

## **Cutaneous anthrax outbreak investigation using a One Health approach, Lumezi District, Eastern Zambia, October – December 2023**

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### **Introduction**

Timely detection, reporting and response is of utmost importance in the control of outbreaks. An anthrax outbreak was declared in Lumezi District following laboratory confirmation in the hippopotamus population on 23<sup>rd</sup> October, 2023. The first human case was reported on the 14<sup>th</sup> of October 2023, with a history of consuming hippopotamus meat. Forty-seven human cutaneous cases were reported. We measured the response to the anthrax outbreak using the 7-1-7 metric.

### **Methods**

We conducted an outbreak investigation between 19<sup>th</sup> to 23<sup>rd</sup> December 2023. We reviewed facility registers, line lists and interviewed key informants to measure the outbreak response using the 7-1-7 metric, where a suspected outbreak is detected within seven days of emergence, notified for investigation and response within one day, and effectively responded to within seven days.

### **Results**

District response to the outbreak included treatment, prophylaxis, risk communication, livestock vaccination, and wildlife surveillance. The

7-1-7 metric was met for notification (1/1 day) and response (4/7 days) but not for detection (13/7 days). The first hippopotamus death was reported on 10<sup>th</sup> October, animal samples were collected on 20<sup>th</sup> October and confirmed on 23<sup>rd</sup> October, following which the outbreak declaration was made. The Incident Management System structure was used to coordinate the response, but didn't incorporate key stakeholders from wildlife and veterinary departments.

### **Conclusion**

There was a delay in the detection of the outbreak. The delayed detection and other challenges encountered such as lack of involvement of key stakeholders, underscore the importance of addressing gaps through a One Health lens. This experience taught us that close collaboration of the animal and human health sectors at the lowest level, will help us better prepare for future outbreaks.