**CHAPTER TWO**

**LITERATURE REVIEW**

**Background Review**

Tele is a prefix meaning “at a distance” and it is used in phrase which includes telescope or telemetry. Hence in health care system the prefix tele often takes several meanings. For instance, telemetry which is the process of recording and transmitting readings of instrument which can also be referred to as electronic device related to task remote measuring and reporting of information of interest.

There are so many inconsistency and problems relating to tele in the health sector. Improper health care delivery and management of health care at distance has made it more difficult to recognize a set of concepts and categories related to safety and quality issues.

Telemedicine is the process taken by health care professionals to evaluate, diagnose and treat patients at a distance using telecommunication technology. This approach has been through a striking evolution in the last decade and it is becoming an increasingly important part of the American healthcare infrastructure.

**Origin of Telemedicine**

Telemedicine can be traced back to the mid to late 19th century with one of the first published accounts occurring in the early 20th century when electrocardiograph data were transmitted over telephone wires. Telemedicine, in its modern form, started in the 1960s in large part driven by the military and space technology sectors, as well as a few individuals using readily available commercial equipment. Examples of early technological milestones in telemedicine include the use of television to facilitate consultations between specialists at a psychiatric institute and general practitioners at a state mental hospital, and the provision of expert medical advice from a major teaching hospital to an airport medical centre.

**Case Study Existing System**

Two different kinds of technology make up telemedicine applications. The first, called store and forward, is used to transfer digital images from one location to another. A digital image is taken using a digital camera, ‘stored’ and then sent (‘forwarded’) by a computer to another location. This is typically used for nonemergent situations, when a diagnosis or consultation may be made in the next 24-48 hours and sent back (Mexrich et al., 1995).

The other kind is the two-way interactive television (IATV), is used when a ‘face-to-face’ consultation is necessary. The patient and sometimes their provider or more commonly a nurse practitioner or telemedicine coordinator (or any combination of the three), are at the originating site. The specialist is at the referral site, most often at an urban medical center. Videoconferencing equipment at both locations allow a ‘real-time’ consultation to take place (Brown, 1996) Ganapathy 200, stated that Telemedicine has a variety of applications in patient care.

The explosion of interest in telemedicine over the past four or five years makes it appear as a relatively new use of telecommunications technology, the truth is that telemedicine has been in use in some form or the other for over thirty years (Dasgupta and Deb 2008).

The National Aeronautics and Space Administration (NASA) used telemedicine in the early 1960s when humans began flying in space to transmit physiological parameters from both the spacecraft and the space suits during missions (Watson 1989). Also, Space Technology Applied to Rural Papago Advanced Health Care (STARPAHC) delivered medical care to the Papago Indian Reservation in Arizona with the aim of providing healthcare to astronauts in space and to provide general medical care to the Papago Reservation (Brown 1995). Again Brown 1995, documented that the North-West Telemedicine Project provided healthcare to people in five remote towns I the south of the Gulf of Carpentaria.

Telemedicine applications in Epidemiological surveillance has reached new heights and also telemedicine can be used to inform, influence and motivate individuals and population organizations on health, health-related issues and adoption of healthy lifestyles (Kopp et al., 2002). This has gone a long way to support primary, secondary and tertiary health promotion and disease prevention agendas. Ekeland et al., 2010, conducted on telemedicine interventions. He strongly concluded that the application of telemedicine in the provision of medical care is very effective.

This Tele-medication system is thereby intended to solve the current challenges facing Aniniwaah Medical Center and most Hospitals in Ghana. Not only will it improve the current medical system of the people Kumasi but it will also trigger other relative hospitals/health centers to switch to Tele-Medication system thereby enhancing the growth of technology in Ghana.

**Conclusion**

Using of telemedicine as an alternative to in-person visits has a host of benefits for patients and providers such a**s Less time away from work, no travel expenses or time, less interference with child or elder care responsibilities, Privacy,** no **exposure to other potentially contagious patients and it is** an **answer to the competitive threat of retail health clinics and on-line only providers. Hospital that have implemented Telemedicine system have become much more successful in relation to their health care performance**