

## HEALTH, MEDICINE AND SOCIETY

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### **Abstract: -**

*This paper argumentatively analyzed and discussed health, medicine, and society. The paper is divided into five main sections that cover health that introduces the natural sciences basically biology and chemistry which provides an important foundation for the understanding of health, development of possible medical interventions and public health programs in the society; section of medicine and diseases because the primary function of medicine is to cure or control a disease and section of society which is completely related to public*

*health in order to understand society in the field of public health. The fourth section covers the general discussion that links health to public health, medicine to public health and links society to public health. the final sections cover significance, conclusion, and the bibliography. This paper defines health as a state of complete physical, mental, and social well-being and not basically the absence of infirmity or diseases.*

*Medicine is defined as science and practices of establishing the diagnosis, prognosis, treatment, and prevention of disease.*

*While, society is defined as a group of people that are involved in durable social interaction, or a big social group that shares the same area or social territory, typically subject to the same political authority and dominant cultural expectations. Thus, this paper discusses these three mains' components (health, medicine and society) and related them to public health.*

**Key words:** *Health, Biology, Chemistry, Medicine, Society and Public Health*



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## 1.0 HEALTH

Health is defined as the state of optimal physical, mental, and social well-being and not merely the absence of disease or infirmity (WHO, 2005). Health is also defined as the state of the organism when functions optimally without evidence of disease or abnormality. This implies that being healthy does not only mean that an individual lives life of disease or infirmity free, it rather means that an individual is able to perform his / her work or other responsibilities in the family or community firmly though s/he might be living with a certain disease or infirmity which does not hinder him or her to do his or her work and other responsibilities.

Health is also viewed as a state of dynamic balance in which a person or a group's ability to cope with all the situations of life at its best possible level. It is a state characterized by anatomical, physiological integrity, capability to perform valued family responsibilities individually, the manageability to cope with physical, biological and psychological and social stress, the feeling of well-being and being free from the risk of disease, infirmity or untimely death.

### 1.1 Meaning and Definition of health

Health was well defined by the constitution of World Health Organization on 7<sup>th</sup> April 1948 as the state of entire physical, mental, and social well-being. This WHO constitution was aware of the tendencies to see health as a state primarily based on the presence or absence of disease. That is why it brought this definition that an individual, if considered healthy, should not be suffering from any disease but later the definition was improved to not simply the absence of disease or illness in 2005 after fifty seven years (WHO, 2005). In this way, the definition of the World Health Organization actually added a requirement for the preceding role that allowed everybody to be declared healthy if no sickness ought to be found; the step that must have been taken in the conceptualization of health as a dimension of existence that can coexist with the presence of a sickness or impairment was not taken for granted as long as that disease can not hinder the fulfillment of family and work responsibilities.

For many years, health used to be described solely as the absence of disease. However, it has come to be clear that health is a lively process that depends on the supportive interaction of all physical systems. Reflecting this concept, the World Health Organization (WHO, 2005) defines health as the realm of complete physical, mental and social well-being and not basically the absence of disease or infirmity. Many groups, such as the American Public Health Association, Worksite Health Promotion, and the National Wellness Association, have improved the thought of health to encompass the wellness in terms of the spiritual, social, mental, physical, and occupational needs for one to live life in its entire and full potential. The health care system in Rwanda, to visualize the significance of state of being health and insuring the healthy life to many, has adopted health insurance to be mandatory to all Rwandans so that no one can miss healthcare when in need due to hospital charges.

### 1.2 Natural Sciences and Health

Natural science is a branch of science associated to the description, prediction, and understanding of natural phenomena based absolutely on empirical evidence from observation and experimentation. Mechanisms such as peer evaluation and repeatability of findings are used to ensure the validity of scientific advances. Natural science can be divided into two main branches which are the science of life that is Biology and Physical science which has Physics, Chemistry, Astronomy and Earth Science but in this case, this paper concentrates on biology and chemistry where one is life and other physical respectively, they are introduced here below because they have much to do with health, medicine and society through the development of possible medical interventions and public health programs in the society.

#### 1.2.1 Biology and Health

Biology is described as the science of life and living organisms. An organism is a living entity consisting of a cell, for example bacteria, or multiple cells, for instance animals, vegetation and fungi. The aspects of organic science vary from the study on the molecular mechanisms of cells, to the classification and conduct of organisms, how species evolve, and the interaction between ecosystems (Theodore, *et al.*, 1999). Thus, the cell of the living humans are very significant in determining the lives of those individuals in most cases when antigens are needed to counter antibodies as the immune system does produce under the biological functioning to enhance health of the individuals before the medicine does.

Biology frequently overlaps with other sciences; for example, biochemistry and toxicology with biology, chemistry, and medicine; biophysics with biology and physics; stratigraphy with biology and geography; astrobiology with biology and astronomy. Social sciences such as geography, philosophy, psychology, and sociology can also interact with biology, for example, in biological useful resource management, developmental biology, biogeography, evolutionary psychology, and ethics.

The biology is a science, which studies life as a special form of matter being and having its own laws of existence and development. The subject of biology studies the live organisms and their natural communities. Biology is a natural science as astronomy, physics, chemistry, geology and other sciences. It is a complex science. It includes more than 50 disciplines. There are following among them: Morphological disciplines (anatomy, histology) describing organism structure, Physiological disciplines (cell physiology, plant physiology, animal physiology), General biological disciplines (cytology, genetics, and evolution), Ecological disciplines (biogeography, parasitology), Bordering disciplines (biochemistry, biophysics, anthropology, molecular biology, and space biology).

Biology and health sciences have a very significant relationship because health sciences explore the biology of human body through its functions, diseases, health conditions and physical structures. This brings the significance of government of Rwanda of introducing biology and health sciences in lower secondary school in Rwanda. The young generation to study about the functioning of their body, biology of human cell and disease as well as hygiene helps them to understand

the wellness of being health. To introduce these children with health sciences gives the opportunity of understand their health even if they can develop careers in other fields other than medical sciences or health sciences. The introduction on biology and health sciences can give them a basis of understand the health policies, maternal mortality related issues (Gad, et al. 2020). Thus, this can help them in taking decisions regarding their health in the current and future careers and responsibilities.

### **1.2.2 Chemistry and Health**

Chemistry is the scientific discipline related to elements and compounds composed of atoms, molecules, and ions: their composition, structure, properties, behavior, and the changes they endure all through a reaction with other substances (Theodore, *et al.*, 1999). In the scope of this subject, chemistry plays an intermediate position between physics and biology. It is recognized as the central science due to the fact that it presents a foundation for understanding both basic and applied scientific disciplines at a fundamental level. For example, chemistry explains aspects of plant chemistry (botany), the formation of igneous rocks (geology), how atmospheric ozone is formed, and how environmental air pollution (ecology) degrades, the properties of soil on the moon (cosmochemistry), how medications and tablets work (pharmacology) and how DNA evidence are collected at crime scene (forensic).

The ideal of chemistry is highly recognized in addressing how atoms and molecules interact through chemical bonds to shape new chemical compounds. There are 4 types of chemical bonds: covalent bonds, in which compounds share one or greater electrons; ionic bonds, in which a compound donates one or extra electrons to any other compound to produce ions (cations and anions); hydrogen bonds; and Van der Waals force bonds.

