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SCIENTIFIC REPORT

Surveillance of West Nile virus infections in humans and animals in Europe, monthly report – data submitted up to 6 August 2025

European Centre for Disease Prevention and Control (ECDC), European Food Safety Authority (EFSA)

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Epidemiological summary

In 2025, and as of 6 August 2025, 6 countries in Europe reported 202 locally acquired[1] human cases of WNV infection with known place of infection. The earliest and latest date of onset were respectively on 2 June 2025 and 2 August 2025. Locally acquired cases were reported by **Italy** (168), **Greece** (26), **France** (3, of which 1 with unknown place of infection), **Romania** (3), **Bulgaria** (1) and **Hungary** (1). In Europe, 10 deaths were reported.

Case numbers reported so far this year are slightly above the average for the past decade in the same period (163). However, these figures remain lower than those seen in 2024 and 2018—years when virus circulation was particularly intense, with 382 and 385 cases reported by this point in the year, respectively.

As of 6 August, locally acquired human cases of West Nile virus (WNV) infection have been reported in 40 regions across six countries. This compares with 108 regions (11 countries) during the same period in 2024 and 68 regions in 2018 (seven countries). All six countries have previously reported human cases of WNV. Italy is currently experiencing a significant outbreak, with 168 confirmed human infections, including 10 fatalities. For the first time in Italy, the provinces of Latina (ITI44) and Frosinone (ITI45) have reported human cases. Similarly, Romania has reported its first cases in Sălaj County (RO116).

As observed in previous years, most cases were among males aged 65 years and older. The hospitalisation rate was high compared with previous years, with 100% of cases hospitalised this year compared to 93% in the past decade. That most cases are hospitalised is most likely due to the nature of WNV surveillance, which tends to predominantly capture the most severe cases. The case fatality rate so far this year is 7%, which is comparable to the 11% observed in the previous decade. Neurological manifestations were reported in 56% of cases this year compared to 66% in the previous decade. In general, a dominance of neurological cases is expected, as cases with more severe symptoms are more likely to be diagnosed.

[1] Locally acquired cases refer to cases acquired within the reporting country.

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From the veterinary perspective, 16 WNV outbreaks among equids and 20 outbreaks among birds have been reported in Europe in 2025. The earliest start date of an outbreak among equids and birds was on 15 January 2025 in Germany and 16 February 2025 in Italy, while the latest onset of an outbreak among equids and birds was, respectively, on 29 July 2025 in Italy and 29 July 2025 in Austria. Outbreaks among equids were reported by **Italy** (11), **Greece** (2), **Germany** (1), **Hungary** (1) and **Spain** (1). Outbreaks among birds were reported by **Italy** (19) and **Austria** (1).

In the Animal Disease Information System (ADIS) database no information was provided on the exact equid species reported, whereas species details were available for birds. The following bird species were associated with the reported outbreaks: common magpie (4), common kestrel (4), carrion crow (3), herring gull (3), hooded crow (3), common moorhen (1), rock dove (1), and unidentified Columbidae (1).

In June and July 2025, the monthly number of outbreaks in equids slightly exceeded the 10-year mean (2015–2024) of June and July, while the monthly count for outbreaks in birds from March to July 2025 fell below the historical monthly mean, with a marked decline in July 2025. In 2024, up to 6 August, 38 and 132 outbreaks were reported in equids and birds, respectively, which is notably higher than the number of outbreaks reported during the same period in 2025.

As of 6 August 2025, outbreaks in birds and/or equids have been reported in 23 regions across six countries. This compares with 47 regions (eight countries) during the same period in 2024 and 16 regions (three countries) in 2018. All six countries reported WNV outbreaks in birds and/or equids in 2024 and in prior years, reflecting endemic WNV activity in these territories. However, as of 6 August, outbreaks in birds and/or equids were reported for the first time to ADIS in the following three Italian provinces: Foggia (ITF46), L'Aquila (ITF11), and Lecco (ITC43). Additionally, equid outbreaks were reported for the first time by Greece in Aetolia-Acarnania (EL631) and Kavala (EL515), and by Spain in Almería (ES611).

Reports of WNV outbreaks during the winter, when mosquito activity is minimal, should be carefully evaluated as they raise questions about the timing of infection. Two such reports - one outbreak in equids reported by Germany in January, and one in birds reported by Italy in February - warrant cautious interpretation, as they may reflect residual detection (e.g. lingering antibodies or viral RNA from infections acquired in the year before) rather than active transmission in 2025.

Three countries - Italy, Greece and Hungary - reported both WNV human cases and outbreaks in equids and birds. As of 6 August 2025, Italy accounted for 83% of all reported human cases and all reported outbreaks in equids and birds, underscoring the significant WNV activity in the country. This is likely due to favourable climate conditions and ecological hotspots (e.g. wetlands, agricultural areas) that support WNV transmission by influencing mosquito vector populations and host dynamics. Intensive surveillance in Italy may also contribute to high detection rates of human cases and outbreaks in birds and equids. The identification of WNV cases in humans and animals within previously unaffected areas underscores the ongoing geographic expansion of the virus, which is most likely due to environmental, climatic and ecological changes. In addition, increased surveillance or monitoring sensitivity and raised awareness in these areas might play a role in the detection of the cases.

Owing to delays in diagnosis and reporting, as well as the fact that most of the WNV infections are asymptomatic or subclinical, the case numbers provided in this report likely underestimate the true number of cases. Of note, the seasonal surveillance in humans primarily focuses on capturing laboratory-confirmed cases, which contributes to the diagnostic delay.

Given the favourable weather conditions for WNV transmission in Europe, we expect that the number of human cases and outbreaks in equids and birds will continue to raise in the coming weeks. In previous years, the peak of transmission was observed in August-September. Both ECDC and EFSA will follow-up closely on the situation in Europe, in particular regarding severity indicators.

Key words: West Nile virus, humans, birds, equids, outbreak.

The full automated report is available online at the following link:

https://www.ecdc.europa.eu/en/infectious-disease-topics/west-nile-virus-infection/surveillance-and-disease-data/monthly-updates