrier is health illiteracy. It can be anticipated that there will be a reduction in patients’ health illiteracy with proper communication. Medicine is already very complicated and most of the
medical language is not used in every day conversation. Patients who are not well educated, not fluent in English, or not up to date with medical advances will all have difficulty following medical suggestions if they are not properly communicated. In her dissertation, Cristine Delnevo mentions that residents admit that they are rushed for time and therefore do not always practice effective communication skills. Such skills include bringing the language down to the level that patients would understand and ask patients to repeat instructions to make certain they understood the instructions. Some healthcare professionals admit reading the patient charts while meeting with the patient, instead of reading it in advance. This can lead to an error in listening to their concern or patients can tell that their healthcare professionals are distracted and therefore shy away from discussing their concerns. Therefore, it is vital to have improved communication skills to be able to help patients the best way possible.

In addition, a reduction in patients’ false presumptions can also be anticipated, with effective communication between healthcare professionals and patients. With preventive medicine being practiced only through clinical interventions, patients are under the false presumption that they do not have a responsibility to their own health and wellbeing. If they do not feel well, they rely on their practitioners for medications and other therapies as needed. They are under the assumption that they do not have a responsibility towards their health and to maintain an enhanced quality of life. Using lower back pain as an example, patients who are prone to have repeated back pain due to acute muscle spasms rely heavily on prescription medications. Healthcare professionals often prescribe muscle relaxants and instruct patients to rest. The excessive rest in the long run makes the spasms worse. In cases such as this, other preventive practices should be discussed and then it would be the patients’ responsibility to maintain those practices. These include increasing water intake to reduce muscle dehydration,
incorporating back strengthening stretches and exercises to increase the muscle strength, and maintain a healthy weight to reduce the stress and tension on the muscles. Incorporating such preventive practices would help the patients understand how self-responsibility is key in effective preventive medicine practice.

3. **Collaboration between Healthcare Professionals and Medical Staff**

Practicing preventive medicine effectively would require additional time between healthcare professionals and patients. The additional time would be geared towards a discussion on the importance of preventive medicine along with its benefits based on individual biomarkers, and how to incorporate the practices in everyday lifestyle. Much of the information discussed in reintroducing preventive medicine would be new, requiring extra time allotment for additional questions and concerns. These conversations are expected to exceed over the time restriction of 15-20 minutes, which is impinged by the insurance companies.\(^{291}\) Unfortunately, the rapid pace of the medical practice and the complexity of the medical system already makes the current appointments rushed. It would make it impossible for healthcare professionals to practice preventive medicine successfully without the support of their entire medical staff.\(^{292}\) Preventive medicine will be best promoted when it is practiced in all aspects of the appointment, from waiting in the waiting room, to the time of check-out.

Practicing preventive medicine requires the collaboration of the healthcare professionals and the entire medical staff. Furthermore, it requires several forms of creative measures within the clinical and the hospital settings to effectively reintroduce preventive medicine to the patients.\(^{293}\) A similar form of collaboration and creativity would be required to outreach to the general public and the community at large.\(^{294}\) The US Preventive Services Task Force endorses
this stating that the responsibility to practice preventive medicine is of the entire medical staff including but not limited to: nurses, nurse practitioners, physician assistants and all allied health personnel. A combined effort would create a vigorous plan to implement preventive medicine in clinical and hospital settings, and would result in an increased practice of preventive medicine.

C. Conclusion

Despite its historical accomplishments and its recognition by the AMA, preventive medicine continues to face challenges in its proper practice frontier. In current times, preventive medicine is practiced more commonly through its clinical intervention, rather than its combined clinical intervention and health promotion prospect. Preventive medicine is more efficient and has a higher rate of success when it is practiced in its combined form. However, it has not been practiced to its fullest potential by many of the members under the medical umbrella, more specifically the healthcare professionals. They believe that preventive medicine is not the true practice of medicine because its primary aim is to avert the disease, whereas the primary responsibility of medicine is to cure the disease. Their medical ideology, combined with their inadequate knowledge of the effectiveness of preventive medicine, has decreased the proper practice of it in their daily practice. As the accurate way of preventive medicine practice has decreased over the decades, there has been an exceptionally increased rate of preventable diseases among the population. Therefore, there is a dire emergency to reintroduce the practice of preventive medicine back in healthcare professionals’ everyday practice.

Numerous factors contribute to the healthcare professionals’ lack of practice of preventive medicine, including but not limited to their medical ideology, their hostility towards preventive medicine, and their lack of comfort in discussing lifestyle changes over certain
biomarkers. However, all of the contributing factors can be grouped under one general blanket, the lack of proper education. The lack of proper knowledge on the importance of preventive medicine, and the lack of adequate training on how to practice preventive medicine, are therefore the primary reasons for the reduction of the effective practice of preventive medicine by the healthcare professionals. Consequently, there is an immediate need to design and implement an education curriculum, that will assist in reintroducing preventive medicine as well as explaining its overall importance in the field of medicine. Healthcare professionals have a moral obligation to their patients, under the ethics of care, to disclose all possible ways their patients can enhance and maintain a greater quality of life. As such, the educators also have a moral obligation to provide the healthcare professionals with an adequate and accurate education, which will provide them with the tools to fulfill their moral responsibilities. Therefore, it is ethically necessary for educators to begin incorporating the studies of preventive medicine at the budding stages of medical school to all the way to residency years and beyond. Education should implement the theoretical importance of practicing preventive medicine, as well as the practical application of how to practice it in clinical and hospital settings.

With adequate education and proper training, it can be anticipated that the knowledge and the awareness will increase among the healthcare professionals. There are a number of benefits to having an increased awareness of the necessity and benefits of preventive medicine. It can be anticipated that the medical ideology will be shifted away from only curative medicine, to preventive and curative medicine with the theoretical education. Furthermore, the hostility towards the practice of preventive medicine can be expected to decrease, with an increase in positive attitude. The knowledge of the practical applications would assist healthcare professionals to promote preventive medicine through their practice. It would provide them with
the tools to effectively communicate with their patients about the importance of preventive medicine as well as discuss patients’ individual roles and responsibilities to self-care. It has been a challenge for healthcare professionals to discuss and influence a lifestyle change for their patients because they themselves are hesitant to believe in its effects, and they are not equipped with the knowledge on how to engage in such conversations. The new curriculum would then aim to assist healthcare professionals on how to positively promote preventive medicine through proper dialog, and how to influence the patients’ behaviors for a changed lifestyle. The patients and the general public are unable to comprehend the need to make certain lifestyle changes without an onset of the actual disease. An optimistic conversation and a positive persuasion from healthcare professionals, therefore, would be the answer to enabling the patients to comprehend the importance of practicing preventive medicine.

Currently, lack of its awareness to patients and the general public have created a gap between them and their quality of life. Furthermore, it has also given the patients and the general public at large, the false presumption that they do not have a responsibility to enhance and maintain their quality of life. The current outlook for the majority of the population is that there is a medication for every disease. The common belief is that a few pills can fix the problem. They are not necessarily aware of the concept that medications can have adverse side effects and a graver concern, that many of the preventable diseases are not reversible yet in this day and age. Some of the diseases are so serious that medications can only provide some comfort for the symptoms and a rigid lifestyle will be required to maintain some form of quality of life. Therefore, in addition to false presumptions, the inadequate knowledge also gives rise to health illiteracy, in which patients and the general public do not understand the importance of preventive medicine and its benefits. Providing them with the necessary knowledge and allowing
them to make an autonomous informed decision on their quality of life, therefore, is the moral responsibility of healthcare professionals.

A successful reintroduction of preventive medicine as well as its promotion through effective practice requires a collaboration between the healthcare professionals and the medical system. Medical practice functions at a very fast pace due to the nature of its urgency. Healthcare professionals are allotted limited time with patients, and insurance companies charges them a fine if they cross the time frame. In addition, healthcare professionals have to be mindful about other patients who are waiting for them. As this juncture, therefore, a creative collaboration of healthcare professionals and medical staff would yield a successful reintroduction of preventive medicine in their everyday practice. The collaboration would help the patients and the general public, alike. While the patients would benefit from the collaboration every time they visit their healthcare professional’s practice, the general public would benefit from it through the collaborative community outreach. Overall, a healthier population can be anticipated over time with the proper practice of preventive medicine by healthcare professionals and their medical staff, patients and the general public. Because a proper awareness of preventive medicine is the key to its effective practice, an adequate education is the ultimate answer to reintroducing preventive medicine in today’s culture.
Chapter 4

Ethical Support for Educating Patients and the General Public on the Importance of Preventive Medicine

Being one of the sickest nations among developed countries, with the highest rate of preventable diseases, United States is currently in middle of a medical crisis. Historically, preventive medicine has proven to be the most effective form of practice to avert many irreversible diseases. Repeatedly, effective practice of preventive medicine has been the primary source of reducing the disease rates and enhancing the quality of life of patients and the general public alike. With the nation under such crisis, patients and the general public should begin to incorporate preventive medicine practices in their daily routine. Currently in the medical community, preventive medicine is practiced most commonly through the clinical interventions of vaccinations, annual examinations and various screenings. As that has become the norm in everyday practice, patients have begun to define preventive medicine as its clinical intervention form. With health promotion being non-existent in healthcare professionals’ practice, it has become an outdated idea not known by most patients and the general public. Preventive medicine, in its accurate form, is composed of two components, clinical intervention and health promotion. For its effectivity, preventive medicine needs to be practiced in its complete realm.

