

A Descriptive Analysis of Diphtheria Outbreak in Kano State, Nigeria: 2022 - 2024

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Training Program

MAIN FINDING

- Suspected diphtheria cases accounted for 19,804 from 2022-2024
- All 44 Local Government Areas (LGAs) in Kano State had reported
- 600 deaths reported with CFR of 4.3%
- Most cases from Ungogo (5,893, 29.8%), Dala (2,668, 13.5%) and Fagge (2,053, 10.3%) which are urban LGAs
- Most cases were among age groups 5-9 years (3,895, 28.2%) and 10-14 years (3,742, 27.1%)

BACKGROUND

Diphtheria is a highly contagious vaccine-preventable disease caused mainly by the bacteria *Corynebacterium diphtheriae* which can be fatal in 5-10% of cases, with a higher mortality rate in young children. There has been an outbreak of diphtheria in Nigeria with Kano state as the epicenter. This study aimed to provide an overview of the diphtheria outbreak from 2022 to 2024 in Kano State, highlighting key epidemiological features and contributing factors of the outbreak.

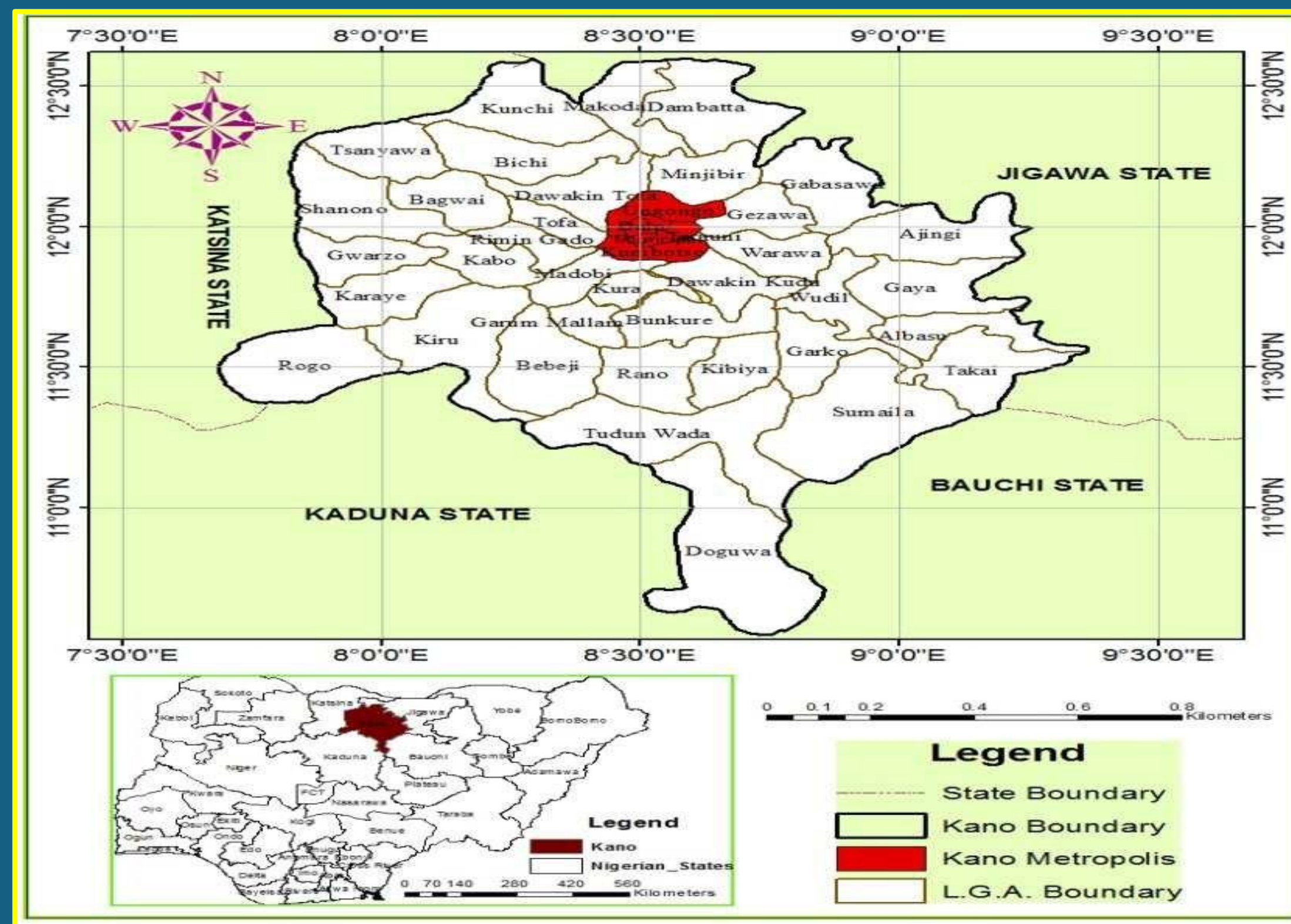
METHODS

- Secondary data analysis was conducted for diphtheria from Kano State from November 2022 to April 2024
- The data was representative of all LGAs (districts) in Kano State and contained relevant variables like LGA of residence, date of onset, case classification, outcome, gender, and final classification test results,
- We included 19,804 suspected/ reported cases
- Univariate analysis was performed to show frequencies and proportions while spatial analysis was done using the QGIS.