The advancement of chemistry have improve the medical field and health of the individuals and public, for instance the use of nuclear power in chemotherapy that is applied in medicine and health of developed countries that is currently going to be used also in Rwandan medical field. Chemistry also plays a central role in making biomaterials such as artificial joints, implants, heart valves and skin patches filled with hormones or other medicines. Efforts to engineer artificial organs like a liver, pancreas or bladder also hinge on chemistry. Researchers have made test versions of many artificial organs, and some, like artificial skin for the treatment of severe burns and traumatic injuries, are already in wide use.

### **1.3 Objectives of health promotion**

The primary focuses of health promotion are to achieve equity in health. Thus the Health promotion movements are based on reducing differences in present day health popularity and make certain equal opportunities and property to enable all human beings to attain their full health potentials. Health promotion is the process that permits humans to enlarge controls and improve their health. To attain a state of whole physical, mental, and social well-being, a person or group should be in a position to come to be aware and realize aspirations, meet needs, and exchange or cope with the environment. Therefore, health is viewed as a useful resource for each day life, which is not the objective of living. Health is positive concept that emphasizes social and personal resources, as well as physical abilities. Therefore, healthcare promotion is now not just the responsibility of the health sector, but it is shifting from healthy lifestyles to wellness. The fundamentals and resources for better health are: peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity.

### **1.4 Principles of health Promotion**

The enjoyment of achievable health preferences is one of the fundamental rights of each human being, without distinction of race, religion, and political belief, economic, or social condition. This declaration in the preamble to the WHO Constitution, consisting of gender, shows the starting factor for the key values used in the promoting of health. Thus five key principles guide the health promotion strategies including taking health promotion as a context driven which means that it focuses on health and its underlying social and financial determinants for inspecting socioeconomic, gender, and ethnic gaps in populations' patterns of health and disease.

Health promoting integrates the three dimensions of the WHO health definition which are the physical, social and mental dimensions (and often spiritual health). The health promotion underpins the regular duty of the state in health promotion, which implies that all levels of governments have duties and obligations to protect, keep and enhance the health of their residents and need to consist of health as an indispensable component. The health promotion also champions good health as a public proper that is clearly beneficial to society at large, in its social and economic development. Therefore, participation is a primary principle in the health promotion due to the fact that the participation of people and their communities in the improvement and management of health conditions is a core principle in health promotion.

### **1.5 Social Determinants of Health**

The social determinants of health are the non-medical elements that have an effect on health outcomes. They are the prerequisites in which humans are born, grow, work, stay and age, and the broader set of forces and systems that structure the conditions of daily life (Armstrong, 2016). These forces and systems include economic policies and systems, development agendas, social norms, social safety policies, and political systems. Social determinants of health have a foremost effect on health inequalities: unfair and avoidable differences seen in health within and between countries. In countries at all income levels, health and disease meet a social gradient: the lower the socioeconomic position, the worse the health.

The following list provides examples of the social determinants of health, which can influence health equity in positive and negative ways: Income and social protection, Education, Unemployment and job security, Working life conditions,

Food insecurity, Housing, basic amenities and the environment, Early childhood development, Social support and inclusion, Structural conflict, Access to affordable health services of decent quality.

Research shows that the social determinants can be more important than health care or lifestyle choices in influencing health. In addition, estimates show that the contribution of sectors outside health to population health outcomes exceeds the contribution from the health sector. Addressing SDH appropriately is fundamental for improving health and reducing longstanding inequities in health, which requires action by all sectors and civil society.

### **1.6 Health and Society**

Health refers to the extent of a person's physical, mental and social well-being. This definition, taken from the World Health Organization's health treatment, emphasizes that health is a complex concept that includes not solely a person's body strength, but also a person's state of mind and the quality of social environment in which s/he finds him or herself (Armstrong, 2016). The quality of the social surroundings in turn can affect a person's physical and mental health, emphasizing the importance of social elements for these twin elements of regular well-being.

Adults who are socially active live longer and are healthier than their isolated peers. Social relationships are necessary to maintaining desirable health. In contrast, social isolation poses health risks. Studies have shown that for human beings with coronary artery disease, social isolation creates added risk of death. Social relationships are keys to keeping good health. In contrast, social isolation creates risks to health. Studies have proven that for coronary artery patients, social isolation creates a delivered opportunity of death. There is current research that suggests a link between poor social ties and severe conditions such as cardiovascular disease, hypertension, and most cancers (Umberson & Montez, 2010). Thus, policy makers should use the instructional system to decrease social isolation in order to improving social ties which is a low-cost preventative medicine strategy to decrease death among aged and people with chronic diseases.

Social relationships have huge health consequences; social relationships have an effect on health through behavioral, psychosocial, and physiological pathways; (3) relationships have expenses and health benefits; relationships shape health results at some factor in the route of existence and have a cumulative effect on health conditions over time. The recent researchers have proven that the social relationship unrest of the current high rate of the confluence of smaller families, high rate of divorces, employment-related geographic mobility and other social factors will have high negative effect on the health of adults of all ages due to social isolation and it minimizes family ties which can affect and will affect health in the future (Cacioppo & Hawkey 2003).

### **1.9 Health and Medicine**

Health was the topic of the day in this paper and it is defined at least in each five papers of this paper generally as the extent of a person's physical, mental and social well-being. While, medicine refers to social institution that seeks to prevent, diagnose and treat illnesses and promote health (Balaji, 2016). If medicine is the social institution that seeks to prevent, diagnose and deal with sickness and promote health. This signifies that medicine is a social practice that is applied to ensure health, thus means medicine is meant to improve health of the patient or other medical seekers.

Thus, the above statement bring this paper to testify that there is a stronger positive relationship between health and medicine because good health after sickness is the results of medical care which is also a fundamental for the easy functioning of society. Patients have to play the sick role in order to be perceived as official patient and to be exempt from their daily obligations. The doctor-patient relationship is hierarchical: the doctor provides guidelines and the affected person needs to comply with them in this society of doctor – patient environment to ensure better health for the individual and society or public in general.

### **2.0 MEDICINE**

Currently, most of the people depend on medicine due to different lifestyle diseases. The progress of medicine focuses on the science of healing and the development of science in the medical field. Goldberg *et al.*, (2016) described medicines as the science of healing which deals with treatment and prevention of diseases, the practice of diagnosis and the promotion of health. On the other hand, it refers to plant substances, drugs, and medications which are used to cure many diseases and to promote health. Bary and Gutteridge (2015) asserted that medicine includes various kinds of health care practices which are evolved to preserve and restore the health by treatment and prevention of diseases.

### **2.1 Definition and meaning of Medicine**

Medicine is the science and exercise of organizing the diagnosis, prognosis, treatment, and prevention of disease. Medicine includes a range of health care practices developed to preserve and restore health through sickness prevention and remediation. Contemporary medicine applies biomedical sciences, biomedical research, genetics, and scientific sciences to diagnose, treat, and end accidents and diseases, normally thru prescribed medications or surgery, but additionally through remedies as diverse as psychotherapy, splints, and external traction clinics, biological products, and ionizing radiation, among others (Fazlin *et al.*, 2013).

Williams and Michael (2013) asserted that medicine was discovered in ancient Greek and Roman medicine, Ayurveda medicine, Babylonian medicine, classical medicine and ancient Egyptian medicine. They further stipulated that medicine includes different types of health practices evolved to maintain and restore health and it is obtained from natural sources or synthetic chemicals. Gillian (2016) classified medicine into traditional which is pure based on natural way of treatment for illness because they are purely derived from plants and animals, and not processed; and modern medicine which is basically spread on biomedical science, genetics and medical technology which are used to diagnose, treat and prevent injuries and illness.

