that *Parachlamydia*-like species may play a substantial role in bovine abortion in mainland Europe and the United Kingdom. Four of the remaining 5 samples clustered with members of the family *Rhabdochlamydiaceae*; the fifth sequence (CLBUK3), although present in the same *Rhabdochlamydiaceae*/*Simkaniaceae* cluster, appeared to be more distinct from other family members.

The identification of these organisms in such a large percentage of the bovine fetal tissue samples tested may indicate a role for these organisms in undiagnosed bovine abortions in the United Kingdom and Europe and may be a zoonotic source of infection for humans. Indeed, considerable evidence supports a role for *Parachlamydia* spp. in human pneumonia, whereas *Rhabdochlamydia* spp. is a suspected cause (*8*). In addition, evidence suggests that *P. acanthamoebae* crosses the human placenta to the unborn fetus (*9*). Also, the presence of both parachlamydial and rhabdochlamydial DNA in the lung secretions of hospitalized premature human neonates recently correlated with increased medical interventions and increased duration of hospital stay (*10*).

We demonstrate the presence of *Parachlamydiaceae* and *Rhabdochlamydiaceae* species in bovine abortions in the United Kingdom. Given the zoonotic potential and the economic and welfare impacts of bovine abortion on the agricultural sector, further studies are required to understand the incidence and pathogenic roles of these organisms in both humans and animals. These studies should include broader molecular epidemiologic studies, as well as detailed histologic/immunohistochemical investigations and organism recovery through culture of infected placental and fetal tissues.

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Nicholas Wheelhouse, Frank Katzer, Frank Wright, and David Longbottom

Author affiliations: Moredun Research Institute, Edinburgh, Scotland, UK (N. Wheelhouse, F. Katzer, D. Longbottom); and Scottish Crop Research Institute, Dundee, Scotland, UK (F. Wright)

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Address for correspondence: Nicholas Wheelhouse, Moredun Research Institute, Pentlands Science Park, Bush Loan, Edinburgh, Scotland EH26 0PZ, UK; email: nick.wheelhouse@moredun.ac.uk

West Nile Virus Knowledge among Hispanics, San Diego County, California, USA, 2006

To the Editor: West Nile virus (WNV), spread by infected mosquitoes, is a serious public health threat throughout the United States and can cause life-altering and even fatal disease (*1*). In San Diego County, California, the human infection rate was 0.18 per 100,000 persons during 2003–2006 (5 cases, 1 locally acquired) and then increased to 0.52 and 1.17 per 100,000 persons in 2007 and 2008, respectively, despite few changes in surveillance activities (*2*). Community-based mosquito control programs, adoption of personal protective behavior (PPB), and education are the most effective ways to prevent human WNV infection because no specific antiviral drug treatment or vaccine exists (*1*,*3*). Although WNV-associated illness has occurred in all racial and ethnic groups, Hispanics are potentially at risk because of language and cultural barriers to obtaining information regarding WNV prevention (*4*). San Diego County Department of

Environmental Health's education and outreach efforts include airing public service announcements in English and Spanish on television and radio and posting information on a website and social networking sites.

In 2006 we administered a survey to assess knowledge, attitudes, and practices (KAPs) regarding WNV among Hispanics in San Diego County. According to the US Census Bureau, the county is home to >900,000 Hispanics, of whom ≈41% are foreign born (*5*). A multistage cluster sampling scheme was used to identify Hispanics >18 years of age in 3 county regions (northern, central, and southern) and has been described elsewhere (*6*). Interviewers went door to door and, for each selected household, asked to speak to a Hispanic member of the household >18 years of age who was the most knowledgeable person about residents' health.

We examined KAPs regarding WNV by using 8 questions that were part of a larger survey assessing Hispanics' KAPs regarding several health-related issues, including topics such as influenza and lead poisoning. We used 4 questions to assess knowledge, 1 to assess attitude, and 3 to assess practices or adoption of PPB. For example, we asked respondents "What precautions, if any, have you taken to protect yourself and/or your family against West Nile virus?" The interviewer then read a list of possible responses (e.g., removed areas of standing water, used insect repellent with DEET [N, N-diethyl-meta-toluamide]) from which the interviewee indicated yes or no. Multiple responses were allowed. Questions were based on those used in previous studies and in border-region focus groups and were modified according to input from local experts and pilot testing. Spanish translation and back translation were conducted separately by 2 translators.