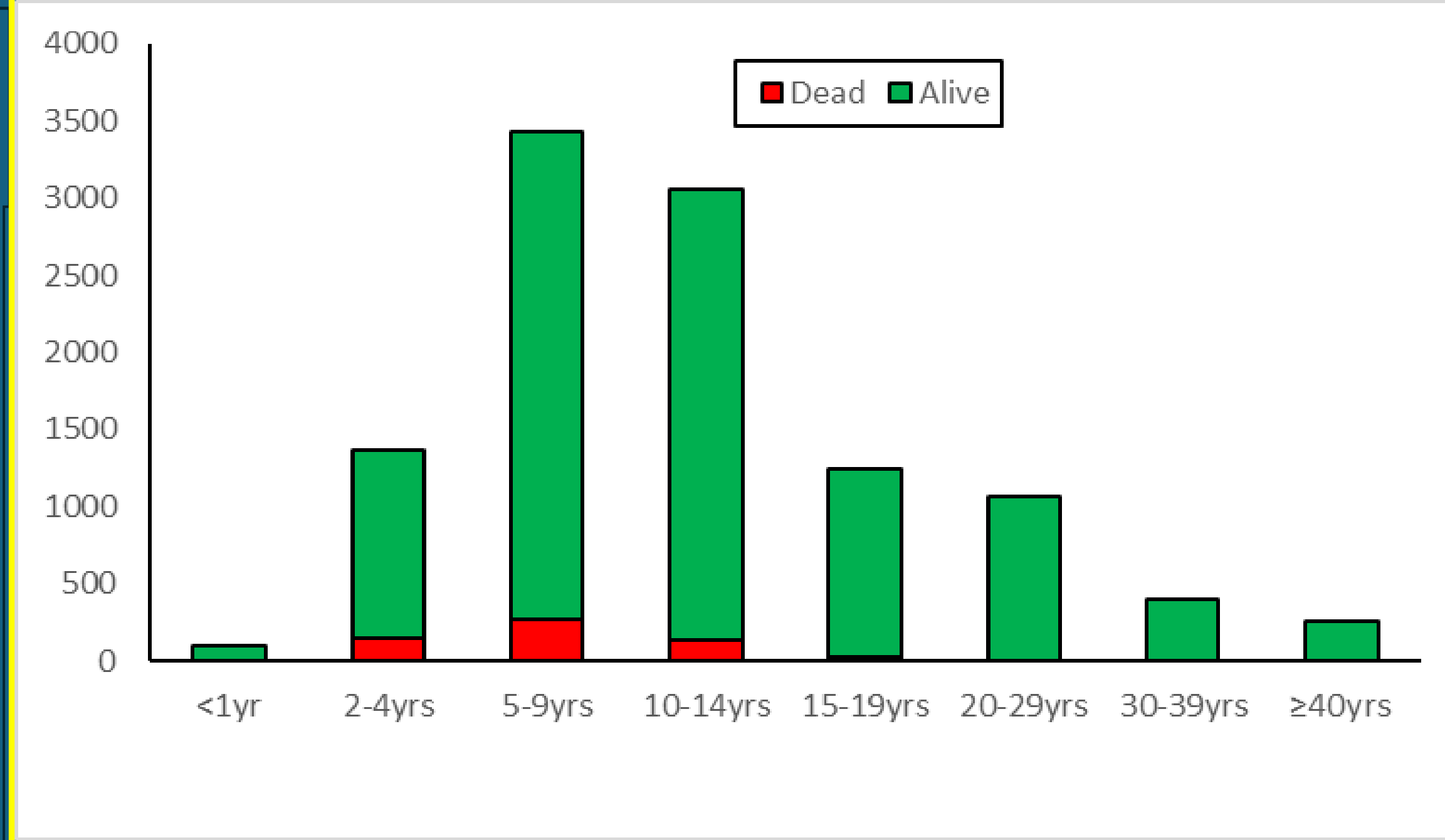
RESULTS

Most cases were among age groups 5-9 years (3,895, 28.2%) and 10-14 years (3,742, 27.1%). All 44 Local Government Areas (LGAs) in Kano State had reported 19,804 suspected diphtheria cases, and 906 deaths (CFR 4.5%), with most cases from Ungogo (5,893, 29.8%), Dala (2,668, 13.5%) and Fagge (2,053, 10.3%) which are urban LGAs. Most cases were reported between July and November of 2023 (17,944, 90.6%). Of the suspected cases, 6,014 (30%) samples were collected. The confirmed cases (laboratory-confirmed and clinically-compatible) were 13,812, with 168 laboratory-confirmed, 13,644 clinically-compatible, and 600 deaths (CFR 4.3%). Of the confirmed, 4,352 (31.5%) were fully vaccinated, 1,097 (7.9%) were partly vaccinated, 7,428 (53.7%)