Surgery is one of the main medical processes that are concerned with modern medicine. The growth of chemistry, genetics and lab technology have led to modern medicine (Francis & Harold, 2015). I may say the development of nuclear power that is being used in surgery, radiation, chemotherapy and hormone therapy in industrialized countries as the results of chemistry growth and advance in use of Uranium in which Rwanda is also aspire to obtain this year.

The medicine has tendency to identify the diseases causing agents and also has the curing capacity. Thus, it is possible to provide a complete immunity from uncontrollable factors of environment. The significance of studying medicine, epidemiology and public health in the purse of more improvement is quite important. The efforts in medical fields are focusing on the best treatment way of curing diseases and add to the healthy lifestyle of a living being. The modern way of medical research attempts is mainly focused to nullify the side effect of medical drugs and making everyone lives even more secure (Armstrong, 2016).

## 2.2 Categories of Medications

The General sales listing (GSL) is a type of drug that has few legal restrictions. They can be sold almost anywhere. While these drugs are typically regarded now not to be dangerous it does not recommend that they have no risks. Therefore, it is better to be carefully when administering them to a person (Merrijoy, & Beverly, 2014). GSLs consist of paracetamol, some flu and cold remedies, and vitamins supplements.

Pharmacy medicines, pharmacy medications can only be purchased at the back of a pharmacy counter. That way, pharmacist can refuse to sell if he knows that it is not the right medicine for the patients. The medications have "P" printed on the package. Pharmacy medicines consist of mild asleep tables, stronger antihistamines, and Viagra. Prescription only medicines, prescription only medicines can have pretty unsafe consequences and can cause serious addictions if misused. Therefore, prescription tablets need to only be prescribed by a doctor or dentist. The packaging of these medicines is marked as POM. This mark is mostly found on antidepressants, insulin and stronger sleeping medications.

Controlled drugs, controlled pills are the most serious category of drugs. Although they have comparable consequences to prescription drugs, these drugs have been labeled principally as controlled drugs under misuse of Drugs Act of 1971. These medicinal drugs also require a prescription from a scientific professional, such as a doctor or dentist (CDC, 2019). They have positive restrictions on how to distribute, store and administer them.

## 2.3 Importance of Medicine

The existence of human life and the diseases striking go hand in hand and it has remained so from the beginning of the world. At first the natural way of treatment was the most preferable one by people, but in rare cases the natural way of treatment delivers favorable changes in body and also promotes health although most of the cases, natural way of treatment doesn't help. As a result, human life was very short-lived. Asu (2015), states that the present stage of medicine is entirely different, but it follows the same ancient concept with some chemical advantages. These medicinal ways relate the most common curable diseases.

These medicinal ways of treatment don't have much regimen and it is a well-established standard of leading life in a certain manner. Therefore, these medical ailments don't make any trouble to human beings. These achievements are a boon of medical science. Medicine is not only mean tablets but also is knowledge in health science. Its sole aim is to prevent and alleviate the ill effect of a disease. Every day, hundreds and lots of human beings use medicinal drugs to cure diabetes, high blood pressure, physical pain and fever (Asu, 2015). Today there are drugs for all diseases. People have extra existence through medical treatment.

Medicine is the study of the theory of living beings, healthy life through use of tablets, syrups, exercises and other similar means. The medicine has tendency to identify the diseases causing agents and also has the curing capacity. Thus, it is possible to provide a complete immunity from uncontrollable factors of environment. The significance of studying medicine and pursuing more improvement is quite important. The efforts in medical fields are focusing on the best treatment way of curing diseases and add to the healthy lifestyle of a living being. The modern way of medical research attempts is mainly focused to nullify the side effect of medical drugs and making everyone lives even more secure (Kushner & Mechanick, 2016).

## 2.4 Evolution of Medicine

The prehistoric people have used medicinal herbs and it is also called anthropologists. The herbs and substance derived from natural sources are used as prehistoric medicine (Balaji, 2016). Nomadic tribes have had access to a wider range of materials. Some of the prehistoric medicinal methods are as follows:

Yarrow medicine is used for the treatment of contraction of tissues and help to reduce bleeding. Mallow is one of the prehistoric medicines, which is prepared as a herbal infusion for its colon cleansing properties. Rosemary is a fragrant evergreen medicine native of Mediterranean. It has been used in ancient times for its medicinal properties. It contains a good source of iron, calcium and vitamin B6. The ancient people prepared it as a dried powdered extract. The Birch Polypore is an ancient medicine and this is commonly seen in European countries. This plant can induce diarrhea when ingested into the body. This plant is used in laxative medicine.

Hippocrates is the founder of western medicine and also considered as the greatest physician of ancient times. He used his medical practice for observation and also for the study of the human body. He found that illness has a physical and a rational explanation. He prepared a document depicting several diseases and diseases. He followed a natural way of treatment which contained natural medicines only. Today, most of the doctors are following his treatment mode by means of the available documents.

Aristotle and Plato are the Greek doctors who started research in finding an internal part of the human body in a systematic way (Balaji, 2016). Doctors follow the Hippocratic book and carry out their treatment to find the diseases and cure it. They have preferred only the natural mode of treatment. They become experts in herbalists and prescribed their patients only natural remedies and made a good result in the medical field. Finally, they were convinced that the best way of healing is by using the natural method. But this method takes more time to cure diseases and also death rate was high in case of diseases such as cancer, brain tumor. Due to several reasons, the medical researchers have made some changes in the medical field, thereby using some kind of chemical drug sediments instead of natural method.

In the 19th century, many hospitals were established. At first a chemical mustard gas was found and it reduced white blood cells. Then insulin was found, which is used for the treatment of diabetes allowing diabetic patients to survive after diagnosis. In the same period penicillin was produced massively. Antibiotics were also provided to the patients, during that period. The first polio vaccine was licensed in the 19th century and this act was enacted by congress. This polio vaccine has been given to the children since 1990 resulting in their protection from various diseases. In this century the laser treatment has established and is used in eye disease (Balaji, 2016). The first test tube baby was born in 1978 and this has made a remarkable achievement in the medical field. The medicine called Prozac was also developed in the 19th century and it helped the treatment of various kinds of mental illness. In this century the overall cancer death rate has begun to fall due to the arrival of cancer medicines and advanced treatments. New generations of anti-psychotic drugs are introduced. These drugs prove more effective in treating mental diseases and have very few side effects.

In the 20th century, FDA developed the first drug medicine to target a specific gene mutation. Later a complete human genome was published. In 2006, a vaccine was developed to prevent cervical cancer owing to human papillomavirus. The medicine has tendency to identify the diseases causing agents and also has the curing capacity. Thus, it is possible to provide a complete immunity from uncontrollable factors of environment. The significance of studying medicine and pursuing more improvement is quite important (Armstrong, 2016). The efforts in medical fields are focusing on the best treatment way of curing diseases and add to the healthy lifestyle of a living being. The modern way of medical research attempts is mainly focused to nullify the side effect of medical drugs and making everyone lives even more secure.

