

## ABSTRACT

<b>Course</b>	International Health Development (MPH)	<b>Name</b>	Nsoh Damian Akapoeh
<b>Thesis Title</b>	Evaluation of Meningitis Surveillance System in Northern Ghana; a Mixed Methods Study of the Bongo District		

### **Background**

Meningitis is a priority disease of public health importance in the meningitis belt of sub-Saharan Africa, including Northern Ghana. Early case detection and laboratory confirmation of the causative organisms, through public health surveillance, are crucial for prevention and control of meningitis. Periodic evaluation is an essential requirement for effective and efficient performance of public health surveillance systems.

### **Main Objective**

The main objective of this study was to evaluate the performance of the meningitis surveillance system in Bongo District.

### **Specific objectives**

1. To describe the meningitis surveillance system.
2. To assess the performance attributes of the meningitis surveillance system.
3. To identify the strengths and weaknesses of the meningitis surveillance system and recommend measures for improving the system.

### **Methods**

A cross-sectional mixed methods design was used to conduct this study, from January to March 2020. Both qualitative and quantitative data on meningitis surveillance between January 2015 and December 2019 were collected. The United States Centers for Disease Prevention and Control's updated guidelines for evaluating public

health surveillance systems were used to evaluate the performance attributes of the surveillance system. Key informant interviews with surveillance frontline workers and surveillance documents review were used to collect qualitative data. Surveillance data from 2015 to 2019 were analyzed to describe the distribution of meningitis in the district by person, place, and time. Thematic analytic technique was used to analyze qualitative data with the aid of NVivo software, whilst Microsoft Excel was used for quantitative data analysis.

## **Results**

During the period under evaluation in this study (2015 to 2019), the surveillance system detected a total of 94 suspected meningitis cases; 29 (31%) of these cases were confirmed as meningitis; whilst 11 (12%) died. The system was found to be simple, flexible, stable, representative, and acceptable. Data quality was evaluated as good; however, positive predictive value was found to be low (31%). Timeliness in this study was rated as fair. Though acceptability was generally high, the performance of community-based surveillance volunteers in the district was found to be sub-optimal.

## **Conclusion**

The meningitis surveillance system in Bongo District is achieving most of its objectives, despite financial constraints and shortage of some critical frontline workers. The Government of Ghana, the World Health Organization, and other stakeholders should consider allocating adequate funds and human resources for meningitis surveillance, to sustain the gains made and address its challenges. Stakeholders should also consider payment of allowances, regular supportive supervision, and refresher training as part of measures to motivate community volunteers and improve their performance.