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SCIENTIFIC REPORT

Surveillance of West Nile virus infections in humans and animals in Europe, monthly report – data submitted up to 3 September 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 3 September 2025, 9 countries in Europe reported 652 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 31 August 2025. Locally acquired cases were reported by **Italy** (500), **Greece** (69, of which 1 with unknown place of infection), **Serbia** (33), **France** (20), **Romania** (15), **Hungary** (6), **Spain** (5), **Albania** (3) and **Bulgaria** (1). In Europe, 38 deaths were reported.

Case numbers reported so far this year are above the average for the past decade in the same period (514). However, these figures remain lower than those seen in 2018, 2022, and 2024 – years when virus circulation was particularly intense, with over 1 000 cases reported by this point in the year. As the latter figures are based on consolidated data, while the current year's data remain delayed and incomplete, direct comparisons should be made with caution.

Italy is currently experiencing a large outbreak, with 500 confirmed human infections, including 32 fatalities (case fatality rate of 6.4%, which is within the expected range). This is the highest number of human WNV infections reported by Italy at this time of the year. The cases are mainly reported from the Lazio region (Latina, Roma and Frosinone), with a total of 218 cases, and the Campania region (Napoli, Caserta, Salerno and Avellino), with a total 106 cases. Other regions are reporting similar numbers as in previous years.

As of 3 September 2025, locally acquired human cases of WNV infection have been reported in 100 regions across nine countries. This compares with 174 regions (16 countries) during the same period in 2024, and 129 regions (12 countries) in 2018 (based on consolidated data). All nine countries have previously reported human cases of WNV.

During the current transmission season, the following regions reported human cases of WNV infection for the first time ever: by Italy in Genova (ITC33), Sondrio (ITC44), Avellino (ITF34), Catanzaro (ITF63), Reggio di Calabria (ITF65), Palermo (ITG12), Messina (ITG13), Nuoro

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

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(ITG2E), Arezzo (ITI18), Latina (ITI44) and Frosinone (ITI45), by France in Seine-Saint-Denis (FR106), Puy-de-Dôme (FRK14) and Vaucluse (FRL06), and by Romania in Sălaj (RO116).

As observed in previous years, most cases are among males aged 65 years and older. The hospitalisation rate is similar to previous years, with 91% of cases hospitalised this year compared to 92% in the past decade. The high hospitalisation rate is 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 6%, which is below but comparable to the 11% observed in the previous decade. Neurological manifestations were reported in 54% of cases this year, compared to 67% 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.

From the veterinary perspective, 72 WNV outbreaks among equids and 114 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 21 August 2025 in Austria and 22 August 2025 in Italy. Outbreaks among equids were reported by **Italy** (44), **Croatia** (9), **France** (6), **Greece** (4), **Hungary** (3), **Spain** (3), **Germany** (2) and **Austria** (1). Outbreaks among birds were reported by **Italy** (104), **Germany** (8), **Austria** (1) and **Spain** (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 bird species associated with the highest number of reported outbreaks were the carrion crow (29) and the common magpie (25), followed by the common kestrel (10), herring gull (7), unidentified Accipitridae (6), hooded crow (5), common wood-pigeon (4) and little owl (3). In addition, several other bird species were involved in only one or two outbreaks.

In June and July 2025, the monthly number of outbreaks in equids slightly exceeded the 10-year average (2015–2024) for those months, while the number of outbreaks reported in August fell below the 10-year average. The number of bird outbreaks reported to date this year remains below the figures recorded during the same period since 2022 – the year following the introduction of mandatory reporting of bird outbreaks by EU Member States. In 2024, up to 3 September, 205 outbreaks in equids and 289 in birds were reported, figures that are notably higher (by 62%) than those recorded during the same period in 2025.

As of 3 September 2025, outbreaks in birds and/or equids have been reported in 63 regions across eight countries. This compares with 131 regions (13 countries) during the same period in 2024 and 50 regions (seven countries) in 2018. All eight 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 3 September, outbreaks in birds and/or equids were reported for the first time to ADIS in the following seven Italian provinces: Caltanissetta (ITG15), Foggia (ITF46), Frosinone (ITI45), L'Aquila (ITF11), Lecco (ITC43), Reggio Calabria (ITF65), and Siracusa (ITG19). Additionally, outbreaks in birds and/or equids were reported for the first time by Croatia in Koprivničko-križevačka županija (HR063) and Bjelovarsko-bilogorska županija (HR021), by France in Yvelines (FR103), and by Spain in Almería (ES611) and Menorca (ES533). Furthermore, in 2025, outbreaks in equids were reported in the Greek region of Thasos-Kavala (EL515) following 12 years since the last reported outbreak in animals.

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.

Five countries – Italy, Greece, France, Hungary, and Spain – reported both WNV human cases and outbreaks in equids and birds. As of 3 September 2025, Italy accounted for 76.3% of all reported human cases and for 79.6% of 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, the number of human cases and outbreaks in equids and birds might continue to rise in the coming weeks. In previous years, the peak of transmission was observed in August–September. Both ECDC and EFSA will closely follow up 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