WHO Public Health Laboratories
knowledge sharing webinar

Monkeypox virus: epidemiological updates and latest recommendations for laboratory testing

In this webinar we had a review Monkeypox epidemiology, discussed the current multi-country outbreak, diagnostics, and shared key recommendations from the WHO interim guidance 'Laboratory testing for the monkeypox virus: Interim guidance’, published on 23rd May 2022.

Dr Lateefat Kikelomo Amao described the epidemiology and laboratory surveillance of monkeypox (MPX) in Nigeria, noting the resurgence of the disease in the country in 2017, many years after its first detection, and the current geographical shift of MPX cases. She went through the specific response activities, and described the laboratory surveillance mechanism, diagnostic tests available and recently developed genomic capacity. Some challenges include limited testing laboratories, non-availability of reagents and lack of sustainable funding; and points to focus on moving forward included building a national laboratory network, further research and improvements in risk communication and community engagement.

Dr Rinat Maksyutov presented the in-house diagnostic tests developed at VECTOR for timely detection of orthopoxviruses, and specifically MPX. These tests range from multiple-x-PCRs for species-specific differentiation of orthopoxviruses, to RT-PCR developed for specific differentiation of MPX virus (MPXV); orthopox specific EUSA and a stand-alone genus-specific kit for rapid immunochromatographic diagnosis of orthopoxviruses, including MPXV. Details on reagents and references were included in the presentation.

Dr Andreas Nitsche presented the work performed at RKI on poxvirus diagnostics, describing the strict criteria for sample acceptance for MPX diagnosis and requirements for shipment and processing. He outlined the different molecular assays used, from generic to dade-specific and Next Generation Sequencing, and shared preliminary analyses on different sample types phylogenetic analyses, and virus propagation for isolate preparation. Dr Nitsche also reflected on the diagnostic value of different testing methods for direct and indirect virus detection.

Dr Lorenzo Subissi provided an overview of the WHO interim guidance on laboratory testing for Monkeypox, and its key recommendations: preferred specimen types, biosafety considerations, methods and algorithms, specimen packaging. He highlighted the value of global laboratory networking for equitable access to testing and of sequence sharing to advance the understanding of this global outbreak.

Dr Christina Hutson described the laboratory response network in the US, for which protocols for generic orthopox, non-variola orthopox assay and variola specific assay are utilized and the national testing algorithm. PCR assay targets and validation were also discussed. Some considerations for assay implementation were mentioned, such as specimen type, biosafety/vaccination considerations, inactivation of poxviruses and the importance of assay verification and validation. As a final note Dr Hutson mentioned the latest sequencing efforts at the CDC which will continue to quickly publish MPXV sequences.

Useful links (click on blue text)

- Webinar recordings - [English](#) - [Français](#) - [Русский](#) - [Deutsch](#)
- Presentations: [Dr Lateefat Kikelomo Amao](#), [Dr Rinat Maksyutov](#), [Dr Andreas Nitsche](#), [Dr Lorenzo Subissi](#), [Dr Christina Hutson](#)
- Questions answered by the presenters: [EN](#)
- WHO guidance documents: [Laboratory testing for the monkeypox virus](#), [Surveillance, case investigation and contact tracing for Monkeypox](#), [Monkeypox outbreak update](#), [MPX Fact sheet](#)
- Protocols**: [link](#)

*The interpretation of proceedings serves to facilitate communication and does not constitute an authentic verbatim record of the proceedings. Only the original speech is authentic. Due to technical problems the Portuguese recording is not available.

**Please note that the contents of this folder will be updated as additional protocols are shared. WHO does not recommend or endorse any particular protocols and notes that any diagnostic protocol should be validated as per standard clinical laboratory practice

This webinar was presented in partnership with Project ECHO™

What you told us:

- 20% of you are testing for monkeypox in your laboratory.
- Of those, 19% are using MPX specific PCR, 15% orthopox-specific and 13% are sequencing