Evaluation of Mpox Surveillance System in Bayelsa State, Nigeria, 2017-2023

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SUMMARY:

This study evaluated the performance of the Mpox surveillance system at sub-national level. The Mpox surveillance system in Bayelsa State, Nigeria is adjudged as effective in achieving its purpose and objectives. Specifically, the system is deemed useful, simple, flexible, representative, acceptable, and timely in its operation. However, the overall data quality of the mpox surveillance system was found to be poor possibly due to the high number of missing variables and pending results in the surveillance data.

Key informants highlighted challenges with the Mpox surveillance system, including poor diagnostic capacity and lack of administrative commitment. Training of surveillance officers on Mpox data management and strenghtening laboratory capacity for Mpox at sub-national levels is theredfore reccommended

BACKGROUND

- Mpox continues to pose a threat to public health globally.
- In Nigeria, Bayelsa State recorded the first mpox case in 2017, forty years after the eradication of smallpox, alerting the global community of an impending outbreak.
- Despite reporting cases since 2017, the state's mpox surveillance system has never been evaluated.
- This study therefore evaluated the performance of the Bayelsa State mpox surveillance system and assessed its attributes.

OBJECTIVES

- To evaluate the performance of the mpox surveillance system in Bayelsa State, Nigeria.
- To assess attributes of the mpox surveillance system.
- To identify gaps and challenges with the mpox surveillance system.

METHODOLOGY

- We conducted a descriptive study with a mixed data collection approach.
- We adopted the US CDC's 2001 updated guidelines for evaluating public health surveillance systems to assess the key attributes of the Mpox surveillance system.
- We conducted a secondary data analysis of Mpox surveillance data from 2017-2023, a desk review of monthly IDSR reporting forms, self-administered questionnaires to 28 LGA DSNOs and key informant interview with 3 key stakeholders
- Data were analyzed with IBM SPSS version 20 and results were visualized using MS Excel version 2019.

RESULT

- The mean age of participants was 43± 8 years, and
- 23 (82.1%) persons had ≤ 15 years of work experience.

Table 1: Attributes of the Mpox Surveillance system

Attributes	Definition	Indicators	Frequency (n=28)
Usefulness	Useful if it contributes to preventing and controlling adverse health-related events.	Useful in resource allocation, policy, and decision-making.	100%
Simplicity	Refers to the system's structure and ease of operation.	Data collection tools easy to fill	96%
		Mpox case definitions were clearly defined	92.9%
Flexibility	Flexible if it adapts to changing information needs or operating conditions with little additional time, personnel, or allocated funds.	Mpox surveillance system is adaptable to change	96.4%
Data Quality	Reflects the completeness and validity of the data recorded in the public health surveillance system.	Received training on mpox surveillance	89%
		Identified inconsistencies between paper-based and electronic datasets	67.9%
Acceptability	Encompasses the willingness of persons on whom the public health surveillance system depends on to provide accurate, consistent, complete, and timely data.	Willingly and consistently report data to the next level in their reporting line.	100%
Representative	Representative if it accurately describes the occurrence of a health-related event over time and its distribution in the population by place and person.	Surveillance data reflects the true burden of the disease.	82.1%
		Case definitions reflect all at-risk population	89.3%
Stability	Refers to the reliability (i.e., the ability to collect, manage, and provide data properly without failure) and availability (the ability to be operational when it is needed) of the public health surveillance system.	Availability of skilled and dedicated staff ensuring ongoing surveillance at LGA and state levels.	100%

RESULTS CONTINUED

Secondary data analysis (SDA)

- SDA revealed that 16.0% pending results and a positivity rate of 32.8%. Males (69.8%) and individuals within the age range of 21-30 years were predominantly affected
- The overall annualized timeliness and completeness of reporting were 70.4% and 82.4% respectively

