

Global first for rheumatic fever research

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The first robust evidence that supports community initiatives to prevent acute rheumatic fever has come from researchers at the University of Auckland.

In a paper published online in the latest *Pediatric Infectious Disease Journal*, lead researcher and clinician, Professor Diana Lennon says until now, treatment to prevent [rheumatic fever](#) in children was derived from studies in adults in the American armed forces.

Rheumatic fever in New Zealand affects mostly Māori and Pacific Island children in low-socioeconomic areas in the North Island, particularly in Northland and south Auckland. It affects mainly primary age children and peaks in nine- to 10-year-olds.

Globally, it is a disease of poverty in developing countries, and untreated episodes can lead to the disabling effects of [rheumatic heart disease](#) in children.

"In New Zealand, rheumatic fever has continued at an unacceptably high rate with hospitalization from this disease affecting about one in 150 Māori or Pacific Island children, aged under 13 years," she says.

"Life span in Māori adults with heart damage from rheumatic fever is reduced by more than 10 years."

Research using data collected, from providing access to [sore throat](#) management to more than 25,000 children/year in 61 south Auckland

primary schools between 2010 and 2016, was led by Professor Lennon.

The programme itself is delivered by an alliance of health providers led by the National Hauora Coalition. The research aspect was funded by a partnership grant arising from a joint venture between the Health Research Council of New Zealand, the Ministry of Health, Te Puni Kōkiri, CureKids and the Heart Foundation.

The prevention model uses a team of school-based nurses with a whānau support worker, based at school clinics five days per week operating sore throat clinics with daily assessment and treatment of group A streptococcal sore throats in the children.

This model was first developed as a new model of healthcare delivery to improve access in an earlier published trial (in 2009) funded by the Health Research Council of New Zealand, the Ministry of Health and the Heart Foundation.

"In the latest study, we were able to demonstrate for the first time using robust methodology, that first presentation of acute rheumatic fever is preventable in a community setting and using oral amoxicillin," says Professor Lennon.

"The sore throat programme in schools resulted in a significant decrease in [acute rheumatic fever](#) rates among primary children," she says.

Over two years of running the sore throat clinics, the rates of rheumatic fever dropped 58 percent, from 88 in 100,000 children to 37 in 100,000 children.

A parallel decline in Strep A from throats was found in cross sectional surveys once the prevention programme was begun.

"We have demonstrated this 'proof of principle' - the first both nationally and internationally - supporting prevention of first presentation rheumatic fever through sore throat management delivered in school clinics," says Professor Lennon.

"This supports the continuation of school clinics already underway in Northland, Auckland, the Bay of Plenty, Hawkes Bay and other regions around New Zealand," she says.

"This has been a 30 year journey, based on community advocacy and partnership, empowerment, and knowledge sharing that began with participation from the Māori Women's Welfare League," says Professor Lennon.

Provided by University of Auckland

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