An evaluation of cholera surveillance system in the GHANA east municipality accra

Daniel Amobtiwon , A. Gyasi, D. Ameme, G. Tetteh
[1]*University of Kwazulu- Natal, School of Laboratory Medicine, South Africa*
[2]*Institute of Infectious Disease and Molecular Medicine, University of Cape Town, South Africa*

Abstract:

Cholera is a major health problem facing most developing countries. Globally, 132, 121 cholera cases were reported in 2016. About 54% of these cases were recorded in Africa. Between June 2014 and January 2015, a total of 28,922 cholera cases including 243 deaths were reported in Ghana. WHO estimates that the true incidence of Cholera far exceeds the reported cases. We evaluated the cholera surveillance system to determine whether the system was meeting its objectives, and to assess its attributes. We evaluated the cholera surveillance system in the Ga East municipality. We interviewed staff of the GEMA on the operation of the system. We used semi structured questionnaire to assess the attributes of the system. We reviewed data from the weekly and monthly IDSR and also from the district Health information management system from 2012-2016. We also reviewed annual reports and scientific papers. We applied the Centers for Disease Control and Prevention (CDC) updated Guidelines for Evaluating Public Health Surveillance Systems. Summarized descriptive analysis of qualitative data was done and presented in graphs and charts. The cholera surveillance is well situated in the IDSR. The case definition is clear, simple and easy to apply. The system is able to detect cases and notify the next level. The data matches with the case base forms. However, the entries in the case base forms were not complete. Positive predictive value could not be assessed as no single case was confirmed by laboratory test. CBSVs attrition was high in the municipality. However, Community health nurses were used as a replacement for the CBSVs. The system is meeting some of its objectives. The system is simple, flexible and acceptable. The system is fairly representative, stable but the data quality is low. Sentinel surveillance should be implemented as routine training of healthcare workers on reporting and proper documentation of suspected cases. The case definition is clear, simple and easy to apply. The system is able to detect cases and notify the next level. The data matches with the case base forms. However, the entries in the case base forms were not complete. Positive predictive value could not be assessed as no single case was confirmed by laboratory test. CBSVs attrition was high in the municipality. However, Community health nurses were used as a replacement for the CBSVs. The system is meeting some of its objectives. The system is simple, flexible and acceptable. The system is fairly representative, stable but the data quality is low. Sentinel surveillance should be implemented as routine training of healthcare workers on reporting and proper documentation of suspected cases.

Biography:

Daniel Amobtiwon Amoatika is a nurse by profession and works with one of the private hospitals in Ghana. He holds a BSc in Nursing and currently pursuing a Master of Philosophy degree in Applied Epidemiology and Diseases Control at the School of Public Health, University of Ghana. Daniel has 2 years of public practice and 3 years of private practices as a nurse. He has also been involved in outbreak investigations of infectious diseases in Ghana. He has presented an abstract on money handling practices among food vendors in the University of Ghana at the 1th TEPHINET conference in Thailand.

About University:

The University of KwaZulu-Natal was formed on 1 January 2004 as a result of the merger between the University of Durban-Westville and the University of Natal. The new university brings

SCIENTIFIC TALKS FOR TODAY, TOMORROW & LONGTERM AT
200+ INTERNATIONAL CONFERENCES

together the rich histories of both the former Universities.The University of Durban-Westville was established in the 1960s as the University College for Indians on Salisbury Island in Durban Bay. Student numbers throughout the 1960s were low as a result of the Congress Alliances' policy of shunning apartheid structures. This policy **gave way in** the 1980s to a strategy of "education under protest" which sought to transform apartheid institutions into sites of struggle. Student numbers grew rapidly and in 1971, the College was granted University status.

Importance of Research:

Cholera surveillance System as the "continuous, systematic collection, analysis and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice.The aggregation of quality health-related data is essential to the success of all public health initiatives. Without correct and current data, diseases are misunderstood, health programs do not accomplish their goals, and resources are incorrectly allocated. Functioning surveillance systems are necessary for the success of global health initiatives. In developing countries, however, surveillance systems that collect useful and representative data are often non-existent and hard to create. The failure of surveillance systems in developing countries is often due to limited available resources, lack of knowledgeable staff, disorganization, and poor infrastructure for finding and reporting cases.

References

1. Sack DA, Sack RB, Nair GB, Siddique Ak. Cholera lancet 2004; 363(9404):233-233

2. Bauernfeind A, Croisier A, Fesselet JF et al. Cholera guidelines, 2nd ed. Paris: Medecins sans Frontieres; 2004

3. National, Malaria Control, Programme. (2013). Ghana Malaria Programme Review National Malaria, German, R. R., Lee, L. M., Horan, J. M., Milstein, R. L., Pertowski, C. A., & Waller, M. N. (2001). Updated guidelines for evaluating public health surveillance systems: recommendations from the Guidelines Working Group. MMWR. Recommendations and Reports : Morbidity and Mortality Weekly Report. Recommendations and Reports / Centers for Disease Control, 50(RR-13), 1-35-7.

4. Ali M, Nelson AR, Lopez AL, Sack D. Updated global burden of cholera in endemic countries. PLoS Negl Trop Dis. 2015;9(6):1–13. https://doi.org/10.1371/journal.pntd.0003832. CAS Article Google Scholar

5. Ali M, Lopez AL, Ae You Y, Eun Kim Y, Sah B, Maskery B, Clemens J. The global burden of cholera. Bull World Health Organ. 2012;90(3):209–18. https://doi.org/10.2471/BLT.11.093427. Article PubMed PubMed Central Google Scholar

6. World Health Organization Global Task Force on Cholera Control. Overview of ending cholera: a global road map to 2030; 2017. Available from: http://www.who.int/cholera/publications/global-roadmap-summary.pdf?ua=1. [Accessed 12 Mar 2018].

7. Moore S, Miwanda B, Sadji AY, Thefenne H, Jeddi F, Rebaudet S, De Boeck H, Bidjada B, Depina JJ, Bompangue D, Abedi AA. Relationship between distinct African cholera epidemics revealed via MLVA haplotyping of 337 Vibrio cholerae isolates. PLoS neglected tropical diseases. 2015;9(6):e0003817. https://doi.org/10.1371/journal.pntd.0003817. CAS Article PubMed PubMed Central Google Scholar

8. Bwire G, Ali M, Sack DA, Nakinsige A, Naigaga M, Debes AK, Ngwa MC, Brooks WA, Orach CG. Identifying cholera "hotspots" in Uganda: an analysis of cholera surveillance data from 2011 to 2016. PLoS Negl Trop Dis. 2017;11(12):e0006118. https://doi.org/10.1371/journal.pntd.0006118.Article PubMed PubMed Central Google Scholar

9. Cholera guidelines Sack DA, Sack RB, Nair GB, Siddique Ak. Cholera lancet 2004; 363(9404):233-233

10. Moore S, Miwanda B, Sadji AY, Thefenne H, Jeddi F, Rebaudet S, De Boeck H, Bidjada B, Depina JJ, Bompangue D, Abedi AA. Relationship between distinct African cholera epidemics revealed via MLVA haplotyping of 337 Vibrio cholerae isolates. PLoS neglected tropical diseases. 2015;9(6):e0003817. https://doi.org/10.1371/journal.pntd.0003817. CAS Article PubMed PubMed Central Google Scholar