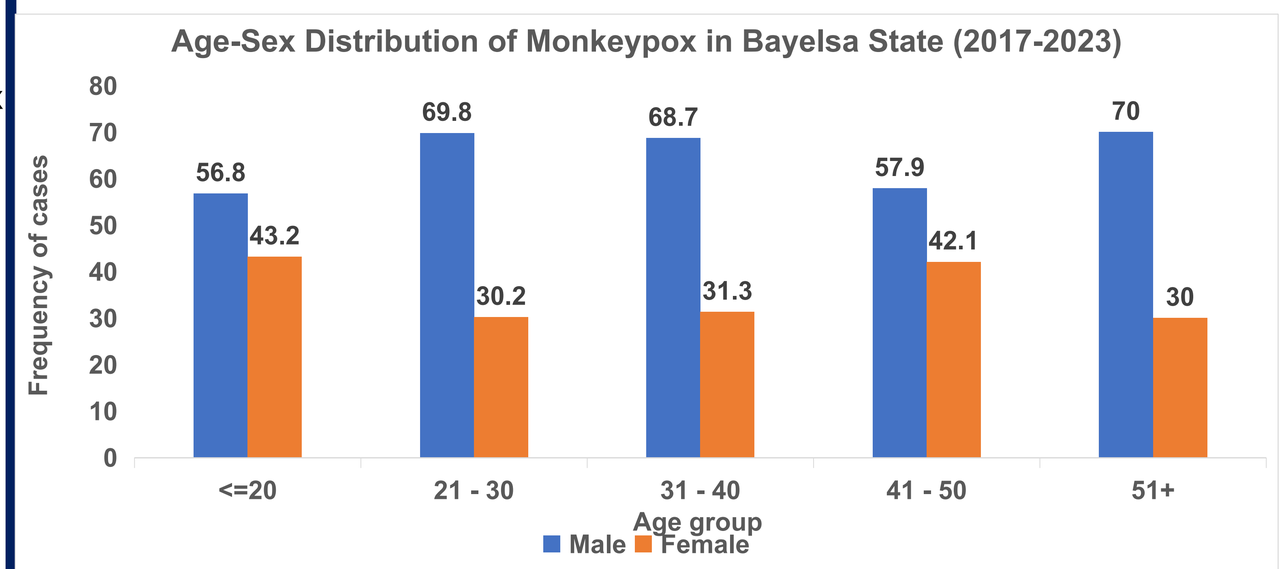

Fig 1: Age-Sex distribution of cumulative cases of mpox in Bayelsa State (2017-2023)

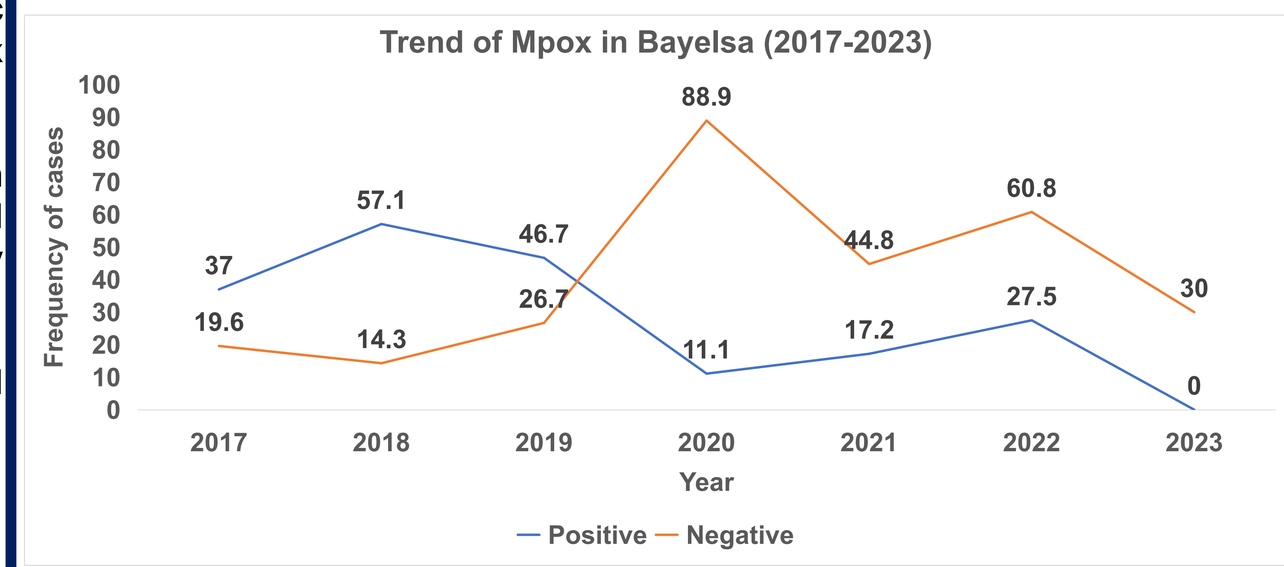

Fig 2: Trend of Mpox cases in Bayelsa State, 2017-2023

Gaps and Challenges

- All key informants highlighted poor diagnostic capacity as a major gap hindering effective mpox surveillance in Bayelsa State, Nigeria

CONCLUSIONS

- The Performance of the Mpox surveillance system in Bayelsa State is deemed useful, simple, flexible, representative, acceptable, and timely in its operation, However data quality was poor.
- Enhanced mpox surveillance, and strengthening mpox laboratory testing capacity at the sub-national level to improve data quality and early alerts and response are recommended.

ADDITIONAL KEY INFORMATION

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Funding Source: No external funding was received for this study

Conflicts of interest:: The authors declare no competing interest

Acknowledgments: The Department of Epidemiology and Medical Statistics, University of Ibadan, Nigeria.

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