

Good example of  
geographic  
information system  
(gis) is used in health  
care today ...

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## **Geographic Information System**

Access to good health services in many countries is very crucial for effective treatment among the population, hence preventing most of the unnecessary deaths in the society. Primary care is singled out as the most important form of healthcare for population health management since it is the corner stone of healthcare delivery to people in the developing countries for instance. It is low priced and therefore can be conveyed more easily compared to any inpatient care and distinctive feature, and if apportioned correctly, it will be effective in avoiding on large scale the advancement of the disease.

The human well being and health have a long history and the major goal of every government is political, economical, growth and stability of a country. GIS and other methods of spatial analysis provide an incredible solution in data analysis, hence plays a very major role in mortality and morbidity control. Geographic Information System is a broad multidisciplinary topic in statistics, computer science, cartography, geography and other specific subject fields. Application of Geographic Information System in the health sector is a new field that is rapidly growing (Thomas, 2003). The major factor impacting on the large array of health outcomes is the closeness to care. Facility distances has always been associated with increased infant mortality and maternal mortality, increased pregnancy adverse outcomes, decreased coverage of vaccination, and decreased use of contraceptives. The most major form of health care for population health maintenance is the primary health care since it can be easily delivered and cost effective and furthermore effective in disease prevention.

Geographic Information System (GIS) is a tool with great health potential in

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the developed countries since health is majorly determined by the environmental factors or rather disease determinants which are not genetically transmitted. Geographic Information System with some of the many applications can be applied in understanding spatial variance in mortality and morbidity and its relationship to the primary health care. In the health sector, Geographic Information System has been used in many ways such as its application in ambulance routing and emergency planning, use in weighing healthcare in the developing countries, and analyzing the noxious facilities potential impact on the trends in mortality and morbidity in the local neighborhoods (Koutsopoulos, 2002).

The understanding and the knowledge of the primary health care services and population distribution are very crucial in the planning and allocation of available health resources. Informed decisions about allocation of resources depend on good management of the health system. This decisions can be impaired if there is no data, but with Geographic Information System in place, it can significantly contribute on the resource pattern analysis through its ability to analyze many layered datasets from varied sources with varied scales by using one of its extensions in providing qualitative outcome that can help in the process of decision making of the health care services stockholder.

The major components of a health care system include; doctors, patients, health services sector and health facilities infrastructure. All the above mentioned components in their inheritance have a direct relation. For health management and planning, the understanding of these relations is very important, since it allows the policy makers to visualize easily the problems

relating to the prevailing needs and resources (Abbott & Argenati, 2013).

Geographic Information System health data provides a comprehensive solution to the health care providers and answer some of the basic questions such as: where is the source of the disease? Where is the nearest health facility? How is the disease spreading? Which is the fastest route to the hospital that can be used by an ambulance? Which area should more funds be allocated?

Other big problems that can be effectively and easily answered by Geographic Information System (GIS) and help in resolving these problems with its spatial analysis tools include: where hospitals or health care facilities be situated and what services they should offer so as to effectively and efficiently answer communities requirements varying I density, numbers and health problems. Maps produced by Geographic Information System experts can be used by professionals in public health. GIS as an evaluation and monitoring tool shows spatial distribution of the health issues and differential evolution of the diseases occurring in the society. Monitoring and evaluation components are very crucial in the health programs and other programs that are relate to the health system (Cromley & McLafferty 2002)

In conclusion, from my research, medical advances keep up with technological advances. Their consistent and common objective is securing human existence. Therefore, it can be concluded that Geographic Information Systems are very crucial in investigating health sciences since it has many applications. Geographic Information Systems enable information related to health to be displayed making efficient the multidisciplinary work. GISs enable monitoring and visualization of infectious diseases. Moreover,

Geographic Information System records and also displays society health care needs and also the available materials and resources (Foley, 2002).

## References

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