There are various reasons for which patients and the general public are not practicing preventive medicine at its maximum potential, including the shortcoming of the medical practices ranging from healthcare professionals to insurance companies, the fear of facing the changes to a comfortable lifestyle and an overall lack of knowledge on the importance of preventive medicine. Medical practices primarily focus on curative medicine in which they
manage an illness or a disease after its onset.\textsuperscript{299} In today’s practice most healthcare professionals focus on preventive medicine through its clinical interventions, eliminating the conversation on health promotion altogether. Likewise, while most insurance companies in current times offer certain preventive medicine practices for free, as Overland discusses in her article, they fail to discuss them clearly with their clients.\textsuperscript{300} Without the proper communication from healthcare professionals and the insurance companies, patients and the general public are unaware of the importance of practicing preventive medicine.

The second factor that leads to a declining use of preventive medicine among patients and the general community is the hesitation to leave their comfortable lifestyle. Even when a newer lifestyle can lead to an overall increase in quality of life, the beginning of preventive medicine practices can be difficult. Preventive medicine encourages for a proper diet, adequate physical activity, proper hygienic care and adequate sleep. In attempting to follow this lifestyle, the majority of the population of the United State would have to make certain adjustments in their lifestyle, most of which will require additional work. Using physical activity as an example, currently the nation has a very sedentary lifestyle where desk jobs from early morning to late afternoon are very common unless the discussions are centered around athletes.\textsuperscript{301} In fact, according to research by Titzea, Martin, Seiler, Stronegger and Marti, general workplace movement is heading more toward a more sedentary setting as machines continue to replace labor related jobs.\textsuperscript{302} As the day comes to an end, it is far more convenient to rest with hours of media attraction than to push the body further for physical activities.\textsuperscript{303} Parks and walk space are limited, especially in rural areas, making it more difficult to motivate individuals to incorporate physical activities.\textsuperscript{304}
Yet the most important reason for not practicing preventive medicine is the lack of proper knowledge. Currently patients might be told in passing that they need a better routine, or that they need to lose some extra pounds. However, as Gill discussed in his book, patients are not explained why a better routine or weight loss is needed and how it would be beneficial for the overall quality of life.305 The conversation that must occur between healthcare professionals and the patients for them to become aware of its importance either does not occur or occurs at a miniscule level, in which patients do not grasp the focal point of the conversation.306 In regard to the general public, they have an even lesser incentive to make the decision to maintain a healthier lifestyle. And with the lack of knowledge of its importance, it is not a favorable decision to make to change the current lifestyle.

In addition to healthcare professionals’ lack of proper practice, health illiteracy also stands as a strong barrier against understanding the importance of preventive medicine.307 The United States has a diverse population, ranging in different ethnicity, religion, age, and literacy.308 Such diversity can cause confusions in understanding certain aspects of medicine in an already complicated medical world.309 It is customary to visit a healthcare professional when an individual is not feeling well and take the required dose of medication. Even in this routine, there are many mistakes that occur by the patients due to improper understanding of what their healthcare professionals discussed.310 Preventive medicine requires a far more in-depth conversation, about its benefits and more importantly about patients’ responsibility on effectively practicing it. Patient’s lack of understanding can result in a cascade of negative outcomes.

In losing the knowledge of health promotion, it has caused many setbacks for patients and the general public.311 Some of the setbacks include heavy dependency on prescription and non-prescription medications, the false presumption of lack of self-responsibility, and the
improper use of preventive medicine. Patients and the general public understand medicine as curative medicine. This is what is practiced and therefore, this is the belief that has been instilled upon them. When patients become sick, they see their healthcare professionals, and acquire the required medication. With the medical system progressing as fast as it is, patients and the general public believe that there is a medication for every disease. And as such, they rely very heavily on curative medicine and medications for even the slightest discomfort. In fact, the United States is known as one of the highest prescriptions writing nation in the world. Such form of dependency can be unhealthy in many ways, including wasting time on back and forth trips to clinic, waiting money on medications, and most importantly, the long-term negative effect on health.

Furthermore, without the proper understanding of the benefits of preventive medicine, patients and the general public would not be agreeable to make lifestyle changes that can be of some discomfort at the beginning. Preventive medicine practices allow individuals and the community at large to have a healthier lifestyle, have an overall enhanced quality of life and reduce the risks of chronic diseases. Even if they understand the importance of preventive medicine, it would not be enough to fulfill the goal of preventive medicine. They would also need to know how to implement it in their everyday routine and make it an everyday common practice. To be able to attain such form of competency it is essential to reintroduce preventive medicine through proper education. Given that reintroducing preventive medicine is therefore the most important step in bringing forth a healthier nation, it is critical to create an education model which will assist healthcare professionals and the medical community at large in teaching preventive medicine to patients. Because the general public does not meet with their healthcare
professionals, a parallel education model would be required to educate them on the importance of preventive medicine.

The focus of this chapter is to explore the importance of educating patients and the general public on the importance of practicing preventive medicine, as well as introduce an educational model that would assist in educating patients and the general public. The chapter is divided into three sections, educating patients and the general public, creating an effective education model for patients, and creating an effective education model for the general public. In the first section of educating patients and the general public, there are three subsections. The first subsection discusses the ethical rights of patients and the general public to be educated in the importance of preventive medicine. The second subsection discusses the needs and benefits of increasing awareness among patients and the general public. The section concludes with the subsection promote healthy lifestyle, which discusses the needs and the benefits of promoting preventive medicine through everyday practice.

The second section, creating effective models for patients, is divided in three subsections. The first subsection constructs the model that would best fit the need of reintroducing preventive medicine among patients. The second subsection discusses ways in which the education model would be best implemented. The third subsection discusses the needed collaboration of all the parties under the medical umbrella to reintroducing preventive medicine effectively. Lastly, in the third section of creating effective education models for the general public, there are three subsections. The first subsection constructs the education model that would best fit the need of reintroducing preventive medicine among the general public. The second subsection discusses the ways in which the education model would be best implemented in the community. The third
subsection discusses the needed collaboration of all the parties under the medical umbrella and the community to reintroduce preventive medicine effective.

A. Educating Patients and the General Public

Proper practice of preventive medicine has numerous benefits, but its effectiveness is determined by its comprehension and how well it is practiced. Currently its comprehension is at a minimum and therefore poorly practiced by patients and the general public. The United States is facing a drastic increase in diseases related to poor health conditions that can otherwise be prevented with the proper practice of preventive medicine. These diseases include, but are not limited to obesity, cardiovascular diseases, and certain types of cancers. Many of these diseases are preventable with proper lifestyle changes, combined with proper screenings and appropriate annual check-ups. While preventable, many of the diseases are not reversible. This is a grave concern because statistically the numbers of preventable diseases are continuing to increase even when there are proven methods to reduce the rates of such diseases.

While there are multilayered factors that play a role in patients and the general public being unaware of the importance of preventive medicine, the core of the issue can be identified as the inadequate education they receive from their healthcare professionals and the community alike. In today’s clinical practices, healthcare professionals are practicing preventive medicine only through its clinical intervention rather than the combined form of clinical intervention and health promotion. This imbalance in practice creates a reduction in patients’ proper understanding of the importance of preventive medicine, and in longer route, preventive medicine’s mission to help patients and the general public in averting diseases before their onset. Even with the medical advances and the available resources, there is now a sicker
population than ever before. Hence, it has become imperative to educate the healthcare professionals on preventive medicine to help bring forth a healthier population. At this point, therefore, the vital step is to reintroduce preventive medicine among patients and the general public. Reintroducing preventive medicine would require providing adequate education on the importance, the benefits, and the respective roles and responsibilities of patients and the general public on preventive medicine. Through reintroducing, patients and the general public would gain the knowledge on the awareness of preventive medicine, as well as how to implement it in their everyday lifestyle.

1. **Ethical Right**

Medical practices functioning at a steady speed and maintaining a sense of order is crucial for patient care. Among many factors medical ethics plays a crucial role in making sure that patient care is always the priority and patients are treated with the utmost respect. Medical Ethics articulates the values which healthcare professionals are morally obligated to follow as a member of the profession. Medical ethics is composed of four key principles of autonomy, non-maleficence, beneficence, and justice. Among them, autonomy, non-maleficence, and beneficence plays a vital role in justifying the reintroduction of preventive medicine among patients and the general public. Patients have an ethical right to be fully informed about their health conditions and the corresponding diagnosis, prognosis, and treatments available. For patients whose biomarkers show the possibility of risks of irreversible disease, practicing preventive medicine can reduce their risks of being diagnosed. There are various preventive medicine practices available for patients who are diagnosed with some form of preventable disease. As moral agents, healthcare professionals have a moral responsibility to reintroduce
preventive medicine in its combined clinical intervention and health promotion form under the principles of autonomy, non-maleficence, and beneficence.

Autonomy is defined as the right of competent individuals to make informed decisions about their own medical care, including patients and the general public. The project limits its target population to competent adults. Their right includes making a decision without the biasness or the influence of their healthcare professionals. Healthcare professionals have the responsibility to educate the patient but are not permitted to make the decision for their patients. As Beauchamp and Childress discuss, to respect the autonomy of an individual is to acknowledge their right to have personal values, to make choices and to take actions based on their personal values and beliefs. Healthcare professionals have the responsibility to respect patient wishes as well as assist with the fear and anxiety that may hinder them from making decisions. Their medical ideology might make it difficult to allow patients make the decision because healthcare professionals would have the best understanding of the scientific and medical aspects. However, they have to respect patients’ personal values which healthcare professionals cannot deny or devalue.

