



MINISTRY OF HEALTH & SOCIAL SOLIDARITY
HELLENIC CENTER FOR
DISEASE CONTROL & PREVENTION

West Nile Virus in Greece, 2011

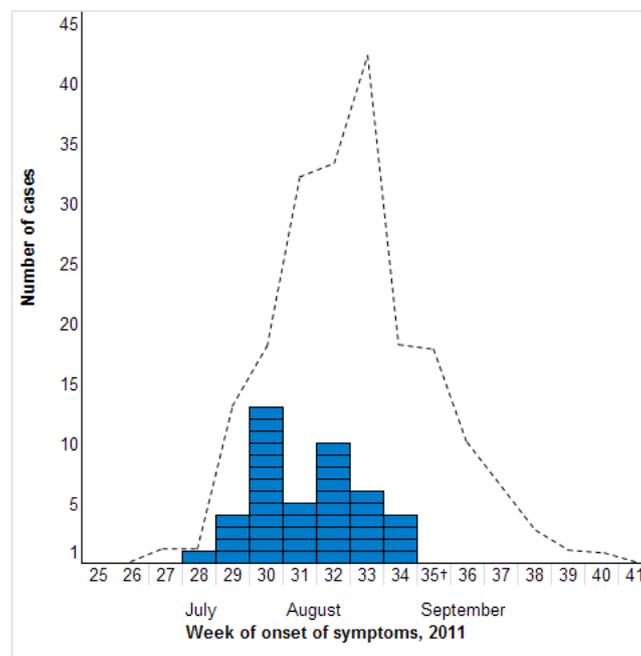
During the summer of 2010, an outbreak of West Nile Virus (WNV) infection occurred in Greece that was the second largest outbreak of WNV infection in Europe in the last 15 years. In July 2011, new WNV cases occurred. From the beginning of 2011 until 31 August 2011, 54 laboratory-confirmed cases of WNV infection were reported, of which 43 presented with neuro-invasive disease (encephalitis and/or meningitis and/or acute flaccid paralysis) and 11 cases with mild symptoms (fever and/or rash). Two deaths occurred in patients over 65 years of age with underlying disease.

The data presented in this report are derived from the notifications of laboratory-confirmed cases sent to the Hellenic Center for Disease Control and Prevention (HDCDP) by the treating physicians. Laboratory data are also included from (i) the Reference Laboratory for Arbo-viruses, Aristotelian University of Thessaloniki, (ii) the Department of Microbiology, School of Medicine, University of Athens, and (iii) the Department of Microbiology, Infectious Disease Hospital of Thessaloniki.

The following analysis refers to the 43 cases of WNV neuro-invasive disease (WNND) presenting with encephalitis and/or meningitis or acute flaccid paralysis, for which verification is completed.

Figure 1 shows the reported WNND cases by date of symptom onset. The first case for 2011 reported onset of symptoms in week 28/2011 (11–17 July 2011).

Figure 1: Number of laboratory-confirmed WNND cases by week of symptom onset. Period for 2011, until 31 August 2011 (16.00)*



*The dotted line represents the number of WNND cases reported in 2010. Each box represents one case reported in the period for 2011.

The patients' age ranged between 21 and 87 years (median age 70 years).

Table 1 presents the geographic distribution (regional units) of the notified neuro-invasive cases. However, the patients' place of residence is a vague indicator of the area of virus circulation.

Table 1: Place of residence of patients with WNND. Period for 2011, until 31 August 2011 (16.00)

Regional unit of residence	Number of cases	Incidence per 100,000 population*
Karditsa	6	5.16
East Attica	10	2.48
Trikala	3	2.30
Larisa	6	2.10
Imathia	3	2.08
Serres	3	1.59
Viotia	2	1.59
Chalkidiki	1	1.00
Pella	1	0.69
Kozani	1	0.65
Evoia	1	0.48
Thessaloniki	5	0.44
North Section of Attica	1	0.18
Total Greece	43	0.38

*Calculated based on population data from the Hellenic Statistical Authority (estimates for 2008).

Public health measures for the period in 2011

The following public health measures have been implemented by HCDCP during the 2011 period.

- Awareness raising among clinicians by providing guidelines for the recognition, management and diagnosis of encephalitis and WNV infection in particular. The Hellenic Centre for Disease Control & Prevention CDC site created a page devoted to WNV information (case definition, instructions for samples, laboratory diagnosis, management, educational material for the public) www.keelpno.gr.
- Enhanced surveillance for encephalitis and WNV infections in humans.
- A mosquito-mapping project, which was supported by the Hellenic CDC, in various areas in Greece, subcontracted to 'Ecodevelopment, SA'.
- Mosquito surveillance, which was carried out by the Department of Parasitology of the National School of Public Health.
- A sero-epidemiology study of household poultry in the area of Central Macedonia with the Veterinary School, Aristotelian University of Thessaloniki.
- Collaboration and exchange of information with the Veterinary Public Health (VPH) services of the Ministry of Agriculture, particularly regarding WNV in equids.
- The Co-ordination Centre for Blood Safety co-ordinated the implementation of guidance for blood and blood product safety according to the European Union (EU) directive.
- Communication campaigns and health-promotion activities in schools and health care facilities were held in various areas of the country (Macedonia, Thrace, Thessaly, East Attica).
- Continuing collaboration and communication with the European Centre for Disease Prevention and Control (ECDC) and the European Commission.

Conclusions

As of 31 August 2011, WNV cases have occurred in Central Macedonia and Thessalia, regions that were affected in 2010, as well as in regions that have never reported human cases before, namely Attiki, Evoia and Viotia. The re-occurrence of human WNV infection cases for two consecutive years and the spread of the virus to newly affected areas suggest that WNV is established in Greece and transmission may continue in the future.

The 2010 outbreak in Greece was mainly localized in Central Macedonia. In 2011, the virus seems to have dispersed southwards to the newly affected areas of Thessalia region (Karditsa and Trikala) and further south to East Attiki and Viotia. Similar dispersal patterns have been observed in California, which has a similar climate to Greece, where WNV was introduced in 2003 and quickly spread throughout the state.

During 2011 a number of countries in the World Health Organization region of Europe have reported WNV infection cases in humans (namely Romania, Russia, Albania and Israel).

Epidemiologic surveillance, systematic and early mosquito control and personal protective measures against mosquito bites are the most appropriate measures for control of the disease.

For further information visit HCDCP's website www.keelpno.gr

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