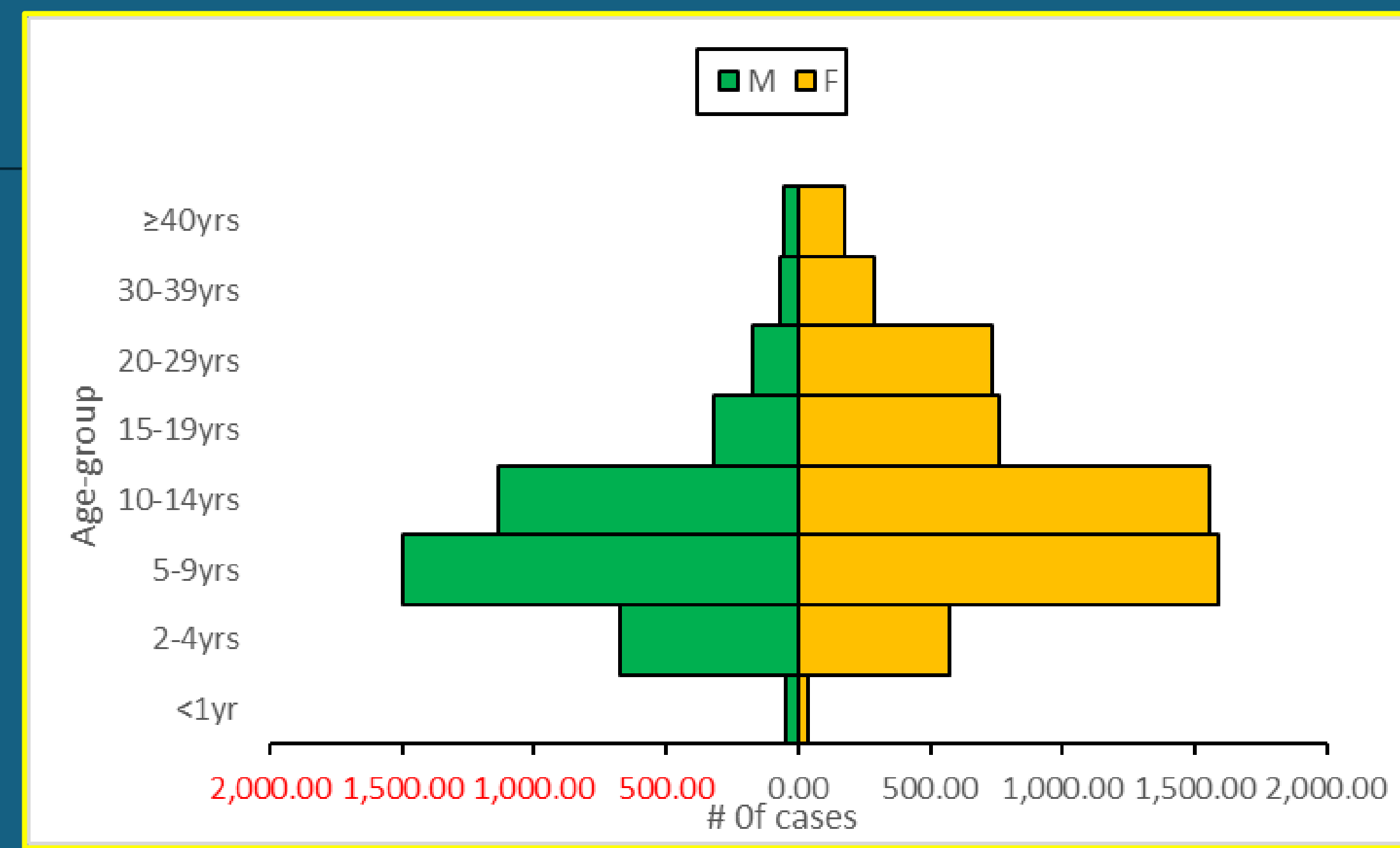
RESULTS