Allowing patients to be autonomous requires healthcare professionals to tell the truth about all aspects of their medical concern, including risks, prognosis, diagnosis and treatment options. This would allow patients to make an informed decision regarding their healthcare. In making an informed decision, it is important that healthcare professionals and patients use the seven elements of informed consent as outlined in Beauchamp and Childress’ *Principles of Biomedical Ethics*. The seven elements include patient competence, patient voluntariness, healthcare professional’s complete disclosure, healthcare professional’s recommendation, patient’s understanding, patient’s decision, and healthcare professional’s authorization.
the element of disclosure, healthcare professionals have a responsibility to provide the
information, without which, patients will have an inadequate basis for making an accurate
decision. Currently, preventive medicine falls under the realm of inadequate disclosure where
patients are not fully aware of the benefits of preventive medicine and how to implement it in
their daily routine. Without the complete disclosure, patients are not making the autonomous
informed decision that they have the right to in medical care. Healthcare professionals’ practice
currently lacks the health promotion prospect, making the discussions on preventive medicine
incomplete. Patients are not aware of the additional measures they can take to maintain a healthy
lifestyle and therefore are not making an informed decision. To comply with the principle of
respect for autonomy for patients and elements of informed decision, preventive medicine would
need to be practiced in its original form of clinical intervention with health promotion.

The second principle of medical ethics, non-maleficence, imposes an obligation not to
inflict harm on others, and is associated with the maxim *Primum non nocere*, “above all, do no
harm.”[^328^] A version of it is also found in the Hippocratic Oath, which includes the promise to
abstain from doing any harm.[^329^] Non-maleficence restricts healthcare professionals to cause any
form of harm or risks of harm over their patients.[^330^] They have a duty to care, but they also have
a duty to not harm. For a more in-depth explanation, the principle of non-maleficence is
composed of a set of rules which includes: 1) do not kill, 2) do not cause pain or suffering, 3) do
not incapacitate, 4) do not cause offense, and 5) do not deprive others of the goods of life.[^331^] The
fifth rule, do not deprive others of the good of life, supports the need to reintroduce preventive
medicine. By depriving the knowledge on preventive medicine and its effect on an increased
quality of life, healthcare professionals are failing to follow the rules of the principle. The proper
practice of preventive medicine by the healthcare professionals would be to discuss the benefits

[^328^]: The principle of non-maleficence
[^329^]: The Hippocratic Oath
[^330^]: Healthcare professionals' duties
[^331^]: Reintroduction of preventive medicine
of preventive medicine as well as answer the questions of patients. In addition, they would map out a detailed list or a chart to highlight the implementation process in everyday lifestyle. Given the nature of preventive medicine’s lengthy process based predominantly on biomarkers, combined with the need to make lifestyle changes, it can be anticipated that there will be many questions and even some hesitations from patients. Even knowing this, healthcare professionals have a moral responsibility to continue to work with their patients in understanding the practice of health promotion under the preventive medicine umbrella.\textsuperscript{332}

The second rule, do not cause pain or suffering, also ethically justifies the need to reintroduce preventive medicine. With its current practice of only the clinical interventions, patients are deprived of the knowledge of how to maintain an enhanced quality of life through proper diet, physical activities, proper hygienic care, and adequate sleep. Such deprivation leads to making poor health decisions and may result in being diagnosed with irreversible preventable diseases. The pain of living with certain diseases can foreseeably be avoided with the proper practice of preventive medicine. Once patients become accustomed to the proper practices of preventive medicine and begin to make them a habit of their daily practice, they would begin to feel better physically, accomplish more leading to a state of mental wellbeing and avoid living with certain diseases resulting in an enhanced quality of life. Furthermore, as patients begin to practice preventive medicine, it can lead to a lower cost of medications as well as reduced visits to clinics or hospitals. Medical care is very expensive in the United States and preventive medicine can assist in reducing the medical costs.\textsuperscript{333} Given its benefits, healthcare professionals have a responsibility to their patients to practice preventive medicine to its fullest potential.

The principle of beneficence requires moral agents to take positive steps and actions to help others, including patients and the general public.\textsuperscript{334} It is different from non-maleficence in
that it goes beyond not inflicting harm on others, and taking the active measures to do good. The principle of beneficence supports an array of moral rules of obligation, including: 1) protect and defend the rights of others, 2) prevent harm from occurring to others, 3) remove conditions that will cause harm to others, 4) help persons with disabilities, and 5) rescue persons in danger. The rules of beneficence are established for healthcare professionals to provide positive actions for benefitting patients and the general public at large. Under such principle, healthcare professionals have the moral responsibility to promote preventive medicine in their everyday practice.

Practicing preventive medicine through its combined clinical intervention and health promotion would enhance its importance to their patients. Patients would be provided with a complete overlook of the possible risks they face along with the list of possible treatment options and would be able to make an informed decision regarding their health and wellbeing. By providing patients with knowledge on preventive medicine, its benefits and ways to implement it in their daily life, healthcare professionals would be benefitting them on multiple levels. The primary benefit would be to help them make a more comprehensive decision regarding their health. In addition, patients would benefit from having a more in-depth knowledge on diseases preventions that they are at risk of. Patients would understand their own responsibilities to maintaining their health and recognize the dangers of not following certain lifestyle changes. In many cases, patients would also benefit from reducing excessive medication intake as their healthier lifestyle would allow them to control certain symptoms naturally. The benefits of preventive medicine are numerous and therefore, healthcare professionals have a moral responsibility to practice preventive medicine under the three principles of medical ethics.
In addition to explaining the benefits of preventive medicine, there is a need to educate patients and the general public on how to implement preventive measures in their everyday routine. For patients, it would be done during their clinical or hospital visits. A more creative measure would be required to educate the general public in the community because they do not have the capacity to have a dialog with a healthcare professional in a clinical setting. A collaboration among the medical team, representatives from the public health sector and the community would be required to advance in the education component for the general public. While the education models to educate patients and the general public would be discussed further in the subsequent sections, it is important to note that it is the moral obligation of healthcare professionals and the ethical rights of patients to be educated in preventive medicine. Upon receiving the detailed information, patients do have the ultimate right to either practice preventive medicine or not use the route as part of their health and wellbeing.

2. Increase Awareness

The success of preventive medicine is dependent upon it being practiced effectively and incorporating it in everyday lifestyle. As healthcare professionals begin to reintroduce preventive medicine through its combined features of clinical intervention and health promotion, a change can be expected among the patients and the general public as well. The current way of practicing preventive medicine has led patients to believing medications are the answer to all of their medical concerns. Instead of taking the initiative to make healthier choices, therefore, they rely on the medication believing that it is the normal chain of events. Using hypertension (more commonly known as high blood pressure) medication as an example, healthcare professionals write a considerable amount of prescriptions to manage hypertension annually, as there are 85
million individuals in the United States affected by it. Hypertension can be caused by multiple factors, including age, gender, ethnicity, stress, weight, existing health conditions, and alcohol and tobacco use. While for some of the factors, nothing can be done such as age, gender and ethnicity, such factors can be used as risk factors for monitoring blood pressure during annual checkups.

For the rest of the factors, preventive medicine would be the better approach over taking daily medications. Medications have multiple side effects and put pressure in other organs such as the kidney and the liver. Medications can also become costly over time, since medications for hypertension tends to be a lifelong medication. Mayo Clinic discusses the lifestyle changes that can assist in preventing hypertension as well as manage it. Some of the lifestyle changes include managing weight through healthy diet and regular exercise, reducing sodium intake, limiting caffeine and alcohol use, eliminate tobacco use, and find measures to reduce stress. These set of lifestyle changes would not only assist in managing hypertension, but it would also be assisting in preventing an onset of various other diseases, enhancing an overall quality of life. As patients begin incorporating the preventive measures in their everyday lifestyle, it can be anticipated that less prescriptions would need to be written annually for preventable diseases such as hypertension.

In addition to an overdependency on medications, patients also have the false presumption that they do not have a responsibility to self-care for their own wellbeing. Their belief is that with the advances in medical care, they do not have to put forth the effort in maintaining health and an overall quality of life. The general public have a similar belief in that when they do not feel well, they have the ability to see a healthcare professional, visit the urgent care clinics, or go to the emergency department. Many of these costly visits and painful
sufferings can be avoided as patients and the general public begin to take responsibility to self-care. A common example which illustrates the false presumption is the case of osteoporosis. Osteoporosis is a disease in which the density and quality of bone are reduced. As bones become more porous and fragile, the risk of fracture is greatly increased. The loss of bone occurs silently in patients having no symptoms until the first fracture occurs. The most common fractures associated with osteoporosis occur at the hip, spine and wrist. While all the fractures are painful and life altering, the spinal fractures and the hip fractures are of great concern. They can result in loss of height, intense back pain, deformity and loss of independence. Some individuals have a higher risk of developing osteoporosis. The risk factors include gender, age, ethnicity, family history, alcohol and tobacco use, low BMI, poor nutrition, vitamin D deficiency, insufficient exercise, and frequent falls. While for some of the factors, nothing can be done such as age, gender, ethnicity, and family history, such factors can be used as risk factors for monitoring the Bone Mineral Density (BMD) tests per the healthcare professionals’ recommendation.

The remaining risk factors can be changed through the alteration of personal lifestyle. However, due to the patients’ misunderstanding that they do not have any responsibilities many fail to make the necessary changes needed to reduce the risks of the onset of osteoporosis. As healthcare professionals begin to discuss the health promotion prospect in their practice of preventive medicine, patients would have the knowledge of what changes they can make in their daily lifestyle to reduce the risks. In the case of osteoporosis, patients must have a calcium rich diet, maintain a healthy weight, participate in weight-bearing activity and avoid alcohol and tobacco use. A dialog between healthcare professional and patients would need to go more in depth explaining the relationship between bone mass and a calcium rich diet, the effect of weight-bearing activity and the negative effects of avoiding alcohol and tobacco. It would also
be wise to discuss that while a balanced BMI is highly recommended, in an effort to lose weight, individuals do not fall in the trap of elimination of calcium rich food. This would potentially increase the risks of osteoporosis. A creative education model would also be required to educate the general public on osteoporosis as well since osteoporosis is a silent disease and many may have it without knowing about it.