## **2.5 Traditional and Modern Medicine**

Traditional medicine systems have a very long history than the present-day medicine and they are a very big part of recorded history. Traditional medicine is also acknowledged as people medicine which explains the structures of clinical knowledge, which has been developed for generations (Balaji, 2016). It is the knowledge of skills and practices that are used to cure physical and mental illness and promote the health of the sick. The traditional medicines are being followed by various medicinal methodologies such as ancient Iranian medicine, traditional Chinese medicine, Islamic medicine, Ayurveda medicine, Siddha medicine and Unani. This method uses herbal medicine from the vegetables, stem, leaf, roots and flowers of plants for all disease treatment and this medical treatment cures root causes of the diseases, but takes long time. Traditional medicinal plants are mostly collected from natural vegetation. Some of the medicinal plants contain alkaloids that can be toxic to the liver (Balaji, 2016). The study of traditional medicine covers herbalism, ethnobotany, medical anthropology and ethnomedicine. The traditional medicines also employ home remedies and cure some diseases in our home itself without consulting any doctor. Nowadays all the diseases have home remedies which are available in the internet. The traditional medicine was developed during the ancient period.

The modern medicine involves the modern medicinal treatment that includes many fields of science and practice. Nowadays, modern medicines are advanced in detecting and treating several dangerous diseases such as cancer, brain tumor, etc. Modern medicines find their application in treating many accidental cases and protect many person lives. The modern medical treatments are medications, clinical practice, healthcare science, surgery and medical devices. Modern scientific medicine is extremely developed all over the world. It is an artificial mode of medicine usually named as allopathic medicine (Balaji, 2016).

The modern medicine contains drug pills and it focusses only on curing the diseases. The chemical substances are used for treatment and prevention of disease. In the modern world, people first prefer modern medicine for each and every disease. The modern medicines are best for treating the patients in dangerous situations and also for giving first aid. This medicine has been spread all over the world. Currently there are more than thousands of allopathic hospitals running all over the world. The medical scientific courses are being developed around the world. The medicine for many diseases discovered by medical scientists thereby saves a large number of people from dangerous diseases.

The main difference between the modern and traditional medicine is the way of observation of all diseases. A modern medicine easily cures diseases, but it does not stop the root cause of disease (Balaji, 2016). In addition, it has side effect that establishes more diseases in the human living body. Modern medications are very effective in critical conditions such as accidents, and minor assaults. The traditional medicine also contains some side effects and it takes long time to cure the diseases, but it destroys the root of causing diseases. The traditional medicines are not always helpful in the case of dangerous diseases. Both medicines have some merits and demerits. It all depends on the scientific, medical knowledge and believe of the people. Everyone is focused on wellness of overall health and successful elimination of diseases from the human body.

## **2.6 Medical Treatment**

Medical therapy means the administration and care of an affected individual to fight the sickness or disease. Medical remedy includes: All care not otherwise excluded or through using prescription or non-prescription drugs. A therapy or medical treatment (often abbreviated tx, Tx, or TX) is the attempted remediation to a health problem, generally after a diagnosis. As a generic rule, each therapy has indicator and contraindications. There are many distinct kinds of therapy.

Not all therapies are effective. Many treatment plans can produce undesirable destructive effects. Treatment and therapy are often regarded synonymous. However, in the context of mental health, the time period treatment can refer to psychotherapy. Levels of care classify health care into chronology, priority, or intensity as emergency care treats scientific emergencies and is a first thing in contact or consumption for much less serious problems, which can lead to different degrees of care, as appropriate. Intensive care, additionally acknowledged as comprehensive care, is care for tremendously ill or injured patients (Balaji, 2016). Therefore, it requires a remarkable depth of beneficial resources, understanding and skill, as properly as making a speedy choice. Outpatient care is outpatient care. Normally, sufferers can come in and out of the sanatorium below their very own electrical energy (hence outpatient), commonly on the equal day. Home care is domestic care, which consists of caring for vendors (such as doctors, nurses and domestic health aides) who make calls at home, caring for providers as household members and self-care for these affected.

Primary care has to be the essential range of care in widespread and ideally a clinical core that unifies care among referral providers. Secondary care is the care furnished by way of clinic specialists and different health professionals who normally do now not have first contact with patients, for example, cardiologists, urologists and dermatologists. An affected individual reaches secondary care as the subsequent step from the most vital care, generally by way of referral from the sender, though once in a while through the self-initiative of the affected person. Tertiary care is specialized consultative care, usually for hospitalized sufferers and derived from a foremost or secondary health professional, in an institution that has team of workers and offerings for superior scientific lookup and treatment, such as a hospital of tertiary reference.

Follow-up care is an additional cure during or after convalescence. Back care is frequently synonymous with follow-up care. Care at the stop of lifestyles is care close to giving up one's life (CDC, 2019). It normally consists of palliative care is supportive care, in particular (but not necessarily) shut to cessation of life; and Hospice care is a palliative care very close to quitting life when cure is very unlikely. Its crucial goal is comfort, both bodily and mental.

### **2.6.1 Deadly Diseases cured by Traditional medical treatment**

Traditional medical treatment is still recognized as the desired foremost health care system in many communities, with greater than 60% of the world's population and about 80% in developing countries rely on medicinal plants for their scientific purposes. This is due to a range of reasons, along with accessibility, accessibility and low price. The use of vegetation to cure many types of human disease has a lengthy history. Various components of the vegetation are used such as leaves, stems, bark, roots, etc. to prevent, alleviate signs and symptoms, or restore abnormalities again to normal. Most pharmaceuticals currently dispensed with the assist of medical practitioner have a lengthy history of use as herbal remedies, alongside with opium, aspirin, digitalis and quinine (Balaji, 2016). Modern remedy nowadays uses living compounds from larger plant life and about 80% of these have active ingredients that have positive correlation between their contemporary therapeutic use and their traditional uses. There are a number of medicinal plants which demonstrated anti-malarial activity such as *Cryptolepis sanguinolenta* used in Ghana, *Terminalia ivorensis* found in tropical countries, *Elaeis guineensis* found in tropical rainforest of west Africa, *Phyllanthus emblica* found in native to tropical Southeast Asia and widely disbursed in most subtropical and tropical countries.

The medicinal plant which demonstrates anti-tuberculosis activity, tuberculosis is an airborne infectious disease that now influences not only the lungs but other parts of the body, such as the brain and spine (Balaji, 2016).. The medical vegetation of tuberculosis is *Anogeissus leiocarpa* which is regularly regarded as African birch; it is a tall deciduous tree that is indigenous to the savannas of tropical Africa. *Terminalia avicennioides* is a tree normally observed in West Africa. Its rind, fruit and mistletoe have traditionally been used to treat diarrhea. *Capparis brassii* is assigned to coastal and combined forests from western tropical Africa to southeastern Africa. In Rwanda, the commonly used plants to treat diseases are shown in the table below.

