# **GPRS BASED TELEMONITORING SYSTEM FOR HOSPITAL EMERGENCY rESPONSE.** 1ST July 1, 2021

**ABSTRACT**

Hospitals play a critical role in providing communities with essential medical care during all types of disaster. Depending on their scope and nature, disasters can lead to a rapidly increasing service demand that can overwhelm the functional capacity and safety of hospitals and the health-care system at large. The response system of most hospitals is still in shambles where it has lead to numerous deaths or lead to more complications to the victims.

Telemonitoring during the golden hour of patient transportation helps in improved Medicare. Presently there are different physiological data acquisition and transmission systems using cellular network and radio communication links. Location monitoring systems and video transmission systems are also commercially available. The emergency patient transportation systems uniquely require transmission of data pertaining to the patient, vehicle, time of the call, physiological signals like blood pressure body temperature, blood oxygen saturation, and location information. These requirements are presently met by using separate communication systems for physiological data and location that result in lot of inconvenience to the technicians, maintenance related issues, in addition to being expensive. This project presents design, development and implementation of such a telemonitoring system for emergency patient transportation using Flutter and Firebase.

In recent years, technology has grown exponentially. The advancement has made it easier for some roles and tasks that were considered tiresome or impossible are now much easier to carry out nowadays. In the medical sector, digital technology could help transform unsustainable health care systems into sustainable ones, equalize the relationship between medical professionals and patients, provide cheaper, faster and more effective solutions for diseases.

Most Kenyans have access to mobile phones including some children.Internet connections across the country has also grown making it communication faster and easily within the country and also across borders. These mobile devices provide real time geographical location data and provide suitable medium from which most hospitals may use to provide required services to their patients in matters of response.

Hospitals will able to quickly respond to emergencies with a well built Hospital Emergency Response System that uses the capability of the patients mobile phones. Mobile phones have GPS that is used to track the patient location, this information is used to determine whats the best approach to take in order to reach the patient, if its eland and either by plane or land and if its by land what is the best vehicle to traverse the terrain the patient resides in. Video calling will be used to provide first aid to the patient while they wait to be pick or if the injuries are not that serious.

Location monitoring systems and video transmission systems are also commercially available. The emergency patient transportation systems uniquely require transmission of data pertaining to the patient, vehicle, time of the call, physiological signals like blood pressure body temperature, blood oxygen saturation, and location information. These requirements are presently met by using separate communication systems for physiological data and location that result in lot of inconvenience to the technicians, maintenance related issues, in addition to being expensive. This project presents design, development and implementation of such a tel-monitoring system for emergency patient transportation using Flutter and Firebase.