While females have a higher risk rate, osteoporosis also affects males. Male patients should also take preventive measures to reduce the risks of osteoporosis. Unfortunately, it is not a commonly known factor that osteoporosis can affect males and therefore they take even less precautions to prevent the onset of osteoporosis. Such form of false presumptions would decrease as preventive medicine becomes a regular practice by healthcare professionals. Patients do have a responsibility to their self-care, however, currently they are not aware of it. Their false presumption needs to be changed in order to maintain an effective practice of preventive medicine. Reintroducing preventive medicine would assist patients and the general public gain the knowledge of what preventive medicine is as well as how to begin to implement it in their daily life.

In addition to being more aware of their own health and self-responsibility, gaining the education on how to accurately incorporate preventive medicine in their daily practice is essential. The key word is accurate. In many cases individuals attempt to incorporate certain aspects of preventive medicine in their daily routine, but in doing them incorrectly they are causing additional risks and health hazards. Returning to the example of obesity from the previous chapter, healthcare professionals are known to be uncomfortable in discussing weight loss and therefore choose to avoid discussing it altogether. As patients are told that they have to lose weight, they attempt on doing it through various short-cuts. The media is filled with weight
loss supplements, crash diets, and unrealistic goal promises, which the vulnerable population fall victim of in a desperate attempt to lose weight. None of them are the true practice of proper preventive medicine and many of them can be harmful for the body. For example, a skewed diet may temporarily aid in weight loss since such diets deprive the body of its necessary nutrients. These increase the risk factors of various preventable diseases, including but not limited to anemia, goiter, and osteoporosis.

As healthcare professionals begin to discuss the effective ways of weight loss, patients would gain the adequate knowledge on how to approach weight loss effectively. Preventive medicine would open up the discussion on what fat is and how it is negatively affecting the body’s ability to function at an optimal level. In regard to diet, patients would understand calorie intake and its role in weight loss, learn the various nutrients and its importance in maintaining health, and comprehend how to make daily plans to avoid over eating. In regard to physical activities patients would learn the importance of pre-workout and post work-outs, the concept of burning calorie and its relation to weight loss, and the benefits of certain exercises in preventing various diseases. Overall, patients would have the ability to learn the various ways of losing weight steadily, without causing any health risks. Educating patients would pose multiple challenges, but studies have shown that once they learn the benefits and see the results of it, they continue to keep up with the healthy lifestyle. A creative form of education model would also be required to educate the general public on the effective ways of weight loss as well since obesity affects a large population in the United States.

Both patients and the general public would be able to practice preventive medicine accurately and reap its benefits as they gain awareness of its importance as well as how to implement it in their daily routine. It can be anticipated that they would be more susceptible to
practicing preventive medicine as they become more aware of its value and how to effectively practice it. While the lifestyle changes can be a difficult adaptation at the beginning, maintaining a proper diet and physical activity routine, and combining it with the proper hygiene and sleep cycle would give the body what it requires to function at an optimal level. In its physical capacity, effective practice of preventive medicine would build the body’s endurance and stamina, build a strong immune system, and boost the body’s metabolism. In its mental capacity, it would provide a sense of satisfaction, raise the ability for handling stressful situations, and provide a sense of accomplishment. Most importantly, it would avert many preventable diseases. In all of its combined benefits, patients and the general public would experience a heightened quality of life.

3. **Promote Healthy Lifestyle**

Studies have shown that the effective practice of preventive medicine would lead to a healthier population with lower risks of preventable diseases. Gaining awareness of preventive medicine would be a huge accomplishment in assisting patients and the general public to promote a healthy lifestyle. It is not enough for them to be aware of the importance of preventive medicine and its benefits. They also need to be taught on how to practice preventive medicine effectively. Currently a form of preventive medicine is practiced by healthcare professionals. Likewise, it is practiced by patients as they make their annual check-up appointments and attend the fifteen minutes appointment once a year. It cannot be denied that they are not practicing preventive medicine. However, neither party are practicing it effectively or accurately. The general public are not necessarily practicing it much either since they do not have any concrete guidelines. In reintroducing preventive medicine, healthcare professionals are being encouraged
to practice the combined form of clinical intervention and health promotion. In doing that patients and the general public would begin to conceptualize what preventive medicine truly entails.

As their awareness increases, it can be anticipated that patients and the general public would promote preventive medicine through practicing certain preventive measures in their daily routine. These would include making dietary adjustments to incorporate what the body needs to be at optimal state as well as maintaining an active lifestyle to have a good metabolism. Practices would also include proper personal hygienic care, including but not limited to bathing or showering regularly, brushing and flossing, and maintaining an overall cleanliness. Proper sanitization has come a long way since historical times and has become the accepted norm in the United States. Therefore, while it is a critical component of preventive medicine, it does not need the same importance of reintroducing as the other measures. Adequate sleep is perhaps given even lesser importance over the other preventive measures, but it is also an important component of preventive medicine. Combining all of the measures would satisfy what individuals require to maintain health and wellbeing.

Positive reinforcement plays a critical role in continuing any challenging courses. Certain aspects of preventive medicine can be challenging initially. For example, it is far more convenient to grab non-nutritional fast food over preparing healthy meals on a daily basis. After a long day, it is difficult to motivate oneself to engage in physical activities. After a stress induced week, it is easy to slip into excessive alcohol and/or tobacco use. However, as preventive medicine becomes a habit and the body begins to respond to the positive lifestyle changes, it gives individuals the incentive to continue following the preventive measures and enjoy its effects. For example, fast foods no longer feel as appetizing as proper diet begins to
help reduce body weight and increase energy. Similarly, as the physical activities begin to become easier it initiates incentive to reach more milestones. Overall positive reinforcements would further promote preventive medicine among patients and the general public.

Preventive medicine can be further promoted through an enthusiastic influence amongst each other. As patients and the general public begin to practice preventive medicine, making it a part of their everyday lifestyle, others begin to notice the positive effects of it. As results become prevalent, it becomes a form of visual proof for others to become influenced to learn more about preventive medicine as well as learn how to practice it. One of the key advices to reaching weight loss goal is to work with a group with the same goal. This is often suggested to positively influence each other. When one member lacks the motivation, other members’ enthusiasm would bring back the motivation. Similarly, as one watches the positive effects of preventive medicine, they would recognize their desire to feel better and take the appropriate steps. Of course, preventive medicine is individualized to each individual’s needs and therefore those who are influenced by others should reach out to their healthcare professionals to make certain of the specifics that would apply to each individual. Overall, the most effective way to promote preventive medicine is to practice it effectively and accurately.

B. Creating Effective Education Models for Patients

Currently, preventive medicine practiced by healthcare professionals focuses dominantly on the clinical interventions. These include annual check-ups, vaccinations, and certain milestone tests as needed. The goal is to reintroduce the health promotion prospect of preventive medicine in healthcare professionals’ practice through proper conversations, discussions and creative educating techniques. As they begin to reintroduce preventive medicine in their practice, it can
be anticipated that patients would begin to learn its values of enhancing quality of life. Gaining the awareness would encourage them to introduce preventive practices in their daily activities. Reintroducing preventive medicine in its combined clinical intervention and health promotion form would require careful planning and construction of an education model with effective implementation strategies. For its success a collaboration between healthcare professionals and their medical staff would be essential.

1. **Construction of an Education Model**

Education models are created based on pedagogical or educational research, and can represent theories of learning, academic advancements, and didactic.\(^{359}\) The purpose of an education model is to provide guidelines to teach individuals and the community at large about something specific as means to gain awareness. It requires preliminary assessment, research, planning, testing, implementation, evaluation, and periodic assessment to maintain its integrity.\(^ {360}\) It needs to be created with patients’ lifestyle, ethnicity, religion, education level, and socioeconomic status in mind.\(^ {361}\) An effective education model requires careful work among multiple representatives, from various specialties and subspecialties.\(^ {362}\) Each of these features would provide valuable answers to help construct the model.

The goal of this education model is to promote preventive medicine among patients by reintroducing preventive medicine in its combined clinical intervention and health promotion form. The model is targeted to help the patient population at large, but it would also have the flexibility to incorporate special cases.\(^ {363}\) It is created to open a dialog between healthcare professionals and patients on the effectiveness of preventive medicine practices. These include the explanations of proper diet, what benefits does different form of physical activities have, the
importance of hygienic care, and how a healthy sleep cycle can increase wellbeing. In addition, the model would allow healthcare professionals to discuss how patients are able to incorporate the practices in their daily lifestyle. Because preventive medicine practices would be different for each individual, based on their individual needs, the model is created to allow for individualistic plan and guidelines.

Various models have been created to assist in increasing effective communication among healthcare professionals and patients, and other models have been created to promote health promotion among individuals and the community at large from an educational standpoint. These models have been proven to be successful in their parameter, and since then have been used as references for different practices and educational guidelines. None of them, however, have been noted to be useful in assisting healthcare professionals in reintroducing preventive medicine in the clinical setting. The current model, referred to as the Preventive Model, would aim to take on the challenge of assisting healthcare professionals practice preventive medicine in their clinical and outpatient hospital appointments. The establishment of the Preventive Model would integrate multiple theories and models to promote positive changes.