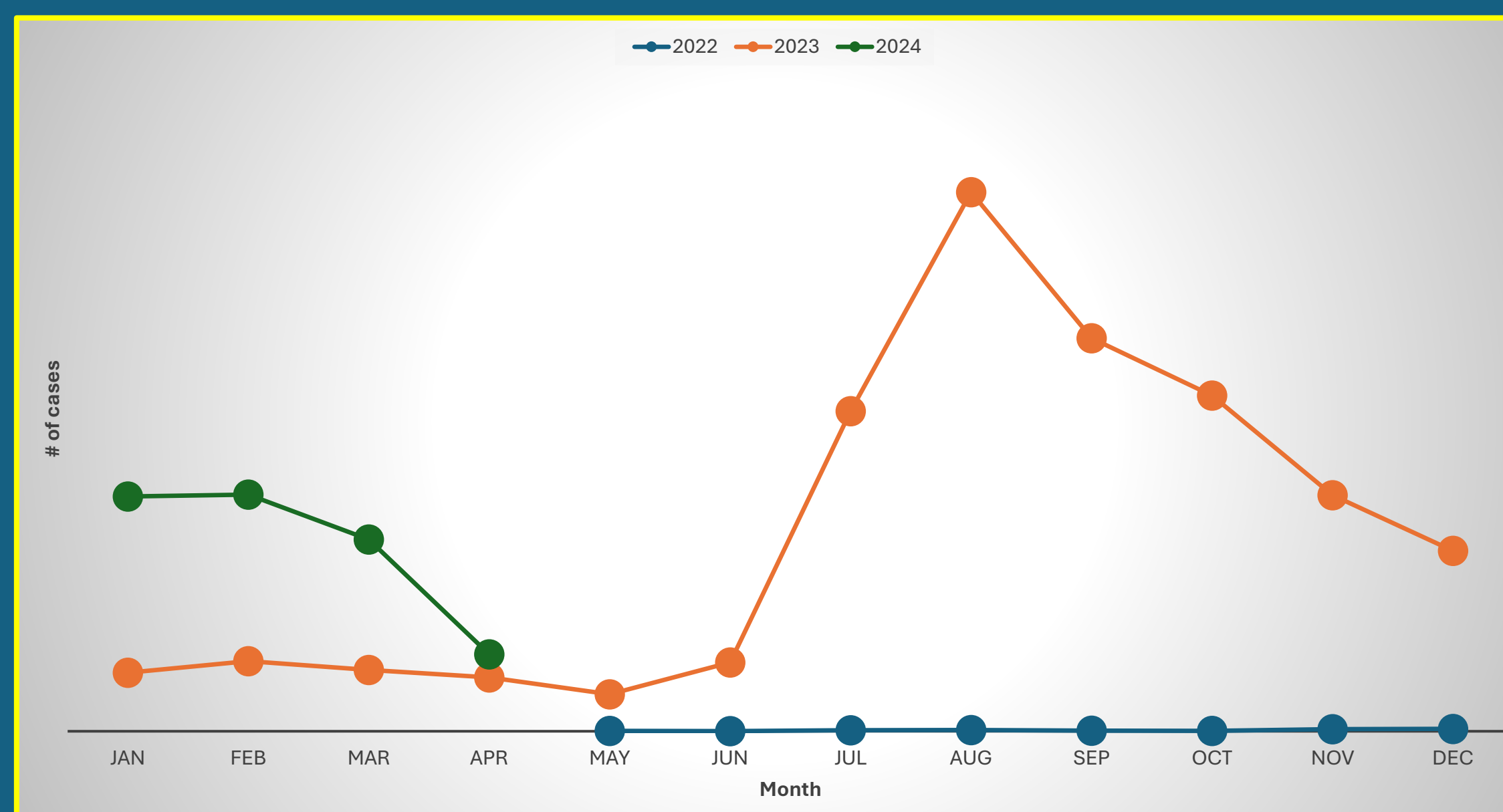
Kano State Profile



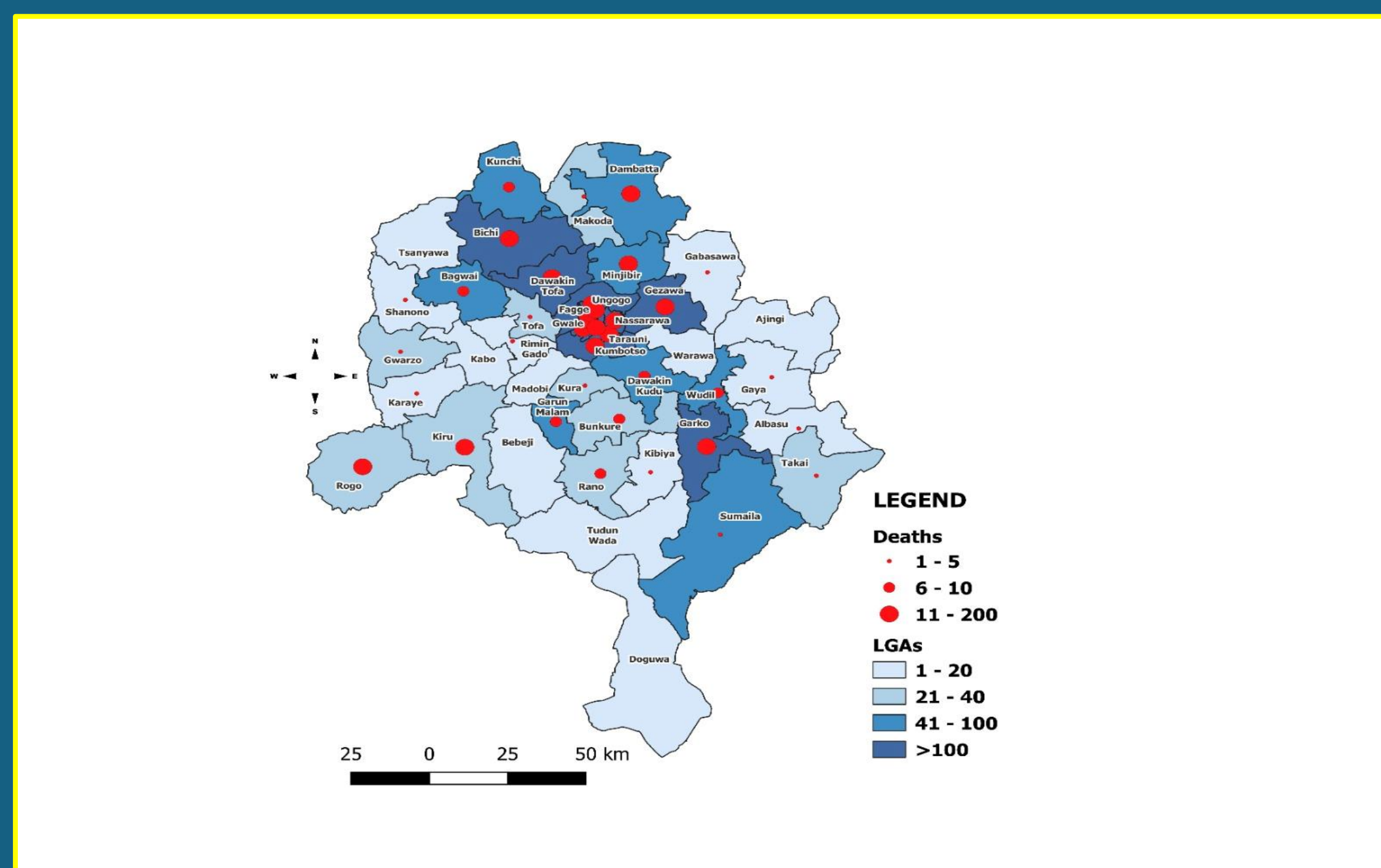
Distribution of confirmed cases by age group



