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West Nile fever: a disease to be carefully monitored in the EU



West Nile fever

West Nile Virus (WNV) infection is a vector-borne disease transmitted by *Culex* mosquitoes (common mosquitoes in Europe). The primary cycle is in birds, although humans and horses are sensitive hosts. Most of the infections are non-symptomatic (>70%), otherwise, it is a mild disease. In less than 1% of cases, it can cause neuroinvasive illness with fatalities. These usually occur in the elderly.

The disease has been known for decades in Europe, but it did not reach the Western Hemisphere until as late as 1999 when the virus was first introduced in the United States. It then spread rapidly from New York to the West Coast. During large WNV outbreaks in 2002 and 2003, transmission of the virus by blood donations or organ transplants was reported. Systematic screening of blood products and organs are now in place in North America.

In Europe, the epidemiological situation is different than in the United States, and there are indications that the epidemiology of this disease is changing. Over the last decade, sporadic human cases of WNV infection have been reported from Romania, Italy, Hungary, France, Spain and Portugal. Epizootics in horses have been reported in France and Italy. The virus has also been identified in Austria, Czech Republic and Slovakia. Human and equine cases have been recorded from July to October during the peak of mosquito vector activity. In 2008 and 2009, the relevance of human WNV infection in EU Member States was highlighted during outbreaks in Hungary, Romania

and Italy. The recurrence of outbreaks in some areas suggests that the virus persists in these regions, but the mechanism of persistence is still unclear.

Strengthening WNV surveillance and preparedness in the EU

In order to reduce the transmission of WNV to humans in an EU context, an integrated approach is needed at EU, national and local levels. A clear need exists for an integrated surveillance system combining veterinary medicine (cases in horses, bird mortality, sentinel birds), and environmental (mosquito surveillance) and human health. Specific operational guidance in order to assess the risk of WNV transmission to humans is needed and should address the following areas:

- triggers for an alert for potential human WNV infection and/or intensified surveillance;
- identification of geographically affected areas with, or at risk for, WNV transmission; and
- establishment of criteria to declare a transmission zone 'free' of viral transmission.

Such guidance would then also facilitate decisions about blood, tissue and organ safety in relation to contamination with WNV.

West Nile fever is the perfect example of a disease that requires integrated animal and human surveillance systems for adequate prevention measures. Strengthening ties between the European agencies responsible for the

Key facts:

- In the last decade, sporadic cases of West Nile fever in humans were reported in Romania, Italy, Hungary, France, Spain and Portugal. Previously, a major outbreak in humans occurred in Bucharest in 1996. In 2008 and 2009, large outbreaks occurred in Northern Italy in horses and sporadic cases in humans, including fatalities.
- West Nile fever is a seasonal disease, notifiable at the EU level, with outbreaks reported from July to October. The case definition is based on clinical signs, laboratory confirmation and epidemiological findings. European legislation stipulates that when one human case is notified, there is a 21 day deferral for blood donors who had visited the affected area, even for a few hours; all blood donations are then discontinued in the affected area.
- The identification of geographically affected areas with, or at risk for, West Nile Virus (WNV) transmission is essential for prevention. It is also crucial to establish criteria to declare a transmission zone 'free' of further viral transmission.

human and animal components of infectious disease surveillance is essential.

In April 2009, ECDC hosted an Expert Consultation meeting on WNV infection in the EU in order to partake in the following activities: to review the epidemiology, surveillance and control of the vector; to identify gaps in preparedness; and to identify the role for ECDC to strengthen preparedness and response at the European level.

For more information:

- The meeting report is available on ECDC's website at: www.ecdc.europa.eu

Men who have sex with men remains the population most affected by the HIV/AIDS epidemic in the European Union



Evidence that HIV transmission is increasing in the past few years is accumulating, including recently acquired and acute infection. Taking reporting delays into account, the number of new diagnoses is bound to increase in the coming years. The high number of newly diagnosed cases of HIV infection is a burden to public health agencies, healthcare systems and clinical service across Europe. Men who have sex with men (MSM) remains the group most affected by the epidemic in the EU. Increased trends in HIV among MSM are specifically reported in Belgium, France and Spain. Monitoring risk behaviour can help identify the context of transmission and can provide evidence of the effectiveness for certain prevention interventions. There is consensus

across the EU on the main behavioural indicators that should be monitored (i.e. unprotected anal intercourse, condom use, number of partners, HIV testing), but there is still some diversity in the specific indicators used. As such, there is a need for harmonisation of methods and indicators to obtain comparable data across Europe. A number of studies describe the status of concurrent STIs and of increasing trends in STI and HIV among MSM. The number of syphilis cases among MSM has increased considerably in large cities across Member States. It is clear that MSM are at a high risk in the EU-15; they are becoming an increasingly more important risk group in Central Europe as well.

Table: of diagnosed cases of HIV infection in EU/EEA countries, 2008

EU/EEA countries*	
Number of HIV cases	25 656
Rate per million population	61
Percentage of cases**	
Age 15–24 years	13%
Female	30%
Transmission mode***	
Heterosexual	29%
MSM	40%
Injecting drug users	6%
Unknown	24%

* No data from: Austria, Denmark, Liechtenstein.

** Cases with unknown age/gender are excluded from the percentages.

*** Excludes individuals originating from countries with generalised epidemics.

Key facts:

- HIV/AIDS remains a threat to public health in the European Union (EU). Nearly 26 000 newly diagnosed HIV cases were reported in 2008 by 27 Member States.
- Patterns in the EU have not really changed over the years: men who have sex with men (MSM) remains the group most affected by the HIV/AIDS epidemic. There are also increasing trends in sexually transmitted infections (STI) among MSM.
- Monitoring of risk behaviour is essential to obtaining relevant information on the context of disease transmission.
- HIV prevention campaigns promoting regular screening and condom use should be pursued.

Simultaneous infection with HIV and STI imposes mutual interaction as the progression and treatment of both types of infection influence the other. Co-infection with hepatitis poses serious clinical complications: patients with HIV infection who also acquire hepatitis C will have lower rates of spontaneous viral clearance, accelerated progression of liver disease and a less favourable treatment outcome.

As HIV transmission continues and outbreaks of STI are ongoing in the MSM population, increased levels of co-infections are being detected*. Existing prevention campaigns do not seem sufficient to contain sexual risk behaviours among MSM across European countries. Prevention campaigns need to be comprehensive, easy-to-understand and, at the same time, address primary (avoiding infection), secondary (avoiding the further spread of infection) and tertiary prevention methods (treating the infection and reducing the levels of viral load). Last but not least, more research is needed to identify the circumstances of HIV and STI transmission in order to better target prevention campaigns. Although evidence-based policies and practices are needed to tackle the current increasing trends, little research is being carried out to evaluate the effectiveness of interventions for MSM.

* For more information:

- [Eurosurveillance Volume 14, Issue 48, 03 December 2009](http://www.eurosurveillance.org/images/dynamic/EE/V14N48/V14N48.pdf)
- [Eurosurveillance Volume 14, Issue 47, 26 November 2009](http://www.eurosurveillance.org/images/dynamic/EE/V14N47/V14N47.pdf)

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