sioned by the university discovered that the health center's drug manufacturing lab was crowded and unclean, and that patients names were posted in a database violating privacy rules. The OHRP subsequently halted 75 experiments involving humans at the Tulsa campus. On 21 July, Harold Brooks, dean of the college of medicine; Edward Wortham Jr., director of the office of research at the health science center, and Daniel Plunket, chairman of the school's IRB resigned or retired from the university. The university started termination proceedings against Michael McGee, the study's lead researcher.

Ken Lackey, president of the university's Tulsa branch, blamed the problems on lack of communication between the researcher, the IRB chairman and IRB

members. The university has since set up a new IRB composed of community members as well as physicians, and instituted tougher reviews of research.

"The organization is not bad, the implementation was improper," says Lackey. "We feel confident it was isolated incident." Patient research has resumed at the university. Moreover, eight former melanoma study patients asked the university in August to produce more of the vaccine, while US Rep. Steve Largent, (R-Okla.), also has asked the FDA to allow its use. Lackey said the university has enough vaccine to treat six patients and will ask the FDA to approve it for emergency use, but the university will not make any additional supplies.

Investigations at Oklahoma and Harvard are just the latest for staff

members at OHRP. Since October 1998, OHRP has suspended federal research at eight institutions, restricted research at another four, and issued "findings of noncompliance" and required corrective measures at an additional 30 hospitals, universities and medical centers.

In recent months, the office itself has come under pressure from the Clinton administration and members of Congress for not doing enough to protect subjects of medical research. Some university officials have complained the office is going too far. The former director of the office, Gary B. Ellis, was reassigned earlier this year by DHHS. His replacement, E. Greg Koski, associate professor of anesthesiology at Harvard Medical School, takes over this month.

Eric Niiler, San Diego

US anticipates West Nile resurgence

One year after its inaugural appearance which resulted in the deaths of seven people and sickness for around 60, the Northeastern US is once again facing up to the threat of West Nile virus (WNV). The first human cases of this summer have been identified and the virus has now been found in birds in areas in which it was not seen last year, such as upstate New York and Boston.

But despite a damning report by the Minority Staff of the US Senate Governmental Affairs Committee, directed to Connecticut senator and democratic vice presidential candidate Joseph Lieberman, on the nation's lack of preparedness during last year's West Nile encephalitis outbreak, some new measures have been implemented: federal initiatives aimed at monitoring the spread of the virus are in place, and the US National Institutes of Health (NIH) is to fund research aimed at developing diagnostics, treatments and vaccine for the infection. The virus, which has been found in a mosquito species newly introduced into the US, called *Aedes japonicus*, infects birds, horses, and humans and was sequenced last year.

Stephen Ostroff, West Nile coordinator at the Centers for Disease Control and Prevention (CDC), notes, "The advantage we have this year is we know it [West Nile virus] is there." Last year, cases of the infection could not be prevented through mosquito control measures and public education, but with expanded knowledge and surveillance, measures have been un-

dertaken to control the spread of the infection. Insecticide spraying has been instituted in urban and suburban areas in which infected mosquitoes or birds were found, and people are being asked to spray themselves with insect repellent before going outdoors and to remove standing water in which mosquitoes could breed.

Since the start of the year, the CDC and the Department of Health and Human Services have expended more than \$7 million to state health departments to provide monitoring capacity for West Nile and related arboviruses which cause yellow fever, dengue fever, Japanese encephalitis, Venezuelan equine encephalitis, and others.

In FY99, the NIH spent \$6.4 million on intra- and extramural studies of dengue and related viruses, including WNV, according to deputy director of the National Institute of Allergy and Infectious Diseases (NIAID), John La Montagne, but these monies were spent before the 1999 West Nile encephalitis outbreak. "I know that our support for research on these viruses will increase markedly during this fiscal year," he says. The NIH is currently reviewing proposals from companies that responded to a February RFA to develop therapeutics or public health tools for emerging infections, including West Nile, so more research into the virus may be funded.

An intramural team is working on a vac-

cine, as is the Massachusetts company, OraVax, a US subsidiary of British firm, Peptide Therapeutics. Last month, OraVax was awarded an NIH-sponsored small business grant of \$3 million for Phase I and II studies on a genetically engineered, live-attenuated virus vaccine construct containing yellow fever RNA carrying West Nile virus coat protein genes. OraVax's platform technology is adaptable for production of vaccines against members of the Flaviviridae-mosquito- and tick-borne viruses. The company is developing a dengue fever vaccine and a vaccine against Japanese encephalitis.

Ostroff notes that last year's victims were "far and away, senior citizens," and he says, "it would be important to include senior citizens in clinical trials in order to assure it would be licensed for use in that group." Durland Fish, associate professor of epidemiology and public health at Yale School of Medicine, scoffs, "The problem's not going to be solved with a vaccine. That's a waste of public money. Historically, the battles against vector-borne diseases have been won by doing something about the vectors." James Meegan, a virology program officer at NIAID, says that there is a suggestion that future vaccination programs might include vaccinating not only susceptible humans, but horses, and perhaps other wildlife in their natural settings.

Myrna E. Watanabe, Connecticut

West Nile virus in brain tissue, magnification 275,000.

Courtesy of CDC