The Preventive Model requires the establishment of three components to successfully reintroduce preventive medicine: adequate medical knowledge, effective communication skills, and practical teaching skills. The model relies on the medical school curriculum for the adequate medical knowledge and the RESPECT model for the effective communication skills. Adequate knowledge refers to scientific and medical understanding of the benefits of the preventive measures. While medical school curriculum explains the science and medical aspects, this education model encourages all curriculum to tailor certain features under the preventive medicine tab.
To promote effective communication among healthcare professionals and patients, the RESPECT model’s guidelines would be the best approach, as discussed in the previous chapter. The model provides a comprehensive approach to enhancing communication skills and building a positive rapport with diverse populations. The model takes special note into incorporating diversity in its approach, which has an immense importance due to the diverse population in the United States. While the RESPECT model is being incorporated in the preventive medicine reintroduction education model primarily for healthcare professionals, it is equally valid for other medical staff who would be part of the implementation. The goal of effective communication skills is to create an opportunistic environment for patients, in which they feel safe and comfortable to express their concerns as well as be open to receiving information and guidance.

The RESPECT model contains the ideals required to increase the effectivity of individual and communal communication. The ideals include rapport, empathy, support, partnership, explanations, cultural competence, and trust. Rapport allows healthcare professionals to recognize patients’ point of view, and perspective and suspend any biasness or judgments. Empathy gives the opportunity to legitimize patients’ emotions and rationality, providing assurance and support. Support helps overcome the barriers, and provides assurance that they are here to help. Partnership reduces the issue of control, and provides room for teamwork. Explanations checks for understanding and clarifications. Cultural competence respects cultural and religious beliefs, and increases awareness of limitations based on values and beliefs. Lastly, the ideal of trust takes the initiatives to establish trust. Each ideal plays a critical role in building effective communications skills, which is an essential part of successful medical practice, and reintroducing preventive medicine. As healthcare professionals meet with patients,
using the RESPECT model to guide the appointment would set the stage for a productive conversation regarding preventive medicine. Furthermore, it sets up the foundation for the entire medical staff to abide by to promote an environment amicable to reintroduce preventive medicine.

The Preventive Model is constructed to provide practical teaching skills through a seven-step guideline, which is divided into three sections: risk factors, preventive measures, and plan of action. While the RESPECT model establishes the how to communicate with patients, this framework assists healthcare professionals with the what to discuss regarding preventive medicine. Section one, risk factors, is designed to discuss the risks factors of the specific disease and the disease itself. Section one is divided into two subsections, detailing the order of how it needs to be communicated to patients. The first step is to discuss the risk factors patients possess, which are based upon certain biomarkers including, but not limited to age, gender, ethnicity, family history, and preexisting conditions. This step is critical in opening the discussion on preventive medicine because patients have the right to know about their health and wellbeing. Informing them of the risks factors allows them to be more informed about their future and allows that to make adjustments and accommodations, as needed. The second step is to define the preventable disease that patients are at risk. Defining the disease must include the progression of the disease, the morbidity and mortality rate of the disease, the medical approach of managing the disease, and the possible alterations of daily lifestyle it would require. The purpose of this step is to provide patients with an understanding of how the disease affects the body and alters everyday lifestyle. The discussion should have an empathetic approach given that this may be the first time they are being exposed to the information. There should be
significant amount of patience from healthcare professionals as they discuss the risk factors and the disease.

Preventive measures, the second section, is designed to define preventive medicine and discuss the various preventive measures available pertaining to the risk factors. The section is divided into two subsections, detailing the order of how it needs to be communicated to patients. The first step is to define preventive medicine and its overall mission to avert diseases and maintain an enhanced quality of life. The definition needs to incorporate the benefits of preventive medicine as well as the difficulty of it. Benefits include being physically strong, mentally balanced, and averting an irreversible disease. The difficulty stems from making changes that are not always convenient to the current lifestyle. For example, it could result in eliminating favorite food, or dealing with muscle soreness for an extended time. Some of the discomforts are prone to stay until the new changes become a habit.

The second step is to discuss the preventive measures which are applicable to specific patient risk factors. In discussing the preventive measures, adequate medical explanation that serves as the reason for its benefit should be addressed. Furthermore, patient responsibility to reach an optimal level of benefits should be discussed. Such conversation can be met with hesitations from patients due to the fear and discomfort of lifestyle change. In this junction it would be beneficial for healthcare professionals to provide reassurance that the changes are for patients’ wellbeing. Healthcare professionals should also remind their patients that they have the autonomy to decide to not practice any of the preventive measures, and it would not influence their medical care.

Section three, plan of action, is designed to formulate a plan which the patient would be able to follow in incorporating preventive medicine in their daily routine. The plan should be
created in which both the healthcare professional and the patient feels comfortable with. Section three is divided into three subsections, detailing the order of how it needs to be communicated to patients. The first step is for patients to decide which of the preventive measures they would like to practice. This dialog would require a thorough explanation on how to practice it and what steps are required to make the practice effective. For example, should the preferred option be associated with diet and nutrients, the guidelines should break it down to the level of consumption dosage and time of dosage. The purpose of this step is to assist patients understand their responsibility in practicing preventive medicine.

The second step is to confirm feasibility of the practice, based on the requirements of the practice. During this step it is important for healthcare professionals to gage their patients’ willingness and motivation to implement the practice. There is an important need to reaffirm patient responsibility since that plays a huge role in its effectiveness. The dialog should address patients’ understanding of their responsibility and their honest opinion of the feasibility of the practice. It should be reiterated again that it is the patients’ decision on which preventive measure(s) they would like to practice and not choosing any of them is an equally valid option. The third step is to provide a summary of the plan, focusing on the preferred preventive measure, its benefits to help reduce the risks of the preventable disease, and patient responsibility. Patients should be assured that it is a teamwork between the healthcare professional and the patient, and if one practice becomes unfeasible, they can formulate another plan of action until such time that one is effective. While healthcare professionals are not morally permitted to impose their biasness, they should provide positive encouragement for preventive medicine should they believe it to be the right course of action for the patient.
The Preventive Model would be summarized as follows:

**Risk Factors**
Discuss risk factors based on patient biomarker
Define preventable disease

**Preventive Measures**
Define preventive medicine
Discuss applicable preventive measures

**Plan of Action**
Decide on preferred preventive measures
Confirm feasibility
Conclude with a summary statement

Before healthcare professionals and their staff can commence the reintroduction of preventive medicine, they would require proper training on the Preventive Model and understand its implications. The model relies on the medical school teaching and rotation and residency training for the adequate medical knowledge component, and on the RESPECT model for gaining effective communications skills. The practical teaching skills would be required to be taught through various channels to ensure that everyone, including budding medical students, are well equipped for practice. These would include lectures, seminars, webinars, and workshops, and end with a personal assessment.
2. **Implementation of an Education Model**

The success of an education model is contingent upon its effectivity of implementation among the target group, which for this model are patients.\textsuperscript{376} Implementation of the Preventive Model would require careful planning and shifting of certain aspects of the practice. The shift would merely be to find the best approach to adding this component in the given time allotment. Because the primary implementation would be done by healthcare professionals at the actual time of the appointment, finding the best way to make time would be critical. Under the Preventive Model, healthcare professionals would be required to discuss risk factors and diseases progressions, explain the preventive measures, and engage in planning conversation in which healthcare professional and the patient plans the practice for the patient to follow.\textsuperscript{377}

Due to the nature of preventive medicine’s mission of averting diseases before their onset, healthcare professionals’ conversation would face challenges and would require additional time. An example of this can be that patients may be reluctant to making lifestyle changes based simply on a biomarker. In other aspects, patients may have various reservations and hesitations due to their religious and cultural beliefs. An example of this is seen in cases of some cultures where overweight is considered to be a sign of good health and fortune.\textsuperscript{378} Healthcare professionals would be required to find ways, using the RESPECT Model, to handle the reluctancies that surfaces. The goal of the Preventive Model is to provide the knowledge to patients and encourage them to practice it effectively. However, the patients have an autonomous right to decline any form of preventive medicine practice.

While the first step of implementation would be with the healthcare professionals, the model would require additional focus, outside of the dialog between healthcare professionals and patients to be effective.\textsuperscript{379} Therefore, the medical staff would also share some of the
responsibility to maintain the effectivity of the implementation. These would require physician assistants, nurses, nurse practitioners, and other members of the medical community to be engaged in the dialog of preventive medicine as they meet with the patients during check-in, check-out, and follow-up times. Outside of dialogs, creative measures would be required to continue to engage the patients on various form of practices of preventive medicine, teaching them the benefits of them. These would be implanted during the time when patients are in the waiting room and while waiting for their healthcare professional to come in the examination room. The creative measures would include the use of brochures, pamphlets, advertisement, one-page fact sheet, and posters. Technologically, creative measures may include but are not limited to television and radio advertisements, email blasts, newsletters, and various apps. The implementation of these would be based on the population it is serving. For example, for an elderly populated area, implementation may be most effective with the conversation with healthcare professionals, providing pamphlet and one-page fact sheet, and television and radio advertisements.

Monitoring patient understanding, and patient practice would be critical to assess the effectiveness of the Preventive Model. The assessment would provide guidelines and feedback to make the necessary changes. The change may be needed in the actual model, in which the model would require attention in some areas over other. The changes would be made to increase the effectivity of the model. In some cases, the changes may be needed in the practice based on its population, number of staff members, or resources available. In such cases it would be the responsibility of the practice to make the adjustments needed for proper implementation of the Preventive Model.
3. **Collaborative Responsibility**

The Preventive Model relies on various areas of specialties and subspecialties for its implication and therefore requires the collaboration of multiple representatives from various disciplines. The areas include, but are not limited to, representatives from the medical field, the preventive medicine field, the health promotion field, the education field, and the media production field. While the model relies directly on some of the fields and indirectly on others, each field plays a unique role in the overall construction and the implementation of the Preventive Model.

