

Campylobacteriosis cases halved following controls on chicken meat

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New Zealand's success in reducing its food borne campylobacteriosis epidemic is receiving international attention. In a paper just published in the journal, *Emerging Infectious Diseases*, NZ scientists report how both notified and hospitalized cases of campylobacteriosis declined by more than 50% following interventions to reduce campylobacter contamination of fresh chicken meat.

“This decline in campylobacter infection is one of the largest drops in disease incidence ever recorded for a national epidemic of this type,” says Associate Professor Michael Baker from the University of Otago, Wellington.

Campylobacteriosis rates started rising in NZ in the mid 1980s and peaked in 2006 with 15,873 notified cases. This gave NZ the highest rate reported internationally for this disease at 384 cases per 100,000 population. Rates declined rapidly in 2007 after the New Zealand Food Safety Authority and the poultry industry introduced a range of regulatory and voluntary measures aimed at reducing levels of campylobacter on fresh chicken meat.

“Following the introduction of these control measures, there were 9,000 fewer reported cases in 2008 than in 2006 and 500 fewer hospitalisations. We also estimate there are now 70,000 fewer unreported cases in the community” says lead researcher, Dr. Ann Sears from the University of Otago, Wellington.

Despite the success of this control programme, NZ still has amongst the highest reported rates of campylobacteriosis in the developed world at 168 cases per 100,000 population, compared with Australia at 108 per 100,000 and the USA at 13 per 100,000. Fresh chicken meat remains the dominant source of infection in NZ.

“This is by far the largest food borne epidemic in NZ’s history. It was created by producing and consuming increasing amounts of contaminated chicken meat,” says Associate Professor Michael Baker.

“We need to learn from this experience. Firstly, this success shows the importance of high quality disease surveillance, effective research, and strong regulatory agencies. We need to keep strengthening these areas,” he says.

“Secondly, investing in prevention can save NZ a fortune. Controlling this epidemic costs little compared with the estimated savings of \$40 million a year from reducing rates of this disease.”

“Thirdly, we can do better. NZ initially delayed tackling this epidemic for several years, despite evidence highlighting the role of fresh chicken meat. Even now, our campylobacteriosis rates are still too high, so more work is needed. As a food-producing country we must be leaders in food safety to maintain the trust of countries we export to as well as domestic consumers.”

The package of interventions that have been successfully used in NZ to reduce chicken contamination include: setting mandatory targets for producers to reduce campylobacter contamination of chicken meat, better hygiene practices during chicken processing, and changes to the chilling processes.

“Campylobacteriosis is more serious than a minor stomach upset,” says

Dr. Ann Sears. “That’s why it’s important to bring down our high disease rates.”

Symptoms of campylobacteriosis include diarrhoea, stomach cramps, tiredness, fever, nausea and vomiting which typically last about a week. Most of those affected take time off work and school. Some have severe symptoms requiring hospital treatment and develop life threatening complications.

A multidisciplinary group of scientists contributed to this research, including researchers from the University of Otago, Wellington; Massey University, Palmerston North; ESR (Environmental Science and Research Ltd); and the NZ Food Safety Authority (now part of the Ministry of Agriculture and Forestry).

Provided by University of Otago

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