**BACKGROUND**

* Cholera has claimed many lives throughout history and it continues to be a global health threat <http://www.ij-healthgeographics.com/content/7/1/44>.
* In the fields of epidemiology maps were first used to show the situation of the cholera deaths in and around broad street, golden square (Snow, 1855) .
* Globally in 1998, a total of 293, 121 cholera cases were registered with 10,586 cholera deaths, which was double the number of cases reported in 1997 [www.elsevier.com/locate/healthplace](http://www.elsevier.com/locate/healthplace)
* Between 2000 and 2015, 52812 (83%) of 63 658 cholera deaths were registered in sub-Saharan Africa <http://dx.doi.org/10.1016/S0140-6736(17)33050-7>
* Cholera reached Africa in 1970s and Malawi in 1973 (Swerdlow, et al., 1997).
* Since 1997, cholera outbreaks are reported annually in Malawi with moslty seasonal outbreaks. As part of effective cholera outbreak response mechanism, the Ministry of Health has established Cholera Surveillance Unit. The unit reports on cholera outbreak and outcomes.
* During 2001-2002 cholera outbreak, 33,546 cases were recorded in Malawi with 968 deaths indicating 0.29% attack rate and CFR of 2.8%. In 2008-2009 cholera outbreak season, 5,751 cases were registered in Malawi with 125 deaths indicating 0.04% attack rate and 2.2% CFR (Msyamboza, et al., 2014).
* In 2017-2018 cholera outbreak in Karonga, the district hospital registered 347 cases from each Traditional Authorities with 7 deaths. Although the Ministry of Health has a robust cholera surveillance system, the MOH strategy observes weak monitoring, evaluation and learning system due to poor reporting and feedback system, poor quality of data and week data management (GoM, 2017).
* Since John Snow’s work in the 1800s, spatial epidemiology has been used to map the spread and possible causes of outbreaks of infectious diseases such as cholera. Spatial epidemiology is the description and analysis of geographically indexed health data with respect to demographic, environmental, behavioral, socioeconomic, genetic, and infectious risk factors (Elliott & Wartenberg, 2004).
* In ending cholera as a public health risk by 2030, high spatial resolution maps can be used to identify and appropriately target population at risk throughout sub-Saharan Africa. Maps portray estimated number of people living in areas where there is a high risk of contracting cholera <http://dx.doi.org/10.1016/S0140-6736(17)33050-7>
* Geographical Information System (GIS) oriented Disease Monitoring Dashboard (DMD) have been proven as a tool for effective health data sharing, data management and visualization of health data in interactive maps. The web GIS dashboard structured with map area, activity panel and result table configured with filters in the activity panel that allows the user to customize the dataset, share health data and visualize the required information in map and table format <https://doi.org/10.1371/journal.pone.0196429>.
* Web GIS can be used to carry out assessment procedures to outbreaks and provide public health officials and policy-makers with a basis for the implementation of control measures <http://www.ij-healthgeographics.com/content/7/1/33>