**Table 2.1 Medicinal Plants commonly used in Rwanda**

| <b>Plant in Kinyarwanda</b> | <b>Scientific Name</b>         | <b>Use of the plant</b>   |
|-----------------------------|--------------------------------|---|
| Umutagara                   | Crassocephalum multicorymbosum | Used for oxytocic action (contraction of uterus during childbirth and lactation) when its fresh leaves are crushed in water   |
| Igisura                     | Urtica dioica                  | Used to treat gonorrhea by fresh roots which are ground, cooked in banana beer and drunk  |
| Igishikashike               | Guizotia scabra                | Used to treat liver diseases, intestinal worms and diarrhea by boiling its fresh leaves in water. It can also be used in abortion by the ashes of its burnt leaves  |
| Ikawa                       | Coffea arabica                 | Used to treat expulsion of placenta by grounding fresh leaves to make the juice. Coffee contains a lot of phenylpropanoids  |
| Umubirizi                   | Vernonia amygdalina            | Used to treat malaria and diarrhea by grounding and cooking its leaves with salt  |
| Umutanga                    | Lagenaria sphaerica            | Used to treat gonorrhea and scabies by decocting its fresh leaves   |
| Umuyenzi                    | Euphorbia triucali             | Used to treat cough by extracting and grinding its leaves in water. Can also be used as antiseptic (by latex), emetic (by root) and remedy for snakebite  |
| Umunyinya                   | Acacia abyssinica              | Used to treat mastitis by non-boiled juice of fresh leaves. By decocting fresh stem bark, it is used for diarrhoea and poisoning.   |
| Umukuzanyana                | Clerodendrum myricoides        | Used to treat liver disease by drying leaves are boiled in water and drunk. Bark is used for snake bite. Roots are used for sterility and impotence, cough, enlarged spleen, dysentery, and diarrhea, while root and bark are used for East Coast fever in cattle |
| Umuko                       | Erythrina abyssinica           | Applied externally to treat scabies by dried leaf ash is mixed with oil or butter.  |
| Umuhoko                     | Phytolacca dodecandra          | Used to treat tumor by grounding and applying its fresh leaves. It is also used as a purgative, taenifuge and for venereal diseases but its roots are very toxic  |
| Umuvumu                     | Ficus thonningii               | A decoction of fresh roots is used for poisoning. The root is used to stimulate lactation   |
| Umuzingangore               | Ludwigia abyssinica            | Used by grounding and boiling its leaves in water and drunk to prevent abortion   |
| Umuhandazovu                | Crotalaria aculeata            | Used by Drying leaves ash and mix it with oil or butter and apply it to skin for the treatment of scabies   |

**Source: Research Data by Dr. Gad**

The information regarding commonly used medicinal plants in Rwanda are not limited only on those cited in the above table 2.1 because this traditional medicine information were given by the local traditional healers. But, most of them have not said that they are not limited on these medicines because they are other many more. The users of the traditional medicines should be very cautious with the amount of medicine they take to avoid liver problem due to the toxicity of some herbs and should respect hygienic disciplines to avoid diseases associated to poor hygiene because these medicines are gathered from hills and valley with microbes and bacteria that can cause disease when the herbs are not well washed and extracted for medicinal part of it.

### **2.6.2 Deadly disease cured by modern Medical treatment**

The advancement in medical research have come up with some vaccination to deal with deadly disease that had been colonized the world such as Tetanus which comes from the bacterium *Clostridium tetani*, whose spores can be located frequently on rusty surfaces. The disease is characterized through painful muscle spasms, more usually in the jaw (hence the term lockjaw). Fortunately, the disease can be avoided with ordinary vaccination. Rabies is a threat to, no doubt, and every mammal species. It is characterized by means of conditions of concerned systems such as excitement, paranoia, anxiety, confusion and even issue for water. The most necessary news is that the disease can be avoided through



vaccination, even if the injection occurs quickly after the preliminary infection. Because it is most frequently transmitted by bite, there can normally be little doubt about when the transmission occurs.

Poliomyelitis is one of the first-class reminiscences of the success of modern day clinical science. Once among the most feared diseases of childhood, it has now been eradicated for most of the developed world. Although epidemics show up in developing countries, a global eradication promotion is nevertheless going on. Yellow fever is transmitted via mosquitoes and is referred to as the yellow color of the pores and skin and eyes (or jaundice) which is a symptom of infection. Jaundice is an additional indication of liver damage, which can lead to death. While there is no considered therapy for the disease as soon as it is contracted, it can be really averted through vaccination. It was once completely eliminated in the United States, however in Latin America and Africa.

Smallpox has been one of the most merciless scourges of humanity that has been accountable for the deaths of between 300 and five hundred million humans at some point in the twentieth century alone. The virus broadly speaking assaults the pores and cells of the skin, main to the attribution of bumps or spots that structure all over the body. The smallpox vaccine used to be the first vaccine to be developed successfully. Another fatal purpose is that measles is a serious condition that can lead to the contamination of talent and death, and whooping cough is precipitated with the help of the distinctly contagious *Bordetella pertussis* microorganism.

### 2.6.3 Incurable Diseases

Though, there is much growth of science, progress of treatments and fight against diseases. But, there are several diseases and syndromes which are still not curable and among these, this paper mentions the EVD which is a viral hemorrhagic fever (VHF) delivered its name Ebola from the Ebola River in the Democratic Republic of the Congo (CDC, 2019). It first seemed in 1976, but continues to show up and is characterized by way of the speedy onset of fever, malaise, muscle aches, headache, and infection of the pharynx. Six days after vomiting and bleeding diarrhea, human beings can amplify maculopapular rash with bleeding at needle websites and physique orifices.

Poliomyelitis is many times referred to as polio or childhood paralysis. It is an acute viral infectious disease that develops from person to character generally focally-orally. Poliomyelitis used to be first diagnosed by way of Jakob Heine in 1840. And poliovirus used to be identified in 1908 via Karl Landsteiner. Spinal poliomyelitis is the most transmitted type that is characterized by uneven paralysis that entails the legs more regularly. Bulbar poliomyelitis reasons the weakness of innervated muscle companies through the cranial nerves. Bulbospinal poliomyelitis is a mixture of bulbar and spinal paralysis. Now disease prevention is viable, however now you need to now not have a ideal remedy as quickly as you are caught with polio.

Lupus erythematosus is an autoimmune disease that is categorized for a collection of diseases with immune problems. The signs and symptoms of these illnesses can have an impact on many unique bodily structures consisting of kidneys, blood cells, heart, joints, pores and skin and lungs. Symptoms of an impending flare-up encompass considerable fatigue, pain, rash, fever, upset stomach, headache, and dizziness. Early attention of alert symptoms and proper communication with a health care expert can help humans stay active, ride an awful lot less pain, and restriction clinical visits.

The flu is commonly referred to as the flu. It is produced thru RNA viruses of the Orthomyxoviridae family. The most frequent signs of the disease are chills, fever, sore throat, muscle aches, severe headache, cough, weakness / fatigue and common discomfort. There are several kinds of influenza viruses characterized through infection, called influenza A, B, C viruses. Type B viruses have an effect on humans a lot much less oftentimes than kind A. And these viruses mutate slowly than the influenza A virus. Due to this lack of antigenic diversity, immunity against influenza B is received at an early age. Thereafter, Creutzfeldt-Jakob disease or CJD is a continuously incurable and deadly degenerative neurological disease (brain disease). In CJD, Genius tissue develops holes and takes on a sponge-like texture. This is due to a kind of infectious protein called a prion. Prions are poorly folded proteins that replicate with the assist of converting their most efficient folded counterparts.

### 2.6.4 Chronic Disease

Disease refers to any deviation or interruption of the ordinary structure or characteristic of any part, organ, or system of the body that is manifested by a characteristic set of signs and symptoms (Collins, 1998). Disease is actually lack of ease; a pathological condition of the body that presents a group of clinical symptoms and signs and laboratory signs and findings that are special to it and that leaves apart the situation as a normal entity exceptional from other normal or pathological physical states. The concept of disease may include the condition of illness or suffering not necessarily arising from pathological changes in the body (CDC, 2019). There is a major distinction between disease and illness in that the former is usually tangible and may even be measured, whereas illness is highly individual and personal, as with pain, suffering, and distress.

