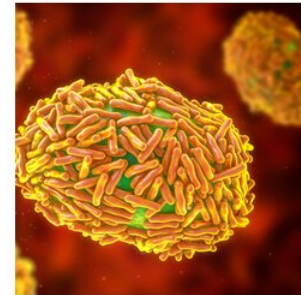
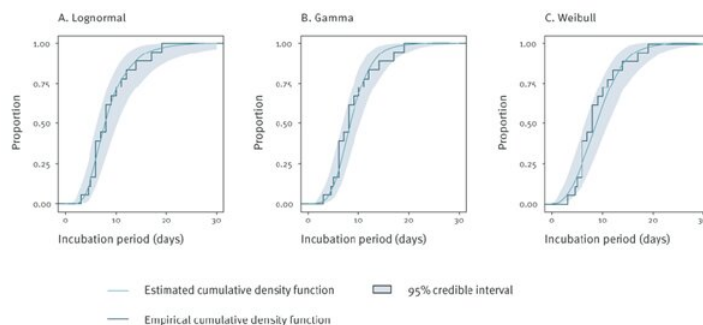


Incubation period for monkeypox: Estimates from the Netherlands

June 16 2022

Estimated cumulative density functions, according to different parametric distributions and empirical cumulative density function of incubation periods reported for monkeypox cases in the Netherlands, May 2022 (n = 18 cases)



For the visualisation of the empirical cumulative distribution, the median points of the reported time interval of exposure were used.

Estimated cumulative density functions, according to different parametric distributions and empirical cumulative density function of incubation periods reported for monkeypox cases in the Netherlands, May 2022 (n = 18 cases).

Credit: *Eurosurveillance*

During the currently evolving outbreak of monkeypox cases worldwide, 31 cases have been confirmed in the Netherlands up to 31 May 2022. Efforts to stop the spread of infection focus on active case finding, contact tracing of close contacts and their isolation or quarantine.

Related recommendations from public health bodies on the need for active monitoring and isolation for a minimum of 21 days after the last day of exposure are based on the known monkeypox incubation period (up to 21 days).

Miura et al. analyzed data of 18 cases confirmed in the Netherlands who reported the date of onset of symptoms and the most likely date of exposure. Depending on the route of transmission, the typical duration of the [incubation period](#) for [monkeypox](#) varies from 9 days following complex and invasive exposure, e.g. contact with broken skin, to around 13 days after non-invasive exposure such as droplet transmission or contact with intact skin.

In their rapid communication published in *Eurosurveillance* today, the authors argue that "given the particular types of exposures and differences in route of transmission, the incubation period for monkeypox in the current outbreaks may also have a different duration."

All of the 31 laboratory-confirmed monkeypox cases detected in the Netherlands until end of May 2022 were among men between 23–64 years old who self-identified as men who have sex with men. Miura et al. analyzed the distribution of the incubation periods based on the information about symptom onset and exposure histories for monkeypox among 18 of them. They used a likelihood-based approach, which allows for exposure to be a single time point or a time interval.

Mean incubation period estimated at 8.5 days

Among the analyzed cases in this outbreak and using this best-fitting (lognormal) distribution, the mean incubation period of monkeypox was estimated to be 8.5 days (95% credible intervals: 6.6–10.9 days), with the 5th percentile of 4.2 days and the 95th percentile of 17.3 days.

This mean incubation period is in line with the typical timeline for so-called complex invasive exposure and "direct contact between respective broken skin or [mucous membranes](#) during [sexual activity](#) might be the most likely route of transmission among cases reported" in the Netherlands.

Based on this, Miura et al. estimate that the percentage of people with monkeypox that would develop symptoms only after 21 days is approximately two percent, thus supporting the current use of 21 days for quarantining or other approaches to avoid infectious contacts.

The authors note that "more epidemiological information on details of possible exposure routes is required to establish whether the results of the current study are generalizable to other men who have sex with men cases in the current outbreak, and to what extent the incubation period differs between alternative transmission routes."

More information: Miura Fuminari et al, Estimated incubation period for monkeypox cases confirmed in the Netherlands, May 2022, *Eurosurveillance* (2022). [DOI: 10.2807/1560-7917.ES.2022.27.24.2200448](#)

Provided by European Centre for Disease Prevention and Control (ECDC)

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