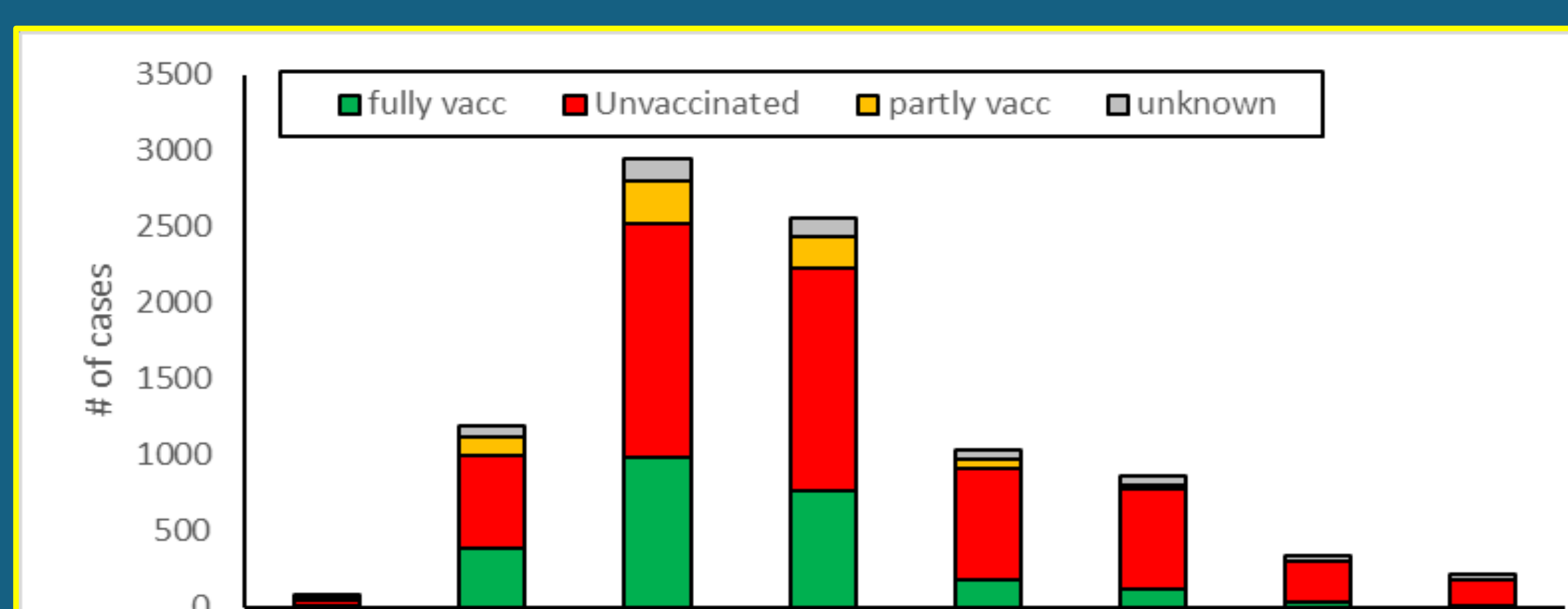
Age and sex distribution of confirmed cases in Kano, 2022-2024



Trend of diphtheria cases in kano, 2022-2024



Kano state map showing the distribution of cases by LGA



CONCLUSION

The diphtheria outbreak in Kano State underscores the critical importance of robust public health interventions and health system strengthening to mitigate the impact of infectious diseases. Sustained efforts in risk communication are needed to address underlying socioeconomic determinants, improve vaccination coverage, and enhance healthcare infrastructure to prevent future outbreaks and protect the health and well-being of the population in Kano State and beyond.

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Conflict of interest statement
The authors declare no competing interests

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