The effectiveness of the model relies on medical students and healthcare professionals to have the adequate scientific and medical knowledge. Therefore, it relies on the collaboration of the medical team and education board to include the awareness of preventive medicine and the way to practice it in the medical school curriculum. This is significantly important because healthcare professionals require this knowledge to successfully practice preventive medicine in their practice. The education committee further assists in creating models for communication skills, such as the RESPECT model. These models assist in patient care by way of increasing healthcare professionals’ ability for effective communication and building a rapport with their patient. It also provides guidance for the medical staff whose assistance will be of great importance in implementing the Preventive Model. Reintroducing preventive medicine requires healthcare professionals and the medical staff to have excellent communication skills.

The Preventive Model directly relies on the literature support and research reports from the preventive medicine field and the health promotion field for its construction. It further relies on the two fields to work in conjunction with the media production to create the creative measures for expanding the knowledge of preventive medicine. While the representatives from the preventive medicine field and health promotion field are responsible for providing the
information about the various preventive measures, the media production would be responsible to create the various creative outlets, such as the advertisements, brochures, newsletter, etc. \textsuperscript{388}

Lastly, the collaboration between the medical field, board of preventive medicine and the health promotion field would be required to assess the effectivity of the model. \textsuperscript{389} These can be done through surveys, feedbacks, quantitative research and statistical measurements. The model is created to assist healthcare professionals to reintroduce preventive medicine in their practice as well as encourage patients to introduce it in their everyday practice. The assessment would allow for modifications and changes as needed. \textsuperscript{390} Those can then be taught to the medical team for proper implementation of the model.

\textbf{C. Creating Effective Education Models for the General Public}

The general public are different from the patient group in that they do not have certain preexisting conditions and/or do not have biomarkers and risk factors. \textsuperscript{391} This group of the population do not make medical appointments, and therefore healthcare professionals are unable to increase the awareness of preventive medicine for this population. Still, this population would equally benefit from a thorough understanding of preventive medicine and its benefits in maintaining an enhanced quality of life. They would also require the education on how to practice certain preventive measures. \textsuperscript{392} As the healthier population, this group of people are least health conscious with poor diet, extremely sedentary lifestyle, frequent use of alcohol and tobacco, and poor sleep schedule. \textsuperscript{393} It should be noted that individuals within the general public population can have certain biomarkers and risk factors. However, without the appropriate clinical interventions, it is not possible to have an accurate idea if this is true or not. For the
purpose of this project, the general public are considered as healthy individuals without certain preexisting conditions and/or biomarkers and risk factors.

Educating the general public poses additional challenges that are not necessarily an issue with the patient group. Patients have an incentive to incorporate the preventive medicine practices because they are aware of the alternative, and yet there are hesitations and reservations. It is harder to convince a healthy population that they need lifestyle changes to achieve an enhanced quality of life, when they believe they have already achieved it. Their lack of proper education on health and its wellbeing results in such false belief. The challenge is more complicated in the sense that they are unaware of the fact that they do not have the appropriate education. Because they do not feel any negative symptoms, they believe that continuing an unhealthy lifestyle would continue to support their wellbeing. Such false belief and lack of education creates an unwillingness attitude to being educated on the benefits and practice preventive medicine.

Still healthcare professionals and the medical team have a moral responsibility in serving the community and increasing the health and wellbeing of individuals in the community as well as the community at large. Due to the different dynamic of the group and the added challenges, the Preventive Model would require certain tweaks for it to be effective in its implementation. While the goal of the education model continues to be to reintroduce preventive medicine, healthcare professionals would use a slightly different pathway, the Preventive-GP Model, to meet the end goal. In addition to healthcare professionals, the public health sector and the community also have a responsibility to maintain the wellness of the community. Therefore, they need to collaborate in many areas of the construction and the implementation of the Preventive-GP Model.
1. **Construction of an Education Model**

The goal of the Preventive Model is to reintroduce the practice of preventive medicine through proper education. The model is created to assist all population groups, but it will require certain tweaks for different population groups, based on its needs. The Preventive Model is specifically created with the patient group in mind. It establishes an individual basis communication between the healthcare professionals and patients. The general public requires a slightly different approach in which the discussion is a group-based discussion. Therefore, the Preventive Model is tweaked to focus on specific needs of the group. For clarity the model used for the general public would be referred to as the Preventive GP Model.

The Preventive GP Model continues to rely on the medical school curriculum for the scientific and medical knowledge, and on the RESPECT model for healthcare professionals’ communication skills. The model is built upon the seven-step guideline which is divided into three sections: risk factors, preventive measures, and plan of action. Section one, risk factors, is designed to discuss the risks factors that are associated with the community of the specific diseases and explain the disease itself. Section one is divided into two subsections, detailing the order of how it needs to be communicated to the community. The first step is to discuss the risk factors of the diseases that are associated with the community. Due to the fact that this is a community outreach, it would be important to identify the risk factors through demographic, ethnic, religious, and socioeconomic information. In discussing the risk factors, it would be necessary to explain what areas were investigated to identify the risk factors. This would be important to allow the community to understand that research has been conducted to reach the conclusion of the risk factors. The second step is to define the preventable diseases that are associated with the risk. Defining the disease must include the progression of the disease, the
morbidity and mortality rate of the disease, the medical approach of managing the disease, and
the possible alterations of daily lifestyle it would require. The purpose of this step is to provide
patients with an understanding of how the disease affects the body and alters everyday lifestyle.
The discussion should have informational guidelines which the community can take home with
them to read at their leisure. The guidelines should be created based on the education level and
the evaluation of the health literacy of the community.

The second section, preventive measures, is designed to define preventive medicine and
discuss the various preventive measures available pertaining to the risk factors. Section two is
also divided into two subsections, detailing the order of how it needs to be communicated to the
community. The first step is to define preventive medicine and its overall mission to avert
diseases and maintain an enhanced quality of life. The definition needs to incorporate the
benefits of preventive medicine as well as the difficulty of it. Benefits include being physically
strong, mentally balanced, and averting an irreversible disease. The difficulty stems from making
changes that are not always convenient to the current lifestyle. The second step is to discuss the
preventive measures which are applicable to the specific risk factors. In discussing the preventive
measures, adequate medical explanation that serves as the reason for its benefit should be
addressed. Furthermore, individual responsibility to reach an optimal level of benefits should
be addressed. This too requires informational guidelines to have as reference.

Section three, plan of action, is designed to assist the community in formulating a plan
which they could use to incorporate preventive medicine in their daily routine. Section three is
divided into three subsections, detailing the order of how it needs to be communicated to the
community. The first step is to have a group discussion on the preferred preventive measures.
While the decision can be individualized, a group discussion would help the community to have
a dialog with the healthcare professional as well as amongst each other. The discussion would require a thorough explanation on how to practice the preventive measures with written guidelines for individuals to follow, and express what steps are required to make the practice effective. The section step is to confirm individual and communal responsibility. Because this population does not have regular check-ups with healthcare professionals to be monitored, much responsibility of the practice falls on the individuals. A thorough discussion on what the responsibilities entail would be necessary. The third step is to provide a summary of the plan, focusing on the preferred preventive measure, its benefits to help reduce the risks of the preventable disease, and individual responsibility. Individuals should be assured that if one practice becomes unfeasible, they can formulate another plan of action until such time that one is effective. While healthcare professionals are not morally permitted to impose their biasness, they should provide positive encouragement for preventive medicine should they believe it to be the right course of action for the target population.

The Preventive GP Model would be summarized as follows:

**Risk Factors**

Discuss risk factors associated with the community

Define preventable disease

**Preventive Measures**

Define preventive medicine

Discuss applicable preventive measures

**Plan of Action**

Discuss preferred preventive measures
Confirm responsibility

Conclude with a summary statement

This Preventive GP Model is created for the general public and much of its implementation would be in a group setting. This would be beneficial for the community at large because it would allow them to discuss matters that concern them, and it allows individuals to brainstorm ideas together. It also provides encouragement to incorporate preventive medicine practices in their daily routine. Studies have shown that certain preventive measures are more effective when they are practiced as groups. An example includes physical activities such as walking, yoga, and meditation. An overall success of reintroducing preventive medicine to the general public is dependent upon individual responses of the community. This can be achieved with a good rapport with the community, increased dialogs and discussions, and proper implementation.

2. Implementation of an Education Model

Implementation of the Preventive GP Model would require careful planning and extensive collaboration. While the original presentation is designed to be done by healthcare professionals and the medical staff, the model incorporates a lot of group discussions. The purpose of the group discussion is to promote conversations and to engage in community wellbeing. The breakdown of the entire model would be that healthcare professionals are responsible to discuss the risk factors and diseases progressions, explain the preventive measures, and engage the group on plan of action. They would reiterate the importance of self-responsibility and allow for conversations to come to an understanding as to what self-responsibility entails. While
presenting the various preventive measures, it would be important to be sensitive to the cultural and religious values of the community. It would work best when there is a strong rapport and that should not be jeopardized.

Due to the nature of preventive medicine’s mission of averting diseases before its onset, healthcare professionals should be prepared to face considerable amount of hesitations and reluctance. Therefore, in implanting the model, they should allot additional time for longer discussions and answering abundant questions. Using water intake as example, it would not be enough to say drink enough water, because the response would be that they already do drink enough water. The goal is to break down why water is essential, and what it does to the body. The discussion should also include what the harms of inadequate water intake are. An understanding of the importance of water intake has shown to help children increase water intake, and the similar conclusion can be anticipated for adults. Healthcare professionals would be required to find ways, using the RESPECT Model, to handle the reluctancies that surface.