Chronic diseases are defined broadly as conditions that last one year or more and require ongoing medical attention or limit activities of daily living or both. Chronic diseases such as heart disease, cancer, and diabetes are the leading causes of death and disability in the United States (CDC, 2019). A chronic illness is a long-term health condition that may not have a cure. Examples of chronic illnesses are: Alzheimer disease and dementia, Arthritis, Asthma, Cancer, COPD, Chronic disease, Cystic fibrosis, Diabetes, Epilepsy, Heart disease, HIV/AIDS, Mood disorders (bipolar, cyclothymic, and depression), Multiple sclerosis, and Parkinson disease. Living with chronic illness can make someone feel very alone. It is better to learn about staying connected with people to help cope with the illness.

### **2.6.5 Principles of Disease Classification**

The basic structure and principles of classification of the ICD; The ICD is a variable-axis classification. The structure has developed out of that proposed by William Farr in the early days of international discussions on classification structure. His scheme was that, for all practical, epidemiological purposes, statistical data on diseases should be grouped in epidemic diseases, constitutional or general diseases, local diseases arranged by site, developmental diseases and injuries.

### **2.6.6 Measuring Disease and Exposure**

To measure disease and its exposure is measured after epidemiological research and most the outbreak investigations involve the following steps are preparation for the investigation, verifying the diagnosis and establishing the existence of an outbreak, establishing a case definition and finding cases, conducting descriptive epidemiology to determine the personal characteristics of the cases, changes in disease frequency over time, and differences in disease frequency based on location (Armstrong, 2016), developing hypotheses about the cause or source, evaluating the hypotheses and refining the hypotheses and conducting additional studies if necessary, implementing control and prevention measures and communicating the findings.

Some of these steps may be conducted simultaneously, and the order may vary depending on the circumstances. For example, if new cases are continuing to occur and there are steps that can be taken to control the outbreak and prevent more cases, then certainly control and prevention measures would take top priority.

### **2.6.7 Disease and health**

In viewing health and disease on a population basis, epidemiologists' study both morbidity and mortality and try to gain insight into factors that increase or decrease morbidity and mortality in a community (Clayton, 1999). In recent years, several studies have declared that the morbidity and mortality from diseases have related directly to health-care system and accordingly the state of public health services in the community.

Disease surveillance structures and health information sources provide the raw data to expose tendencies in health and disease. Descriptive epidemiology presents a way to organize and look into this information in order to recognize issues of disease frequency geographically and over time, and how disease (or health) varies between people relying totally on a quantity of private characteristics (person, place, and time). This allows for perceived developments in health and disease and additionally provides an asset planning functionality for populations. In addition, descriptive epidemiology is essential to produce hypotheses (possible explanations) about the determinants of health and disease. In generating hypotheses, descriptive epidemiology additionally presents the beginning factor for analytical epidemiology, which formally checks the associations between doable determinants and health or sickness outcomes.

## **2.7 Healing Methods**

Traditional healing refers to health practices, approaches, information, and beliefs that comprise the recovery and well-being of First Nations whilst the usage of ceremonies; herbal, animal or mineral medicines; energetic therapies or bodily / realistic techniques that include allopathic Medicine which describes that, the word allopathic is derived from the Greek word which states that other than disease (Balaji, 2016). This treatment methodology follows the western therapeutic framework and it spread all over the world. The pharmacological remedies used in allopathic cure intention to therapy solely the particular sickness and, at the same time, provide start to any other disease in the body. For example, people use allopathic medicines that consist of paracetamol drugs to treat fever.

Homeopathy remedy focuses on treating the patient's sickness now not only physically, but also mentally and emotionally. The homeopathic remedy is of high high-quality in many clinical prerequisites, such as headaches, infections, allergies, colds, flu, coronary coronary heart disease, and diabetes, nervous and respiratory diseases. The homeopathic treatment offers significance for yoga and meditation. It is a appropriate treatment choice for children (Balaji, 2016). The important dangers of the use of this medication are that it will take some time to treat the illnesses and, moreover, it does not help continually in the case of emergency conditions.

Ayurveda medicine applies Ayurvedic way of treatment as a science of natural healing because it uses purely natural medicines such as herbs, vegetables and flowers. This treatment mainly dealt with the root cause of all diseases and gives permanent cure. Besides that, it also provides permanent immunity power to the body (Merrijoy & Beverly, 2014). When compared to the homeopathic medicine, it has very good power to cure diseases such as cancer, diabetics, etc., through purely natural way and it is proven. This medicine is the mother of all the medication and each type of medication is derived from this Ayurveda medicinal science.

Siddha medicine is purely made from nature in Southern India. It is an evolution of the yogic science. Siddha medicine is very different from ayurvedic medicine. This medicine is very much closer to the body's energy system. Siddha medicine is not oriented to the diseases, but it is oriented to the health (Balaji, 2016). Siddha medicine is not available in a wide range because it doesn't enter the treatment of every disease. It is mainly focused on strengthening the inner parts of the body and activating the body in a certain way. Due to this reason, the siddha medicine is not very popular as much as ayurvedic medicine.

## **2.8 Medicine and Society**

The program's mental and programmatic roots are in the vicinity of clinical anthropology, which is greatly described as study of human health and disease for the duration of culture, time, and location. Medical anthropologists seem to be at the role of culture and society in shaping experiences with disease (Balaji, 2016). The discipline seeks the perception of

such vast troubles as responses to health threats, the treatment of choice in contemporary society, the task of the human genome, the ethics of genetic testing, the social factors and conduct affecting infectious diseases and the motives of health disparities in the creating world.

Individual health is considered inside a broader framework of social media and most important public and personal efforts to prevent disease and promote health, each domestically and internationally. Society determines the type of medicine being practiced (Fazlin et al, 2013). It is the members of society directly or through their representatives who determine what sources are needed for training of healthcare professionals and delivery of healthcare across all medical disciplines.

### 2.9 Medicine, Society and Public Health

In medicine, the focus is on the individual patient, within the context of family and community. In public health, the focus is on the health of populations, with the expression of illness found in the lives of individuals. Medicine draws mainly on the biological sciences, with secondary emphasis on quantitative sciences, physics, chemistry, and parts of engineering. Public health depends on a spectrum of disciplines centered in the quantitative and social-behavioral sciences, and has its origins as much in engineering and environmental sciences as in biological sciences.

Public health stresses the prevention of disease, while medicine deals with the prevention, diagnosis, and treatment of individuals (Balaji, 2016). Medication, surgery, and other forms of individual intervention are the principal tools of the medical clinician. Public health employs a wide array of social and community interventions ranging from immunization campaigns to urban design in order to preserve and protect health.

