Enhanced Equine Arbovirus Surveillance Information on NAHSS Web Site

Written by Tracey Lynn, Veterinary Epidemiologist, and Julie Wallin,
Technical Information Specialist, National Surveillance Unit

In July, the National Surveillance Unit (NSU) launched a new enhanced system for reporting confirmed equine cases of arbovirus-related diseases on the National Animal Health Surveillance System (NAHSS) Web site. The Web site (http://www.aphis.usda.gov/vs/nahss/equine) provides weekly updates on the number of cases of diseases associated with West Nile virus (WNV) and eastern and western equine encephalitis, including U.S. distribution maps for each disease and tables showing the counties in which the cases were reported.

The NSU and the Veterinary Services (VS) Equine Program Staff worked collaboratively to develop this system to improve reporting of equine arboviral diseases and provide the first-ever Web resource for current information on the status of eastern and western equine encephalitis in the United States. The project was also part of a broader effort to respond to requests from the United States Animal Health Association (USAHA) Infectious Diseases of Horses Committee and the American Horse Council to develop a Web site for reporting all equine disease surveillance conducted by USDA. The Web site is intended as a source of information for individuals associated with the horse industry, including horse owners, animal health professionals, and regulatory officials, as well as public health officials and those in related academic and research fields.

Prior to 2006, two separate systems were used for capturing data on equine cases of WNV and eastern and western equine encephalitis. In the first system, State veterinarians or their designees reported equine cases of arboviral disease to VS Equine Program Staff, and this information was periodically updated on the VS Web site. A second system, the ArboNET surveillance system, was coordinated by the Centers for Disease Control and Prevention and also collected data on equine arboviral encephalitis cases. ArboNET data were reported weekly on the U.S. Geological Survey (USGS) WNV mapping Web site (http://diseasemaps.usgs.gov/), but the USGS Web site did not allow users to distinguish equine cases from cases in other animal species, and these reports were of little value to those specifically interested in the occurrence of WNV in horses.

A comparison of data on WNV equine cases reported to both the VS and CDC systems during 2003-2005 found fairly good agreement between the two systems. To maximize resources and minimize the reporting burden on State veterinarians, the new system for arbovirus reporting was developed to leverage equine information already being reported to ArboNET and also allow State veterinarians the opportunity to review and confirm these data before making them available on the NAHSS Equine Health Monitoring and Surveillance Web page (http://www.aphis.usda.gov/vs/nahss/equine). In the new system, equine data from ArboNET are imported weekly to a VS database, and a Java-based application distributes State-specific reports via e-mail to State veterinarians or their designees for review and validation. In addition to the opportunity to correct erroneous data, State veterinarians are also provided contact information for reporting correct equine cases data to their State's arboviral surveillance coordinator (usually a public health official), who can then report the corrected equine case data

to ArboNET. After the information has been validated, it is automatically updated in tables and maps on the NAHSS Equine Health Monitoring and Surveillance Web page.

The enhanced reporting system has resulted in improved equine arbovirus data quality and completeness of reporting. The new system has also improved communications between State agriculture officials, State public health offices, VS, and CDC; this has contributed to the Homeland Security Presidential Directive-9 goal of improving coordination of zoonotic disease surveillance between sectors. This enhanced mechanism for reporting equine arboviral diseases has been well-received by all stakeholders and is another example of integration and enhancement of surveillance efforts under the NAHSS.