While the target step of implementation would be with the presentation by healthcare professionals, the model would require additional focus, outside of the dialogs and the group discussions. These include take-aways which the individual can keep as reference and guidelines. Such creative measures would include the use of brochures, pamphlets, advertisement, one-page fact sheet, and posters. Technologically, creative measures may include but are not limited to television and radio advertisements, email blasts, newsletters, and various apps. The implementation of these would be based on the population it is serving.

An assessment would be necessary to monitor the effectiveness of the Preventive GP Model. The assessment would provide guidelines and feedback to make the necessary changes. The change may be needed in the actual model, in which the model would require attention in
some areas over other. The changes would be made to increase the effectivity of the model. In some cases, the changes may be needed in the practice based on its population, number of staff members, or resources available. In such cases it would be the responsibility of the collaborative teams to make the adjustments needed for proper implementation of the Preventive Model.

3. Collaborative Responsibility

The Preventive GP Model relies on the same areas of specialties and subspecialties as the Preventive Model for its implementation, and therefore requires the collaboration of multiple representatives from various areas. They include, but are not limited to, representatives from the medical field, the preventive medicine field, the health promotion field, the education field, and the media production field to create the Education model and implement it. In addition, it also relies on the public health sector and the community to assist with the community aspect of implementation. While the model relies directly on some of the fields and indirectly on others, each field plays a unique role in the overall construction and the implementation of the Preventive Model.

The collaborative effort of the medical field, the preventive medicine field, the health promotion field, the education field, and the media production field has been discussed previously. The collaboration with the public health sector is required to obtain the demographic data of the target community. Through various surveys and research, the public health sector has the literature support and research reports regarding, but not limited to the community’s history, health risk factors, education, socioeconomic status, and beliefs and values. Each component is critical in formulating an educational presentation that would best benefit the target group. The information provides guidance on which risk areas to address, being sensitive to the
cultural and religious beliefs. It also gives a guideline on the level of understanding the community has and allows to make it the education model according to their health literacy. This is extremely important for the representative of preventive medicine to have as they create the various presentations.\textsuperscript{407}

The general public outreach would be done in a form of workshops, seminars, or lectures. It would also encourage group-based discussions and various conversations. Such form of education technique would require a space, which permits community engagement, and which is convenient for individuals to attend. Examples of such space would include local community centers, libraries and churches. These workshops should avoid using any hospital settings. To be able to use such establishments, community collaboration would be required.

Lastly, the public health sector would also be required to work in collaboration with the medical field, board of preventive medicine, and the health promotion field, to assess the effectivity of the model.\textsuperscript{408} Surveys, feedbacks, quantitative research and statistical measurements would be some of the means in which an assessment can be done. The Preventive GP Model is created to assist healthcare professionals to reintroduce preventive medicine to the general public, channeling through the community. The assessment would provide the necessary feedback for any modifications and changes that might be needed to increase the effectivity of the program.

D. Conclusion

Preventive medicine has multiple benefits when it is used in its combined clinical intervention and health promotion form. The benefits range from feeling better on a daily basis to averting
chronic irreversible diseases. Patients and the general public are currently at a disadvantage because the healthcare professionals are neither educated nor trained well enough to practice preventive medicine in its original form. Without their practice, patients and the general public do not have the appropriate channel to be educated on the importance of preventive medicine. Therefore, currently patients and the general public lack awareness of what preventive medicine is and what constitutes as its mission.

In the United States, patients have certain rights and freedom. One of which is the respect for autonomy. Patients have the ethical right to learn about the various preventive measures as part of their medical care. It is their autonomous right to be able to make an informed decision. Without knowing the preventive measures, they are unable to make that decision. Healthcare professionals have a moral obligation to provide their patients with the adequate knowledge on preventive measures as part of their moral duty. Knowledge requires training them on how to practice preventive measures in their daily routine as well. Healthcare professionals also have a moral obligation to serve the general public as form of community outreach. Therefore, creating an education model to assist healthcare professionals is the goal of this chapter.

As healthcare professionals begin to reintroduce preventive medicine through their practice, patients and the general public would begin to gain awareness on its importance. The awareness would assist in eliminating many of the false presumptions which patients have. Such false presumptions include the belief that excessive use of prescription and non-prescription medications is the solution to being well, and that patients do not have self-responsibility to maintaining health and wellbeing due to the advances in medicine. It can be anticipated that proper awareness would also serve as an encouragement for patients to implement a healthier lifestyle with the proper practice of preventive medicine. The same can be anticipated for the
general public. Due to the nature of preventive medicine’s mission to avert the disease before its onset, the practice requires many forms of lifestyle changes. Both patients and the general public may demonstrate hesitations to lifestyle changes based on biomarkers and risk factors. It would be essential for healthcare professionals to have an empathetic approach in their conversations and patience to address their concerns about preventive medicine.

The Preventive Model is created to assist healthcare professionals in reintroducing preventive medicine among the patients. It relies on the medical school curriculum and the RESPECT model to effectively implement it in everyday practice. The Preventive Model is designed to assist patients in understanding their risk factors, the benefits of preventive measures and their responsibility for the practices to be effective. The Preventive GP Model is created for the same mission with the target population being the general public. Both models have the same goal, but each is slightly modified to fit the needs of the target group. The models have been created in collaboration of multiple representatives from the medical, educational and the public sector umbrella. It also requires the collaboration of the various specialties and subspecialties to effectively implement it. A successful implementation of the models would increase awareness of preventive medicine among patients and the general public. With an increased awareness, an increase in practice can be anticipated, resulting in an overall healthier population during the coming years.
Chapter 5
Conclusion

The United States is a nation known for its great advances in science, technology, education, and especially medicine. During the last few decades alone, the nation has completed the human genome project, and established stem cell therapies for heart repair and eye disease.\textsuperscript{411} Laparoscopic surgery, minimally invasive surgery, has become the norm of surgical practices, reducing pain, scarring and recovery time.\textsuperscript{412} During the same decades, 25 drugs have received FDA approval for targeted cancer therapies, according to the National Cancer Institute.\textsuperscript{413} The list of the medical advances continue, all with one central mission, improving patients’ quality of life. Yet, being an American in the current day is both harmful and damaging with regards to health and wellbeing. Obesity, cardiovascular diseases, and certain types of cancers are just some of the chronic diseases which are at a record high among patients and the general public.\textsuperscript{414} Morbidity and mortality rates have gone up in the United States due to an increase in such preventable chronic diseases.\textsuperscript{415} As the nation increases its time and resources on medical and clinical advances, other medical practices, aimed to reduce and eventually halt the rise of these diseases, are beginning to lose its spotlight in improving patients’ quality of life.

Preventive medicine is among those practices which have lost its value over the decades, as its proper practice has deteriorated. Throughout history, preventive medicine is recognized to be most valuable in maintaining and enhancing individual quality of life, over any other methods of medical practice. With the distinct mission to protect, promote and maintain health as well as prevent diseases, disabilities, and premature deaths, preventive medicine outshines other medical practices in averting preventable diseases.\textsuperscript{416} Preventive medicine achieves its mission through
its combined practice of clinical intervention and health promotion. The clinical intervention is composed of vaccinations, annual examinations and various screenings, while the health promotion entails conversations regarding proper practices of diet, physical activity, hygienic care, and sleep cycle. Unfortunately, in current times, preventive medicine is most commonly practiced only through its clinical intervention. The health promotion component has become obsolete as medicine continues to advance and the number of patients continues to increase. With clinical interventions gaining the attention of medicine, and health promotion losing its value to healthcare professionals, preventive medicine has become incorrectly defined, only through its clinical intervention.

Multiple factors have been linked to the declining of preventive medicine practices among the healthcare professionals, as well as the patients and the general public. While such factors include shortcomings of insurance companies and policies, healthcare professionals’ medical ideology, and false presumptions on self-responsibility, the most important factor has been identified as the lack of awareness of the importance of prevention. With medicine advancing at a steady speed, the medical school curriculum has continued to evolve to keep medical students abreast with the current procedures and practices. However, certain aspects begun to receive less attention in the education realm, with preventive medicine being one of the major areas. As its importance and practicing methods began to fade from the curriculum, healthcare professionals have become less aware of its importance and more so how to effectively practice it.

With the lack of adequate knowledge, combined with an already deep-seated medical ideology, healthcare professionals are practicing preventive medicine by promoting annual checkups, vaccinations and other medical tests as they deem necessary. Without the proper
practice among the healthcare professionals, patients and the general public have also lost the
certainty of preventive medicine’s mission, its benefits, and how to effectively practice it in
their daily routine. With the decline in proper practice of preventive medicine, there is a
statistical increase in the rate of preventable chronic diseases.\textsuperscript{420} Many of the chronic diseases,
while preventable, are not reversible.\textsuperscript{421} Given the current crisis of the nation, reintroducing
preventive medicine through proper education and adequate training is, therefore, the next major
step for the medical world to take to enhance individual quality of life.\textsuperscript{422}

Healthcare professionals, patients and the general public benefit significantly from the
proper practice of preventive medicine. Healthcare professionals have a moral responsibility to
their patients, as they are a part of one of the most noble professions on earth. The care and
protection of human lives are placed in their hands with the belief that they will protect the life
and dignity of individuals.\textsuperscript{423} To assist them in their mission, medical ethics have placed moral
guidelines, which healthcare professionals, the moral agents, must adhere to. They include the
five focal virtues of compassion, discernment, trustworthiness, integrity, and
conscientiousness.\textsuperscript{424} Compassion, trustworthiness, and most importantly, integrity plays a
definite role in justifying the reintroduction of preventive medicine. As they begin to reintroduce
preventive medicine in its original practice, healthcare professionals would be fulfilling their
moral duty to their patients. They would be allowing the patients to make informed decisions
regarding their health and wellbeing by providing them guidance on various preventive measures
which plays a crucial role in enhancing and maintaining quality of life. Furthermore, with the
need to have good communication skills for promoting health promotion, practicing preventive
medicine would allow healthcare professionals to improve their communication skills.\textsuperscript{425} With
enhanced communication skills, healthcare professionals would be able to build a better rapport
with their patients and have more successful outcomes in assisting them. Overall, they would be part of the medical team which is aiming to achieve a healthier population through preventing the rise of the chronic diseases.