**Table 2. 1: Perspective of Medicine, Society and Public Health**

| Medicine   | Society  | Public Health   |
|--|--|---|
| <b>Primary focus on individual</b>   | Primary focus on communities   | Primary focus on population   |
| <b>Personal service ethic, conditioned by awareness of social responsibilities</b>   | Societal <u>service related</u> social interactions  | Public service ethic, tempered by <u>concerns</u> for the individual  |
| <b>Emphasis on diagnosis and treatment, care for the whole patient</b>   | Emphasis on individuals and society  | Emphasis on prevention, <u>health promotion</u> for the whole community   |
| <b>Medical paradigm places predominant emphasis on medical care</b>  | Society paradigm is places on social relationships and lifestyles  | Public health paradigm employs a spectrum of interventions aimed at the environment, human behavior and lifestyle, and medical care   |
| <b>Well-established profession with sharp public image</b>   | Particular profession with interests in individuals and public relations   | Multiple professional identities with <u>diffuse</u> public image   |
| <b>Uniform system for certifying specialists beyond professional medical degree</b>  | Variable certification of professional socialists and psychologists  | Variable certification of specialists beyond professional public health degree  |
| <b>Lines of specialization organized by organ system (cardiology, neurology); patient group (obstetrics, pediatrics); etiology and pathophysiology (infectious diseases, oncology); technical skill (radiology, surgery)</b> | Lines of specialization organized by systematic transfer of attitudes, skills and knowledge in mental health and sociology | Lines of specialization organized by analytic method (epidemiology, toxicology); setting and population (occupational health, international health); substantive health problem ( <u>environmental</u> health, nutrition) |
| <b>Biologic sciences central, stimulated by needs of patients; move between laboratory and bedside</b>   | Biologic sciences central, stimulated by health of the society   | Biologic sciences central, stimulated by major threats to health of populations; move between laboratory and field  |
| <b>Numeric sciences increasing in prominence, although still a relatively minor part of training</b>   | Numeric sciences a primary basis for society well – being  | Numeric sciences an essential feature of analysis and training  |
| <b>Social sciences tend to be an elective part of medical education</b>  | Social sciences is <u>compulsory</u> health education <u>education</u>   | Social sciences an integral part of public  |
| <b>Engineering and physical sciences relevant, especially materials science, electronics, imaging, and information technology</b>  | Engineering and physical sciences relevant in <u>systems analysis</u> , sanitary engineering, and information technology   | Engineering relevant, especially sciences are neuropsychiatric management, operations   |
| <b>Clinical sciences an essential part of professional training</b>  | Clinical sciences part of guiding to results   | Clinical sciences peripheral to <u>professional</u> training  |
| <b>Rooted mainly in the private sector</b>   | Rooted in interaction  | Rooted mainly in the public sector  |

Source: Literature Review

Despite these differences in perspective, a moment's reflection reinforces the continuity and overlap between the concern with populations of public health and the individual responsibility of medicine. For ample historical and practical reasons, education in public health and in medicine has proceeded much more in parallel than by intersection. Today, however, numerous initiatives are bringing the principles, values, experience, and analytic perspectives of public health into the daily practice of medical education. These range from clinical cases to field experiences and from brief learning modules to integrated degree programs.

### **3.0 SOCIETY**

A society is a group of humans involved in social interaction, or a huge social group that shares an equal spatial or social territory, typically with difficulties for the identical political authority and dominant cultural expectations (Cockerham, 2009). Societies are characterized by way of the assist of patterns of relationships (social relationships) between people who share culture and institutions; a given society can additionally be described as the whole sum of these relationships between its components.

#### **3.1 Definition and meaning of Society**

A society is a group of people with common territory, interaction, and culture. Social groups consist of two or more people who interact and identify with one another. Instead, members of a society, as well as nonmembers, must recognize particular land as belonging to that society. Society is also described as a complex of interrelated, interacting businesses that permit human organisms to lift out their life activities and that help each and every man or woman to fulfill their wishes and fulfill their affairs in relation to his peers (Cockerham, 2009). From the structural issue of view, society is the complete social patrimony of popular paths, customs and institutions; of habits, feelings and ideals.

Society is a system of usages and procedures, of authority and mutual aid, of many businesses and divisions, of manipulate over human conduct and freedoms. This system is so changing and complicated that we call it society. It is the network of social family members. Society is the union itself, the organization, the sum of formal household contributors in which the pals are determined mutually.

#### **3.2 Individuals and Public Health**

An individual is defined as a person that exists as a distinct entity, individuality (or self-hood) is the state or quality of being an individual; particularly being a person separate from specific humans and to possess their private desires or goals, rights and responsibilities (Cockerham, 2009). The notion of a personality influences a variety of fields, along with biology, law, and philosophy. Whereas, public health has been defined as "science and works of art to quit disease, extend existence and improve the excessive quality of existence through geared up efforts and well-informed preferences of society, public groups and private), communities and individuals. Analyzing the determinants of the health of populations and the threats they face is the groundwork for public health.

The public can be as small as a handful of human beings or as massive as a town or an whole city; in the case of a pandemic, you may also suppose that health takes into account physical, psychological, and social well-being. As such, according to the World Health Organization, it is not simply the absence of problems or illnesses and, greater recently, an resource for daily residence. The Individual health and public health are inseparable. In order to promote individual health, physicians must also promote public health by thinking globally and functioning as medical sociologists, who value human rights, quality of life, social justice, international relations, and world peace. The path to world peace begins with the physician's commitment to individual health and public health. Peace and health are inseparable.

#### **3.3 Families and Public Health**

Family is a unity of people who are related to each other, in most case for the people they count to be a family when they are in nuclear family which is made up of children and parents. Thus, the family can produce tremendous health outcomes by most effective improvement and the introduction of shielding factors such as parental resilience, social connections, knowledge of parenting and child development, concrete help in moments of want and social and emotional competence. Health clinical settings have wholeheartedly common the significance of the household as it relates to infant healthy improvement and principal prevention (Cockerham, 2009). Collaboration between nurses and families is an essential prevention approach that gives lower-income households domestic visits from registered nurses. The visits have helped to improve maternal and infant health, as well as economic safety.

Mental health services with their large discipline of family psychology to medicine with a family health history as a diagnostic tool. Family history has been used to assist specialists make therapy decisions, but it additionally helps household individuals when they are looking for to navigate the complexity of U.S. health care systems. As the role of genetics performs an increasing number of important position in preserving health, public health authorities can assist families higher understand how a family has produced health throughout more than one generation, if possible.

#### **3.4 Communities and Public Health**

A community is viewed as a group of human beings with diverse characteristics that are linked through social relationship, share general perspectives, and take part in joint moves in geographic areas or environments. A neighborhood is a social unit (a group of matters that inhabit) with frequent factors such as norms, religion, values, customs, or identity. Communities can also share a location experience placed in a particular geographic location such as a state, town, city, or neighborhood or in a digital home the usage of chat platforms.

Public health is an interdisciplinary that entails epidemiology, biostatistics, social sciences, and health management which are all important. Other fundamental subfields encompass environmental health, neighborhood health, behavioral health, health economics, public policy, mental health, health education, health policies, occupational safety, disability, gender troubles in health, and sexual and reproductive health. This is achieved by using monitoring cases and health indicators, and by promoting wholesome behaviors (Cockerham, 2009). Common public health initiatives include the promotion of hand washing and breastfeeding, vaccine delivery, suicide prevention, smoking cessation, education on weight issues, improved health accessibility and the distribution of condoms to manipulate the development of sexually transmitted diseases. Thus, there is a very significant positive relationship between communities and public health because communities play the role of enhancing public health among its people and public health ensure that the community is safe from disease, accidents, injuries and outbreak in the communities.

### **3.5 Local Governments and Public Health**

Local government is the primary unit of administration which is closer to the population. Thus health has a lot to do to ensure the well-being in public health services such as common public health, along with health surveillance, sanitation, and sickness control; funding and delivery of private health choices that consist of Medicaid, mental health, and direct transportation via public hospitals and health care. departments; environmental protection, which consists of security in opposition to man-made environmental and occupational hazards; and the rules of health care carriers through certificates of necessity and the establishment of statewide offices, as nicely as licenses and different functions. While we will not tackle these problems equally or exhaustively, a selective issue in the documents is recommended for wondering about future roles and options.

