

# Investigation of Suspected Anthrax Outbreak in Sinazongwe District, Zambia, 2024

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## Abstract

**Introduction** Anthrax, caused by *Bacillus anthracis*, remains a global public health problem, particularly in sub-Saharan Africa. In Zambia, anthrax is endemic in Luangwa valley and Zambezi floodplains. We investigated an increase in suspected anthrax cases in Sinazongwe district to describe demographic and clinical characteristics of cases, assess knowledge, attitude and practices, confirm the outbreak and recommend prevention and control measures. **Methods** We employed case series study design, collected data from five active cases using a structured questionnaire on Kobo Collect tool. A case definition was used to identify cases. Clinical examinations and sample collection were conducted on active cases, livestock and soil. Verbal and written consent was obtained from participants and permission to investigate was sort from relevant authorities. Data were analyzed using Microsoft Excel to generate proportions and frequencies. **Results** Five active cases were assessed, with four being males. Ages ranged from 11 to 45 years. Two cases were from the same family, while three were from different families. Occupations included fishermen (n=2), livestock farmers (n=2), and other (n=1). Marital status included: married (n=2), single (n=2), and separated (n=1). All cases had primary education and were Christians. Three cases knew what anthrax was, two understood its transmission, and one knew preventive measures. All cases consumed meat from carcasses and presented with skin lesions. One of five samples was collected with results still pending. All cases were treated. Community engagement (n=54) revealed that 31 members attributed outbreak to consuming carcasses, 10 cited poor vaccination coverage, 8 blamed improper carcass disposal, and 5 had no opinion. **Conclusion** Anthrax primarily affected males likely due to their high-risk occupations. Gaps in knowledge and perceptions about anthrax transmission and prevention, underscore the need for targeted community education. Delayed sample collection affected the confirmation and outbreak response.

## Keywords

Anthrax, Sinazongwe, Knowledge, Attitude, Practices, Zambia, Outbreak Investigation