

**TECHNICAL UNIVERSITY OF MOMBASA**

**FACULTY OF APPLIED AND HEALTH SCIENCES**

DEPARTMENT OF ENVIRONMENT AND HEALTH SCIENCES

University examination for Master of public health degree

**Code: APH 5116 Disease Surveillance**

**Instruction: Question one is compulsory. Answer any other 3 questions**

**Question one**

- a) Describe the outcomes of a surveillance system (4 marks)
- b) The results that are obtained from disease surveillance are used to detect public health events and take action to respond to them. Describe response that should be taken when an action threshold for cholera is established (10 marks)
- c) As the sub county disease focal person, discuss the points that you should consider when preparing a supervision plan on disease surveillance? (8 marks)
- d) When analyzing routine surveillance data, the surveillance team strives to answer several key questions. Discuss the key questions that need to be answered by surveillance data (8 marks)

**Question two**

Underreporting is known to compromise the usefulness of most in surveillance systems. Discuss the magnitude and barriers of underreporting (30 marks)

**Question three**

A local radio station announced that a cluster of deaths from a mysterious disease occurred in Kidole village. The patients are presenting with fever, headache, muscle pains and backache. According to the radio report, four adults and two children have died within the last four days. The sub county health authorities are now investigating the outbreak.

- a) The sub county team has been gathering information to verify the report on the radio. What are possible sources of information about health events in this sub county? (10 marks)
- b) What type of information would you gather from each of the sources you have listed in (a) above? (8 marks)

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- c) Think about the most recent outbreak or unusual health event that happened in your sub county. Describe the event and list the sources of information (12 marks)

### Question four

An unusual increase in the number of new malaria cases has been observed in the last one year in Changamwe Sub County and it is suspected that there is a malaria epidemic in the sub county.

- a) What case definition should the sub county disease surveillance team use when reporting the epidemic (8 marks)
- b) When alerted of a possible malaria epidemic, in what ways are health facilities in the sub county supposed to respond (10 marks)
- c) How should the specimen for a malaria test be collected, prepared and tested? (8 marks)
- d) If the number of new cases exceeds the upper limit of cases seen in a previous non-epidemic period in previous years, what action response should the sub county team institute? (4 marks)

### Question five

Discuss ways through which countries or counties or local authorities can improve reporting for purposes of disease surveillance (30 marks)

### Question six

An unusual illness outbreak was reported to the Ministry of Health (suspected to be an outbreak of a viral hemorrhagic fever (VHF)) predominantly from a remote village called Kijiji in north of Wilaya municipality; Wilaya district, Congo, central Africa. The district has a population of 469,700 persons (2007 census). Because of insecurity in the area, 60% of the people in the district are internally displaced i.e. live in protected villages. The illness was characterized by acute onset of fever, severe muscle pains, bleeding from multiple orifices (nose, mouth, anus and vagina) and death. At the time of reporting, more than 10 people including 2 students had died from VHF related symptoms. Due to the urgency, the Ministry of Health advised the DMOH to immediately send a team to the field to investigate the outbreak and to liaise with the local administration in setting up a local coordinating committee (30 marks).

- a) Who should the DMOH send to the field to investigate?
- b) What will be their roles?
- c) Who should be included as members of the coordinating committee?
- d) What will be their roles?