

Transporting broilers spreads bacteria to humans 26 Nov 2008

There is evidence of human exposure to antibiotic-resistant bacteria from intensively raised poultry - driving behind trucks transporting broiler chickens from farm to slaughterhouse.

Broiler chickens are typically transported in open crates on the back of flatbed trucks with no effective barrier to prevent release of pathogens into the environment. Now, researchers at the Johns Hopkins Bloomberg School of Public Health have found increased levels of pathogenic bacteria, both susceptible and drug-resistant, on surfaces and in the air inside cars travelling behind trucks that carry broiler chickens.

Ana M. Rule, PhD, a research associate in the Bloomberg School's Department of Environmental Health Sciences, along with Prof Ellen K. Silbergeld, PhD, and Sean L. Evans collected air and surface samples from cars driving 2-3 car lengths behind the poultry trucks for a distance of 17 miles. The cars were driven with both air conditioners and fans turned off and with the windows fully opened. Air samples collected inside the cars showed increased concentrations of bacteria (incl. antibiotic-resistant strains) that could be inhaled. The same bacteria were also found deposited on a soda can inside the car and on the outside door handle.

"We were expecting to find some antibiotic-resistant organisms since it's pretty clear that the transportation conditions for these chickens are not closed or contained," Rule said. "Our study shows that there is a real exposure potential, especially during the summer months, when people are driving with the windows down."

The strains of bacteria collected were found to be resistant to 3 antimicrobial drugs widely used to treat bacterial infections in people. These drugs are approved by the US Food and Drug Administration for use as feed additives for broiler poultry. The study findings were also consistent with other studies on antibiotic resistance in poultry flocks and poultry products, said the researchers.

According to the authors, the findings support the need for further exposure characterisation, and attention to improving methods of biosecurity in poultry production.

** The study is the first to look at exposure to antibiotic-resistant bacteria from the transportation of poultry, and the findings are published in the first issue of the Journal of Infection and Public Health.*