

Research shows high rates of giardia and cryptosporidium in NZ

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New Zealand has some of the highest reported rates of gut infections caused by cryptosporidium and giardia according to just published research by the [University of Otago Wellington](#) (UOW).

The two papers published in the New Zealand Medical Journal are the first comprehensive epidemiological analyses of the incidence of these gut infections in New Zealand since they were made notifiable by law in 1996. The research used anonymous notification and hospitalisation data.

The paper on cryptosporidium infections showed that annual notification rate between 1997-2006 averaged 22.0 cases per 100,000, much higher than Australia (15.8) UK (8.5), USA (3.0) and Germany (1.6).

Giardia showed a similar pattern with NZ rates running at an average of 44.1 cases per 100,000 compared to the UK (5.5), USA (7.1) and Germany (5.5).

Associate Professor Michael Baker from the Department of Public Health at UOW says both gut infections cause serious gastroenteritis and cost the country hundreds of thousands of dollars in health care and lost work time.

He says these disease rates are highly conservative as most cases are not seen by a doctor and are therefore not notified.

"The reason for our high rate of cryptosporidium probably relates to the fact that we are an agricultural country and it's often spread from animals, particularly cattle," says Associate Professor Baker.

"Prevention should focus on protecting the highest risk group, children living in rural areas during the calving and lambing season in spring. Good hand washing is likely to help."

Professor Baker says the rate of cryptosporidium infection in rural areas is nearly three times higher than in urban areas, and European children under 10 have the highest rates. Young livestock excrete large numbers of the protozoa which may infect people through direct contact or indirectly via contaminated pastures or drinking water.

Swimming pools can also be a source of infection, though this source appears to have become less important following highly publicised outbreaks in the late 1990s, which resulted in upgrading of pool filtrations systems and other measures to reduced transmission.

The epidemiological pattern with giardia is different from cryptosporidium, although the infection is also characterised by diarrhoea and abdominal pain. Notification (1997-2006) and hospitalisation (1990-2006) data indicate an infection which is more characteristic of urban New Zealand. This infection also has a second peak in the 30-39 year age group which is probably caused by contact with young children, particularly babies in nappies.

"With giardia the infection appears to be mainly transmitted person to person, unlike cryptosporidium. Animals in rural areas are probably not the major source of giardia in New Zealand as some people may think. Infection during overseas travel appears to be a source in about 20% of cases," says Associate Professor Baker.

Some other sources of giardia infection are: untreated drinking water, recreational water and swimming pools, school and childcare centres, and food premises.

Associate Professor Baker says the high economic cost of both these infections, and the relatively high rates in this country indicate more attention should be paid to preventing these diseases.

He suggests this means more emphasis on public health education about hand washing, nappy handling in the case of giardia, and other basic hygiene measures. Continuing Ministry of health efforts to improve drinking water quality may also reduce rates. Ultimately, we still need further research to identify the most important modes of transmission of both these infections so we can identify effective prevention measures.

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