

Te Runanga o Te Rarawa Rheumatic Fever Reduction Programme—Kaitaia

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Rheumatic fever in Kaitaia

Acute rheumatic fever (ARF) and rheumatic heart disease (RHD) are the consequence of untreated Group A Beta haemolytic streptococcus (GABHS) pharyngitis with up to three in 100 children with untreated strep throat developing ARF in high risk areas. Between 10% and 15% of sore throats presenting to doctors are due to GABHS. This does not take into account the number of sore throats that do not make it to doctors due to access issues, lack of understanding or poor communication of the risk of sore throats among children.

Mortality from RHD is the most inequitable of all illnesses Maori face, with almost 7.5 times the chance of early death from chronic RHD than non-Maori. This is greater than the mortality inequities seen in other big ticket diseases such as diabetes, ischaemic heart disease or cancer. In NZ, most cases of ARF occur among in Maori and Pacific Island children, with 95% of cases of

ARF in children aged 5–15 years. In terms of incidence rates (new cases), ARF shows the greatest health inequity of all in Te Tai Tokerau. Ninety-eight percent of those affected in our Northland District Health Board are tamariki Maori. In Kaitaia, 29/30 children with ARF are Maori. Tamariki Maori in Northland have about a one in 200 chance of a damaged heart by the end of school. This is preventable. Over the period of 2006–2010 Kaitaia is one of several areas in Te Tai Tokerau with high

rates in Maori (and Pacific) children have increased since 1993 by 50%, but declined for Pakeha children to negligible levels. Increasing socioeconomic disparities and population growth are likely to be a major contributor to this gap increasing, unless there is an effective strategy to address this.

Once diagnosed with rheumatic fever, around 130 tamariki in Northland each year receive a very painful injection every month for at least 10 years to pre-

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rates (75–100/100,000), the others being Kaikohe and Hokianga.

Despite having high rates of ARF/RHD, Kaitaia has not had a dedicated ARF prevention/reduction programme. The rates of ARF and RHD can be considered as highly sensitive indicators of Maori to non-Maori child health inequities in Te Tai Tokerau. Nationally, rheumatic fever

vent more heart damage. The life span of tamariki affected is reduced, and cardiac surgery may be necessary. Strokes, heart failure and heart arrhythmias are other serious sequelae of RHD throughout adult life. Most of the health sector costs of ARF/RHD occur after the age of 30 as cardiac function deteriorates and heart valves require investigation, medication and surgical repair or replacement.¹

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Pounamu

MAORI PRIMARY HEALTH CARE TREASURES
Pounamu (greenstone) is the most precious of stone to Maori.

'Ahakoa he iti, he pounamu'
(Although it is small, it is valuable)

There is a massive burden on Maori whanau in Te Tai Tokerau living with RHD. Families of children with RHD live with the emotional and psychological cost of this disease. As these children grow with RHD their lives are needlessly shaped by the limitations that RHD has the potential to place on them. Childbearing among females with RHD places a severe strain on their hearts, and fathers with RHD can suffer the ignominy of being beneficiaries rather than providers.

School-based throat-swabbing programmes have been shown to be effective in reducing ARF by over 50%.¹ They improve both equity of access to treatment

0.4/100 000. Our purpose is to contribute to eliminating health inequities for Maori in Te Tai Tokerau, specifically in the prevention of RHD by way of delivering a comprehensive school-based throat-swabbing programme (SBTSP). The overall objective is to reduce the incidence of ARF in the Kaitia district as a result of increased public awareness of sore throats coupled with appropriate sore throat management at the primary health care level. This project is part of a strategic plan for eliminating ARF in Te Tai Tokerau by 2020, as our contribution to the national goal. There are three major approaches to reducing the morbidity and mortality associated with ARF and RHD:

Korokoro Ora Manawa Ora (MOKO) focuses on the second area, in particular in the school setting, but also has linkages to other service providers such as the housing sector, Ministry of Social Development, Maori health providers, Iwi providers, social services and primary health care providers. It builds on the Whangaroa/Kaeo school project, the learning from the existing Kaikohe school project and current research and projects being carried out in other DHBs. An SBTSP has been shown to reduce ARF by over 50%.

Our proposed action for the whanau of Te Rangianiwaniwa is implementation of the programme that was successfully run in Kaeo. If a child complains of a sore throat, then an appropriately trained member of the kura whanau takes a throat swab. If this comes back positive then a course of antibiotics will be arranged for the child to take.

A proposal has been accepted by the Ministry of Health to fund kaimahi coming into schools three days a week to take throat swabs of children complaining of a sore throat. This is a four-year programme and hopes to prevent between five and 12 children in Kaitia getting rheumatic fever. Children needing antibiotics will either get these from the programme team staff or from their GP, whichever is the whanau preference. The programme was launched on 12 September 2011, heading for our goal of a rheumatic fever-free Te Tai Tokerau.

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and outcome. Recent cost-effectiveness analysis has shown they are cost-effective in areas with high rates of ARF (based on primary and decile 1 and 2 intermediate schools at an ARF incidence of 75 per 100 000, school sore throat clinics can be expected to cost about \$60 000 per quality-adjusted life year (QALY) gained or \$190 000 per ARF case averted). This is similar to that for a universal meningococcal vaccination programme during an epidemic (\$68 000 per QALY).²

Korokoro Ora Manawa Ora (MOKO)

The vision for our project is a rheumatic fever-free Te Tai Tokerau in 2020. Free of rheumatic fever means a rate less than

1. **Primordial prevention:** Through improving quality of housing and reducing overcrowding, and other social determinants of health, e.g. employment and income, education, health care access.
2. **Primary prevention:** At a community and primary health care level through appropriate detection (throat swabbing) and management (antibiotics) of ARF-causing Group A streptococcus.
3. **Secondary prevention:** Management of identified children with ARF with penicillin prophylaxis to prevent recurrences and the risk of progression of chronic RHD.

References

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2. Milne R, Vander Hoorn S. Burden and cost of hospital admissions for vaccine-preventable paediatric pneumococcal disease and non-typable *Haemophilus influenzae* otitis media in New Zealand. 2010. *App Health Econ Health Policy*. 2010;8(5):281–300.