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Monkeypox outbreak in a correctional center in North eastern Nigeria

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Dear Editor,

Orvix et al ¹ report that Monkeypox in Spain is associated with person-to-person transmission and that infected individuals are more likely to have concomitant sexually transmitted infections, pointing to a potential sexual transmission. Monkeypox, is the most prevalent orthopoxvirus ² since the eradication of smallpox and has long been reported from Africa, with outbreaks in Central and West Africa, corresponding to the Congo Basin and the West African clades (renamed clades 1 and 2, respectively). ³ Although infection in Africa is zoonotic, human-to-human transmission is the predominant route of transmission for outbreaks outside Africa,⁴ with most infections occurring after meeting in conglomerate settings and close contact. Until recently, clusters outside Africa were associated with travel, notably in Europe and the Americas. ⁵ However, in the last decade numerous outbreaks outside the African continent do not have clear travel linkages and there is considerable debate on whether sexual behavior is a route of transmission or merely a marker of behavioral patterns. There has also been an increase of cases reported from Africa, ² and Monkeypox reemerged in Nigeria in 2017. ⁶ The first case of Monkeypox in Adamawa State, in the Northeast, was only reported in January 2022 and human-to-human transmission is considered to be rare. Up to now, most cases are less than 40 years old, born after the cessation of the smallpox vaccination.³ Here, we report the first outbreak of Monkeypox occurring in a prison in Nigeria, in which the predominant route of transmission seems to be person-to-person contact. To our knowledge, Monkeypox outbreaks have not been reported from prisons anywhere in the world.

The outbreak

On the 2nd of March 2022, Adamawa State Ministry of Health was notified of inmates with rashes occurring in Yola prison and a joint rapid response team (RRT) from the State Field Office and the World Health Organization (WHO) initiated outbreak investigations. An initial head count identified 21 affected individuals under 40 years old. Some inmates had almost recovered at the time of examination, while others had just started to have symptoms, indicating the outbreak had lingered for several weeks before the investigation. The index case had a rash three months before the visit and cases had occurred over 18 weeks. Inmates

were undernourished and untidy, had fever, rashes, body weaknesses and sometimes had collapsed. Rashes involved the face, head, neck, trunk, buttocks, the extremities (Figure 2), and genitalia. All participants had enlarged inguinal and some cervical lymph nodes, which were firm, non-fluctuant and tender. Individuals with overt infections were isolated and inmates were monitored for signs and symptoms of infection. A visit 72 hours later identified further seven cases and one further case was reported from the specialist hospital. Two of the five samples tested at the National Reference Laboratory were PCR-positive for monkeypox. Suspected cases were reported to Local and State Government authorities, NCDC and WHO.

Although Monkeypox transmission in West Africa is considered a zoonotic infection occurring sporadically or in clusters, transmission in conglomerates is rarely documented and we have not found previous reports of outbreaks occurring in prison centers. It is surprising that outbreaks in prisons have not been reported, as the likelihood of transmission is high due to their crowded conditions, frequency of skin-to-skin contact and infestations with rodents ⁷. A single case of human-to-human transmission was reported in Nigeria during the reemergence of Monkeypox in 2017 ⁶. However, this case did not lead to further cases. As a reemerging infection in Nigeria, staff and inmates had low awareness of Monkeypox and were even unaware of its namesake, its mode of transmission and potential for human-to-human infection. Although prompt investigation, engagement of stakeholders and quality response can halt the spread of monkeypox in a closed system, the outbreak continued to spread due to sub-optimal adherence of the control measures proposed, administration bottlenecks and limited funding. Local partners were advised to suspend presential court sessions and delay transfers between prisons; the provision of individually named uniforms and bed linen, washing uniforms and bedding with disinfectants and the elimination of rodents. Ideally, at-risk prison health care workers should have been vaccinated and provided with personal protective equipment.

Similar to Orvix et al ¹ report, most inmates in Yola lived under conditions that could facilitate human-to-human transmission, and potentially sexual transmission. However, the living conditions could also maintain zoonotic transmission and the actual route of infection remains conjectural, but difficult to identify while investigating the outbreak in a confined population with high contact intensity. It is now well established

that the epidemiology of Monkeypox has changed in recent months, with more than 30,000 cases reported in the four months from May 2022, with cases reported in 82 countries, including countries which historically haven't reported cases of the virus and more cases reported in countries that were not traditionally endemic. Although the outbreak reported here occurred in a West African endemic country, cases in Nigeria have also increased in since its re-emergence in 2017, and further studies are needed to document changes in its epidemiology in endemic countries.

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Figure 1: Number of Monkey pox cases by symptom onset by epidemiological weeks (51 2021 to 17 2022)

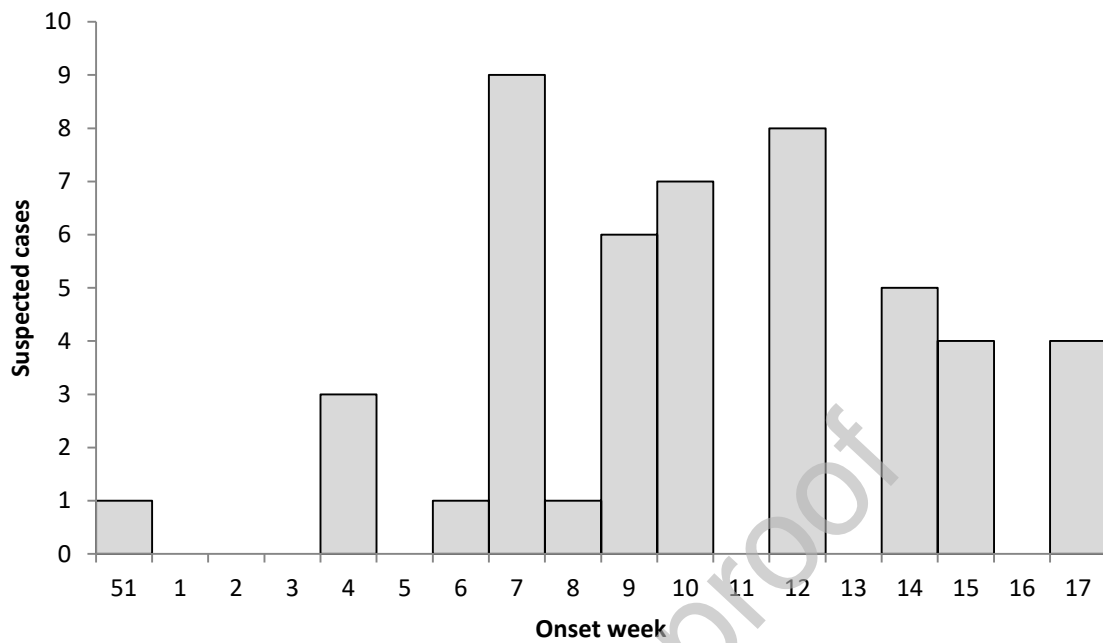


Figure 2. Monkeypox lesions among inmates