Interviewers completed 226 surveys, which represented 53.8% of all houses approached and 69.5% of 325 households in which a person answered the door. Respondents' mean age was 41 years (range 18–87 years), 79.2% were foreign born, 85.8% completed the survey in Spanish, and 65.9% were women. Overall, 149 (66.2%) of the 226 respondents were aware of WNV; key demographic covariates differed, including greater awareness among English speakers, respondents living in the United States >5 years, and respondents completing >12 years of education (Table). News media (e.g., television, radio, newspaper) were the most frequent sources cited (93.2%) for WNV knowledge, followed by doctor or healthcare professionals (12.2%). Of the respondents who had heard of

Table. Awareness of West Nile virus and adoption of PPB among survey respondents, San Diego County, California, USA, 2006*

Characteristic	WNV awareness, no. (%), n = 226	p value†	PPB use, no. (%), n = 149	p value†
Overall	149 (66.2)	–	62 (41.6)	–
Age, y‡§		0.026		0.188
18–29	37 (55.2)		14 (38.9)	
30–44	52 (65.0)		26 (50.0)	
45–64	40 (83.3)		17 (42.5)	
≥65	20 (66.7)		5 (23.8)	
Education, y		0.048		0.926
≤12	121 (64.7)		50 (41.3)	
>12	26 (81.3)		11 (42.3)	
Preferred language for interview		0.004		0.249
Spanish	120 (62.2)		47 (39.2)	
English	29 (90.6)		15 (51.7)	
Country of birth		0.158		0.104
United States	36 (76.6)		19 (54.3)	
Other	113 (63.5)		43 (37.7)	
Years in United States		0.004		0.183
≤5	9 (34.6)		5 (55.6)	
>5	104 (68.4)		38 (36.2)	
Gender		0.602		0.042
M	49 (63.6)		15 (30.6)	
F	100 (67.6)		47 (47.0)	
Region¶		0.018		0.151
Northern	20 (48.8)		5 (25.0)	
Central	34 (64.2)		11 (31.4)	
Southern	95 (72.5)		46 (48.9)	

*WNV, West Nile virus; PPB, personal protective behavior.
†Proportions were compared by using the χ^2 test.
‡Awareness: 18–29 vs. 45–64, p = 0.003; 30–44 vs. 45–64, p = 0.064; 45–64 vs. ≥65, p = 0.089; other comparisons are nonsignificant.
§Adoption of PPB: 30–44 vs. ≥65, p = 0.045; other comparisons are nonsignificant.
¶Awareness: northern region vs. southern region 3, p = 0.033; other comparisons are nonsignificant.

WNV, 87.9% knew it was transmitted by infected mosquitoes. More than 75% of respondents described their level of concern regarding WNV as "not at all" or "somewhat."

Among the 149 respondents who were aware of WNV, 62 (41.6%) adopted PPBs to protect themselves or their families; more women than men adopted PPBs (Table). The most frequent PPB cited was the removal of standing water around the home (58.1%), followed by use of repellent with DEET (48.4%), and repairing broken windows or screens (43.5%).

We found lower awareness of WNV among San Diego County Hispanics (66.2%) than previously reported for predominantly non-Hispanic populations (range 77.2%–99.0%) (*7*–*9*). One survey reported that 41% of 17 Spanish-speaking respondents were aware of WNV (*9*). We also identified women as the primary source of PPB adoption among Hispanic households and a potential target population for interventions. Previous studies examining KAPs regarding WNV included small numbers of Hispanics and thus were unable to identify this subgroup for targeted interventions.

The finding of low awareness, concern, and PPB adoption may have 2 possible explanations. First, the observations may be appropriate given the low incidence of WNV in San Diego County and Mexico. At the time the survey was conducted, only 1 locally acquired case of WNV infection among humans had been reported in San Diego County; through 2006, WNV was rarely reported among humans in Mexico (*10*). Second, the low levels of awareness, concern, and PPB adoption may simply reflect the priority of WNV prevention compared with other basic necessities and health risks among the largely immigrant survey population.

Differences in awareness, concern, and practices among Hispanics by age, education, gender, language, years living in United States, and region of San Diego County indicate that varied educational tactics are needed to inform this population. Most educational efforts for Hispanics are simple translations of material into Spanish, which are likely not sufficient to reach this heterogeneous population.

Jeffrey W. Bethel and Stephen H. Waterman

Author affiliations: East Carolina University, Greenville, North Carolina, USA (J.W. Bethel); and Centers for Disease Control and Prevention, Atlanta, Georgia, USA (S.H. Waterman)

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Address for correspondence: Jeffrey W. Bethel, Department of Public Health, Brody School of Medicine, East Carolina University, 600 Moye Blvd, Hardy Building, Greenville, NC 27858, USA; email: bethelj@ecu.edu

Crimean-Congo Hemorrhagic Fever in Man, Republic of Georgia, 2009

To the Editor: Crimean-Congo hemorrhagic fever (CCHF) virus is widely distributed in the southwestern regions of the former Soviet Union, the Balkans, the Middle East, western People's Republic of China, and Africa (*1*). Public health officials in the Republic of Georgia have long suspected that CCHF occurs in this country, but laboratory confirmation by using molecular diagnostic techniques has not been possible there until recently.

CCHF virus is primarily transmitted by ticks, but other modes of transmission have been described (*2*). This virus infects humans mainly by the bite of adult *Hyalomma* spp. ticks. Infected sheep and cattle have also been implicated in transmission (*3*).