Monkeypox in Nigeria: Epidemiology, Response Efforts

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Introduction

• Nigeria has a 50-year history with Monkeypox (MPX)

• There was an intervening silent period of about 40yrs

• Recent resurgence in the last 5yrs has led to a robust response using a multisectoral one-health approach

• There have been many successes and lessons learned, however, numerous challenges and areas of uncertainty remain

• The National Monkeypox Emergency Operations Centre (EOC) was activated on Thursday 26th May 2022
## Epidemiology of Monkeypox in Nigeria

### Key Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total reported</strong> cases from January 1(^{st}) to June 2(^{nd}), 2022</td>
<td>88</td>
</tr>
<tr>
<td><strong>Total confirmed</strong> cases from January 1(^{st}) to June 2(^{nd}), 2022</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total deaths</strong> from January 1(^{st}) to June 2(^{nd}), 2022 (CFR)</td>
<td>1 (4.3%)</td>
</tr>
<tr>
<td>Cumulative reported cases from Sept. 2017 to June 2(^{nd}), 2022</td>
<td>600</td>
</tr>
<tr>
<td>Cumulative confirmed cases from Sept. 2017 to June 2(^{nd}), 2022</td>
<td>249</td>
</tr>
<tr>
<td>Total deaths from Sept. 2017 to June 2(^{nd}), 2022 (CFR)</td>
<td>9 (3.6%)</td>
</tr>
</tbody>
</table>
## MPX Case Distribution and test positivity 2017-2022

<table>
<thead>
<tr>
<th>Year</th>
<th>Suspected</th>
<th>Confirmed</th>
<th>Test Positivity Rate (TPR %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>198</td>
<td>88</td>
<td>44.4</td>
</tr>
<tr>
<td>2018</td>
<td>116</td>
<td>49</td>
<td>42.2</td>
</tr>
<tr>
<td>2019</td>
<td>65</td>
<td>47</td>
<td>72.3</td>
</tr>
<tr>
<td>2020</td>
<td>35</td>
<td>8</td>
<td>22.8</td>
</tr>
<tr>
<td>2021</td>
<td>98</td>
<td>34</td>
<td>35.0</td>
</tr>
<tr>
<td>2022</td>
<td>88</td>
<td>23</td>
<td>26.1</td>
</tr>
</tbody>
</table>
Epicurve Curve of suspected and Confirmed cases from Jan 2022 till June 2^{nd} 2022
Age and sex distribution of Nigeria confirmed monkeypox cases September 2017 – 2nd June 2022

Age and sex distribution of Nigeria confirmed monkeypox cases January 1st – 2nd June 2022
Trend of confirmed Monkeypox cases
September 2017- 2nd June, 2022 in Nigeria
Summary of Epidemiological Findings

• No observed change in disease transmissibility

• No documented evidence of sexual transmission in Nigeria

• Genomic sequencing of all positive samples ongoing-this has shown that all our positive cases are the west African Clade

• Clinical manifestations have remained the same (symptoms profile, virulence)

• No animal reservoir confirmed/identified
Priority Research Questions

1. Disease Transmission
   1. Animal reservoir for infection
   2. Cumulative population exposure
   3. Genomics for transmission chains
   4. Identify/confirm all modes of transmission
   5. Correlates of susceptibility/protection
   6. Lifetime immunity post-recovery
   7. Latency/sanctuary areas
Specific Response activities

• Development of MPX specific guidelines

• Real-time reporting with SORMAS

• Technical support to high burden states (surveillance strengthening, sample management)

• National Reference Lab optimization for MPX PCR

• Enhanced Monkeypox surveillance project carried out in selected high reporting states (Delta, Bayelsa and Rivers States) in 2021
  ➢ Engaged personnel were also trained on case detection and reporting of other priority diseases (integrated disease approach)
  ➢ Recruited and trained surveillance facilitators and community informants to support case identification and reporting
Priority Questions for Diagnostics

- What specimens are collected for diagnostics (In Nig- we do crust and swab with RT PCR; serology sample is sent to CDC Atlanta for ELISA)
- Is there an existing mechanism for sample transportation and management (TRANEX)
- What are the steps GoN is doing to scale up diagnostic capacity in-country
- Availability of point of care diagnostics- RDT
- Availability of commercial assays that are available off-market
Main challenges

• Low-risk perception due to low fatality

• Poor awareness within the community

• Lack of sustainable funding for MPX surveillance activities

• Minimal dedicated funding for research activities

• Gaps in knowledge about MPX e.g. reservoir patterns, transmission mechanism, post-infection immune competence

• The response is largely driven from the National level
Conclusion

• MPX is endemic in some parts of Nigeria

• The epidemiology has been mostly stable over the last 5yrs since the resurgence

• Much progress has been made in improving prevention, detection and response

• Genomic sequencing is ongoing – results will be published

• Challenges and gaps remain
  - Need for sustained MPX preparedness and response efforts with the support of all stakeholders and partners
  - Access to medical countermeasures – vaccines and therapeutics
Thank you