

True burden of rheumatic fever in NZ currently underestimated, new research reveals

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The true burden of rheumatic fever in New Zealand may be underestimated because serology cut-off guidelines are too high resulting in undercounting about 16 cases annually, new collaborative research has found.

The joint study by researchers from the University of Otago, ESR, University of Auckland and the Menzies School of Health Research, Australia, shows if New Zealand used Australian criteria for verifying streptococcal infection, the number of definite and probable rheumatic fever cases would increase by about 18 per cent in New Zealand – representing about 16 extra cases annually.

Rheumatic fever is an autoimmune complication of streptococcal A infection. Lead author Dr. Susan Jack from the University of Otago's Department of Preventive & Social Medicine, explains it is difficult to diagnose as there is no single test, but rather relies on clinical signs and symptoms and blood tests to verify a [streptococcal infection](#).

As rheumatic fever is a serious problem in parts of New Zealand, every effort is made to follow up possible, probable and definite cases to reduce progression to serious rheumatic heart disease. However, some cases slip through, as between 20 to 40 cases of rheumatic heart disease are admitted each year to hospital with no previous documented rheumatic fever, Dr. Jack says.

New Zealand currently uses a higher cut-off for these tests than elsewhere in the world. While most potential rheumatic fever cases in New Zealand are diagnosed, some do not meet the strict criteria.

"We compared New Zealand and Australian streptococcal titre levels in people diagnosed with rheumatic fever and found they were similar. However, Australia has lower cut-offs to diagnose rheumatic fever meaning that New Zealand's use of higher cut-offs may undercount definite rheumatic fever cases," Dr. Jack explains.

In the research paper, recently published in *The Pediatric Infectious Disease Journal*, the researchers recommend New Zealand consider updating its guidelines to bring the country in line internationally.

Having streptococcal titre cut-off levels at a lower level would bring New Zealand in line with more globally accepted levels, Dr. Jack says.

"For surveillance and monitoring, more rheumatic fever cases would be classified as 'definite' and 'probable' rather than 'possible', giving a truer picture of the burden of rheumatic fever in New Zealand," she explains.

"Lowering the streptococcal titre levels would help clinicians in the diagnosis of rheumatic [fever](#) and in explaining to families about the disease."

New Zealand will be revising guidelines to diagnose [rheumatic fever](#) in the next couple of years. Dr. Jack says it is intended this research will be considered in those revisions.

Provided by University of Otago

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