Bird Flu Infected 1000, Dutch Researchers Say

Amsterdam—At least 1000 people—many more than assumed—contracted an avian influenza virus during a massive poultry outbreak in the Netherlands last year, according to a new study. In another unexpected finding, those who developed symptoms after being infected passed the virus to another 59% of their household contacts, say the researchers at the National Institute for Public Health and the Environment (RIVM), whose results were published in Dutch last week.

Flu experts were cautious in discussing the findings, which they had not yet been able to read. But if correct, they are “another warning signal,” says Klaus Stöhr, head of the World Health Organization’s global influenza program. Every time an avian virus infects a human being, Stöhr says, the risk that it will mutate into a pandemic strain grows.

Almost 31 million poultry were culled in the Netherlands before the virus, a strain called H7N7, was contained. By the end of the outbreak, the virus had killed one veterinarian, and some 450 people had reported health complaints, mostly an eye infection called conjunctivitis. In a paper published in The Lancet in February, RIVM virologist Marion Koopmans and her colleagues reported that they detected the H7N7 virus—using the polymerase chain reaction or by culturing the virus—in eye swabs of 89 of them.

To gauge the true reach of H7N7, Koopmans and her colleagues also tested those at risk, such as poultry farmers and those hired to cull and remove poultry, for antibodies against the virus. This test provides more definitive and longer-lasting proof of infection. They used a new variation on the classic hemagglutinin inhibition test, which the team says is better at picking up antibodies to avian flu in humans. (It uses red blood cells from horses, rather than turkeys or chickens, in a key step.)

They found antibodies in about half of 500 people who had handled infected poultry; based on the total number of poultry workers at risk, the team concludes that at least 1000 people must have become infected, most of them without symptoms. Wearing a mask and goggles did not seem to prevent infection; taking an antiviral drug called oseltamivir (Tamiflu) did, but a quarter of the cullers and half of the farmers did not use the drugs.

Among 62 household contacts of conjunctivitis patients, 33 became infected—another surprisingly high figure, Stöhr says. Having a pet bird at home increased household members’ risk of becoming infected, perhaps because the birds replicated the virus too.

Detecting antibodies to avian influenza is “tricky,” and the results need to be corroborated, cautions flu specialist Maria Zambon of the U.K. Health Protection Agency, whose lab may test the Dutch samples.

Human antibody tests for H5N1, the avian flu virus currently ravaging Asian poultry, are ongoing, Stöhr says. So far, the results show that, although far more lethal to humans, the virus has caused few, if any, infections beyond the known 43 patients.

—butterflies is 80% of its core case.”