The participation of local government in public health structure started with the epidemics of the late eighteenth and early nineteenth centuries. The first of these, the yellow fever epidemic in Philadelphia, befell in 1793, and epidemics of cholera, smallpox, and yellow fever had been frequent for the subsequent fifty years. These epidemics have attracted the attention of local government to be involves in public health affairs without taking much time on the history of public health and local government. The significance of public health and government is not only demonstrated by the role of local government in fight against outbreak, funding researcher against disease. It is also demonstrated by the involvement of central government, NGOs and international communities and the globe as whole and the biggest unit of the society to be engaged in the fight against epidemics like Ebola and the current Covid-19 pandemic.

## **4.0 GENERAL DISCUSSION**

The general discussion of this paper covers the relationship between the health and public health, the relationship between medicine and public health and the relationship between society and public health. This paper has chosen to relate health, medicine and society to public health in the general discussion because all are meant to ensure health and control disease in the society. The society has also show the great interest in enhance use of medicine to treat disease and support the health of the individuals, families and local government as well as communities as part of the society. It is in this context each of the three (health, medicine and society) are related to public health in this general discussion.

### **4.1 Health and Public Health**

Public health is the science of defending and enhancing the health of human beings and their communities. Thus, the health of the individual has a meaning to the health of the whole community in terms of control that simple disease to become a collective disease especially when it is communicable disease through enhancing sickness and injury prevention, and detecting, stopping, and responding to infectious diseases. The Individual health and public health are inseparable. In order to promote individual health, physicians must also promote public health by thinking globally and functioning as medical sociologists, who value human rights, quality of life, social justice, international relations, and world peace. In medicine, the focus is on the individual patient, within the context of family and community. In public health, the focus is on the health of populations, with the expression of illness found in the lives of individuals.

### **4.2 Medicine and Public Health**

Public health matters to medical care and therefore to medical education in the following contexts; in epidemiology, the core discipline of public health, is essential to understanding the cause and distribution of disease. Without some grounding in the quantitative disciplines of biostatistics and epidemiology, no physician can hope to independently and sensibly interpret the medical literature, or to apply it rationally to an individual patient (Balaji, 2016). Dealing with uncertainty and probabilistic reasoning is as essential to sound medical care as it is to health policy and public health practice.

Public health teaches the influence of environmental, nutritional, social, and behavioral factors on health, illness, recovery, and wellness. Understanding the etiology of disease and the optimal management of patients depends on a comprehensive appreciation of the multiple origins of illness, including those traditionally emphasized in public health. Integrative explanations of illness that embrace genetic, molecular, biochemical, and physiological factors with behavioral, social, nutritional, and environmental factors require the joint perspectives of medicine and public health.

The physician who appreciates the role and potential for public health interventions—public education, social campaigns, ordinances and laws, standards and regulations, surveillance and preparedness— has a deeper understanding of the conditions that preserve health, of the primacy of disease prevention, and of the interfaces between personal medical care and community health protection.

Public health emphasizes cultural sensitivity (similarities and differences in values, mores, and practices), community engagement, and health literacy, which have a direct bearing on the ability of patients to participate in their own health care and to protect their family's health.

Public health stresses systems thinking, an engineering concept that explains observed performance in terms of connected parts that interact in a variety of interdependent ways (Balaji, 2016). The same way of thinking bears directly on patient safety and the quality of medical care, and it provides a way of describing and understanding the performance of everything from an individual medical encounter to the health system as a whole.

Public health exposes physicians to exciting and fulfilling career opportunities in such diverse areas as global health, disaster response, health policy, and environmental health. Apart from those who will choose to concentrate in a public health field, such as epidemiology, general preventive medicine, or occupational health, many practitioners in such fields as general and specialty medicine, emergency medicine, pediatrics, family medicine, obstetrics and gynecology, ophthalmology, and general surgery will find rewarding opportunities for part-time engagement in one or another aspect of population health. In analogy to Clausewitz's observation that —war is merely the continuation of policy by other means, many physicians will find that public health is the continuation of medicine by other means, potentially affecting millions of individuals at a time

#### **4.1.3 Society and public health**

Public health protects and improves society by preventing epidemics and the spread of disease; promoting healthy lifestyles for children and families; protecting against hazards in homes, work, communities and the environment; ensuring high-quality health-care services; safeguarding and improving the quality of the ensuring high-quality health-care services; safeguarding and improving the quality of the environment; and preparing for and responding to emergencies to ensure wellness and healthy society (Cockerham, 2009).

As stipulated by this paper in the previous society related parties of this paper, society through social relationship, it plays a very significant role in support the aged and people with chronic diseases to live longer than those in isolation (Cockerham, 2009). Studies have proved that people with chronic diseases and aged ones in the society don't get time to be stressed with their burdens because they share with the society through social relationship. Thus, in developed countries there are programs that encourage people to gather in counseling group that have demonstrated contribution against drug abuse and suicide among the youth.

Even here, in Rwanda there is what is known as Akagroba k' ababyeyi where people meet to discuss issues facing their community and then get remedial solution. This program was meant for poverty reduction but it has revealed significant contribution on social relationship where disputing homes or families looking for divorce get together again due to the advice from this program and thus enhances the wellbeing of the family and society in general.

#### **5.0 SIGNIFICANCE OF THIS PAPER**

This paper is significant to public health professionals in providing the necessary knowledge, practices and skills to apply in public health and medicine to promote the well-being of the society from individuals, families up to the large communities. The insights of this paper are also necessary to the traditional and modern healer to get some information regarding disease and medicines which can be applied to save the lives of the individuals in the society.

This paper is also significant to the community through providing the necessary information regarding how to fight against disease use of traditional and modern medicine to ensure their well-being and mobilization to the society that members of the society have to visits the medical doctor or other relevant medical personnel in case of illness. This paper is also significant to policy makers in suggesting to them to use the instructional and education system to decrease social isolation in order to improving social ties which is a low-cost preventative medicine strategy to decrease death among aged and people with chronic diseases.

This paper is also of significance to the policy make in helping to develop policies and plans that support individual and community health efforts. The information from medicine may also be used in reinforce laws and regulations concerning protection of health and ensure safety of the community member against diseases, outbreak and unsafe medications through reinforce the policy guide use, distribution and production of pharmaceutical products.

This paper is also significant to the people who need personal health services and assure the provision of health care when otherwise unavailable. It enhances assurance in competent public and personal health care workforce. It also plays a significant role in effective evaluation, accessibility, and quality of medications and help to solve issues regarding the role of medicine and public health in improving the lives of the society. This paper is also significant to the Rwandan society and traditional healers because it introduce them with the traditional medicinal plants that were used in Rwanda.

#### **6.0 CONCLUSION**

In conclusion, I would like to highlight that the usage of medicine is to cure diseases and relieve from pain which assure health to the individuals and communities within a large society. Traditional medicine and modern medicine are the two types of medicinal ways of treatment followed by the people, which are analyzed in this paper. Both types of medicine have undesirable side effects. The ultimate goal of all medicines could help patients to live long, functional and satisfactory, pain relief and symptoms free life. The medicine could be taken with the correct amount and use right medicine for all diseases in order to avoid drug abusing side effect.

The entire medical field and health departments that are concerned with the lives of the people in society can adopt the principles of evidence based medicine so that it can be possible to minimize the side effect and also maximize the benefits of scientific research for patient care. Moreover, further development can be taken in the entire medical field to improve

the treatment method and also carry out some scientific medical research for medicine and treatment of some incurable diseases to promote the health of individuals and of the society as a whole with no boundaries. In future, the medical field may achieve a further standard level in the treatment method and might be paid with the well-being of everyone's life.

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