Chinese Notifiable Infectious Diseases Surveillance Report

Anthrax

November 2023

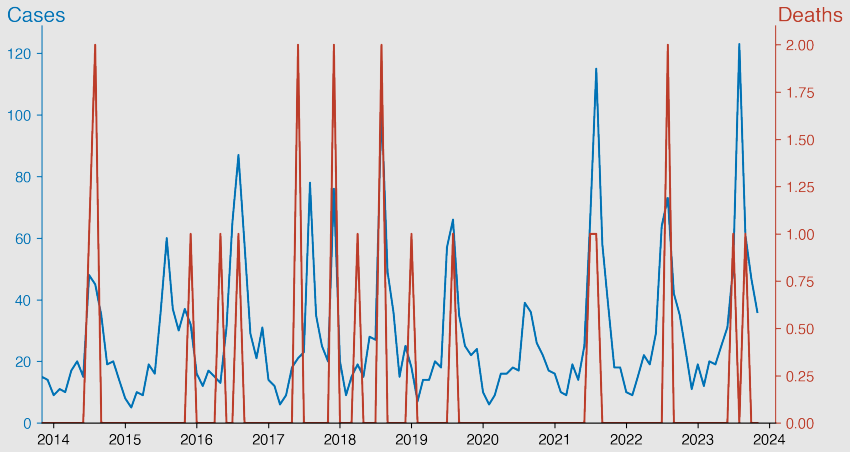
Introduction

Anthrax is a serious, potentially lethal infection caused by Bacillus anthracis bacteria. It predominantly affects livestock and wild game, but can also infect humans exposed to the spores through contact, inhalation, or ingestion. Human anthrax has three common forms: cutaneous, inhalation, and gastrointestinal, each presenting distinct symptoms. Anthrax is not typically transmitted from person to person. It became widely known in 2001 due to its use in biological warfare. With early detection and access to appropriate antibiotics, the prognosis is generally positive.

Highlights

- Seasonality is pronounced, with spikes in anthrax cases during summer and early autumn; for example, 123 cases in August 2023 showcase this trend.
- Mortality is low, with occasional increases (e.g., two deaths in August 2017 and 2021), but most months report zero deaths despite case numbers.
- Inconsistency in case numbers over the years suggests a stable presence of anthrax without significant year-over-year escalation.
- Recent data from November 2023 shows 36 cases and no deaths, reflecting an ongoing transmission with a currently low fatality rate.

Temporal Trend



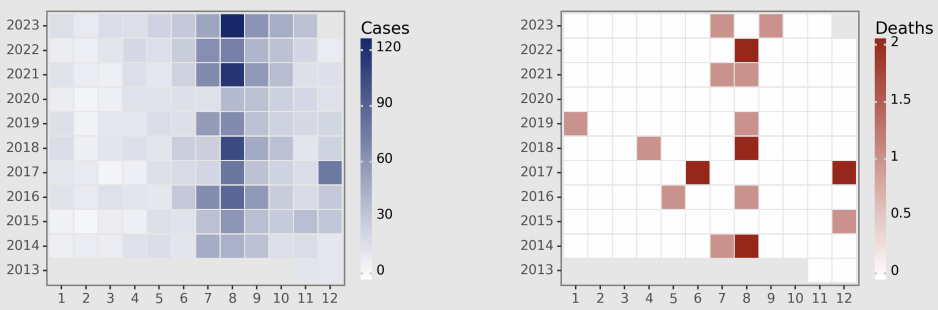
Cases Analysis

The Anthrax cases exhibit seasonality with a consistent increase during summer months, typically peaking in August, as seen by the surge in 2014 (48 cases in July to 45 in August), and reaching the highest count in August 2023 (123 cases). However, there was a notable drop in cases starting from late 2015, suggesting possible interventions or cyclical patterns of the pathogen. Stability in case numbers during non-summer months indicates persistent endemicity, while the absence of zeros suggests continuous transmission. The gradual rise in peak values over the years may indicate evolving environmental factors or reporting practices.

Deaths Analysis

Anthrax-related mortalities were relatively infrequent given the case counts, with deaths sporadically reported across the study period. The fatality rate fluctuated, with no clear trend in yearly increases or decreases. Peaks in death counts corresponded with, but were not exclusive to, the summer outbreaks—illustrated by single deaths occurring in the winters of 2014 and 2015. The death count in August 2014, 2017, 2018, and 2022 (2 deaths each) suggests higher virulence or case severity during peak transmission. Overall, the low mortality rate indicates that anthrax, while endemic, was generally not leading to high mortality in the observed timeframe.

Distribution



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Version: 2024-01-07 (UTC+)

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