On a personal level, healthcare professionals also attain certain benefits. Being humans themselves, healthcare professionals would feel physically healthier as well as mentally alert as they practice certain preventive measures through proper dietary intake, physical activities, proper hygienic care and a feasible sleep-cycle. As they reach their optimal level of physical and mental state, they would be more effective in their practice. They would be able to promote preventive medicine in their clinical practice with a more enthusiastic and empathetic approach. It can be anticipated that with proper reintroduction, patients and the general public would also have keen interest in practicing preventive medicine. With the nation heading towards a healthier lifestyle, the rate for chronic diseases can be expected to decrease. As the number decreases, healthcare professionals would be able to dedicate their time, knowledge, and skills in other equally valuable places. For some, it may be giving back to the community through medical school education, seminars, and field works, while for others, it could be on research and science advancements at a molecular level or in a clinical level.

Patient and the general public benefits are at an even larger scale as they begin to implement preventive medicine practices in their daily routine. The nation is currently suffering from a predicament of overused prescription and non-prescription medication. Medications are created to help with discomforts, symptoms and the overall disease. However, the United States is writing more prescriptions than any other developed country. This is not only unnecessary, but also harmful for patients and the general public alike. Preventive medicine has certain measures, which can assist in alleviating many symptoms and discomforts. With patients and the
general public adjusting to the preventive medicine practices, less dependency on medication can be anticipated. Furthermore, the current medical cost in the United States is inflated and with a number of populations not having medical insurance, hospital visits, various medical tests, and medications can be devastating. Proper practice of preventive medicine can reduce the risks of major diseases, which ultimately requires additional medical attention. Along with it, the medical cost for individuals are expected to go down. Financial stability provides great sense of mental peace.

Patients and the general public would also gain the awareness on self-responsibility in maintaining an enhanced quality of life. Preventive medicine puts the responsibility of its practice directly on the individual, breaking the false presumption that patients and the general public do not have any responsibility for self-care. Along with medications, the population at large also depends on their healthcare professionals to manage the acute and chronic symptoms. However, no amount of medical attention and medication can cure certain symptoms if the daily lifestyle is the cause of the issue and no changes are made to rectify that. Using heartburn as an example, medications cannot solve the problem if the individual’s diet continues to be poor and lifestyle continues to be sedentary. Proper practice of preventive medicine has the ability to reduce symptoms and risk factors of chronic diseases. Implementing preventive medicine practices would, therefore, continue to enhance individual quality of life. In addition, research indicates that healthy individuals often have an optimistic outlook and are also more inclined to assist others in succeeding. Therefore, the health and wellbeing of individuals would resonate success into the community at large, creating a healthier community with increased productivity.
Preventive medicine does have certain challenges which results in the difficulty of its implementation. The practice is based strongly upon the risk factors and biomarkers. The onset of the disease has not occurred. Therefore, with the individuals being healthier than what they could be after the onset, it is difficult for them to make lifestyle changes. Some of the lifestyle changes are, undoubtedly, difficult to implement at the beginning. Furthermore, the benefits of preventive medicine are not experienced at the same rapidity as medications are in managing symptoms. This plays a major factor when symptoms become difficult to manage initially and individuals have grown a dependency on medication. All in all, many hesitations and reservations among the patients and the general public can be anticipated as they are encouraged to practice preventive medicine.

Healthcare professionals would need to address the challenges and the hesitations in their practice of reintroducing preventive medicine among the patients in clinical settings as well as the general public at a community level. Along with it being the responsibility of healthcare professionals, patients also have an ethical right under the core principles of respect for autonomy, non-maleficence, and beneficence to be educated on the importance of preventive medicine. It also needs to be conveyed to the population at large that one of the greatest advantages of preventive medicine practices is that the proper practice of the same preventive measure can assist in reducing multiple risk factors. Using diabetes as an example, patients who are at risk for diabetes would benefit from maintaining proper BMI. However, in maintaining proper BMI individuals are also reducing the risks of hypertension, fatty liver disease, cardiovascular diseases and many other chronic conditions. With preventive medicine playing a crucial role in enhancing and maintaining quality of life, patients and the general public have an obligation to self to promote preventive medicine in their daily routine.
Preventive medicine is already practiced among many medical specialties to manage certain diseases, and it has proven to be effective in its practice. Returning to the example of diabetes, patients who are diagnosed with this condition require certain lifestyle changes guidelines along with continuous monitoring and permanent prescription medications. The lifestyle change includes losing additional weight to maintain the proper BMI through managed diet and increased physical activities. In a study of 1,480 adults with self-reported diagnosis of type 2 diabetes, results show the effectivity of proper diet.\textsuperscript{440} Even with just the proper dietary implementation regarding fruit and vegetable intake, patients have shown a significant improvement in their glucose level. Another study, by Stampfer and colleagues, have been conducted to identify the benefits of primary prevention of coronary heart disease among women.\textsuperscript{441} After a 14-year study, the team concluded that the women who adhered to the lighter diet, increased physical activity and abstinence from smoking regime reduced their risks of coronary heart disease. The goal of preventive medicine is to begin the same practices before the onset of the disease. This would avert the disease, reduce risk factors, and enhance quality of life.

As seen in the case of patients with diabetes, practicing preventive medicine before the onset of the disease would assist in averting the disease, eliminating the routine blood checks, and taking lifelong medications. Similar results have been noted in cases of obesity, hypertension, osteoporosis, fatty liver disease, cardiovascular diseases, and many other chronic conditions.

Preventive medicine is the answer to much of the nation’s health crisis because preventive medicine is a low-cost, and effective way to bring forward a healthier nation.\textsuperscript{442} With its benefits outweighing it challenges among healthcare professionals, patients and the general public, and with its ability to increase quality of life of all population, reintroducing preventive medicine in its original practice should begin immediately. The first step to reintroducing
preventive medicine is to educate the healthcare professionals. Currently, they do not practice preventive medicine in its combined clinical intervention and health promotion due to their inadequate education. With the proper education and training, it is anticipated that they would begin to promote preventive medicine in their practices. As their practice begins to outreach patients and the general public, they would also become aware of the benefits of preventive medicine as well as how to implement it in their daily routine.

The Preventive Model and the Preventive GP Model are designed to assist healthcare professionals in reintroducing preventive medicine among patients and the general public, respectively. The models rely heavily on the medical school curriculum for the adequate medical knowledge and the RESPECT model for the effective communication skills. In its education protocol, the Preventive Model and the Preventive GP Model categorizes the different areas that need to be addressed, into three sections: risk factors, preventive measures, and plan of action. Risk factors incorporate clinical interventions, while preventive measures and plan of action focus on the health promotion aspect of preventive medicine. Combined, it provides a set of guidelines to reach a holistic approach to practicing preventive medicine. The Preventive Model is created for the target population of patients. It requires one-on-one conversations between the healthcare professionals and patients. The Preventive GP Model, alternatively, is targeted for a specific community. It encourages group discussions and active participation among the attendees. Due to the nature of the groups, the models have slightly different educational approaches, but both have the same goal of increasing awareness of preventive medicine and teaching them on how to effective practice it in their routine. The models are designed and implemented using the collaborative work of the medical team, public health sector, and the education board.
The model requires healthcare professionals to have the adequate knowledge. Adequate knowledge refers to the scientific and medical understanding of the benefits of the preventive measures. While the medical school curriculum explains the science and medical aspects of medicine, this education model encourages all curriculums to tailor certain features under the preventive medicine tab. The nature of the models also requires healthcare professionals to have effective communication skills. With preventive medicine being reintroduced after decades of incorrect practice, healthcare professionals are bound to face many questions, hesitations and challenges from patients and the general public. They need to be able to address the concerns accordingly and comprehensively. Managing such challenges require effective communication skills which can be utilized to build positive rapport with diverse populations. Therefore, the Preventive Model and the Preventive GP Model rely on the RESPECT Model to provide a comprehensive educational guidance to enhancing communication skills. The model is built on the seven ideals of rapport, empathy, support, partnership, explanations, cultural competence, and trust. Each ideal plays a critical role in building effective communications skills, which is an essential part of a successful reintroducing of preventive medicine.

While an immediate recovery cannot be expected with the damage being done over decades, reintroducing preventive medicine is the next step to having healthier individuals, and healthier communities across the nation. It can be anticipated that the proper practice of preventive medicine will result in a reduced rate of preventable diseases as well as an increased rate of overall quality of life. To measure the rate of benefits, researchers should begin to record the correlations of effective practice of preventive medicine and the reduced rate of the chronic diseases. Based on historical evidences and various research conclusions, the anticipation is that the proper practice of preventive medicine would drastically decrease the rate of chronic
diseases over time. While the exceptional medical advances are aimed to increase quality of life, preventive medicine plays an equally critical role in enhancing and maintaining individual quality of life. Returning to Benjamin Franklin’s quote, a small ounce of preventive medicine practice in its proper form of clinical intervention and health promotion holds significant weight in health and wellbeing of individuals, communities, and the nation as a whole.
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