Taranaki District Health Board

RHEUMATIC FEVER PREVENTION PLAN
October 2013 – June 2017

DOCUMENT CONTROL

Project	Taranaki DHB Rheumatic Fever Prevention Plan October 2013 – June 2017
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Part 1 Purpose

Purpose of Plan

The purpose of this plan is to reduce mortality, morbidity and health inequalities caused by rheumatic fever, and to fulfil the requirements of the Ministry of Health as outlined in *Rheumatic fever prevention plans: Guiding Information for District Health Boards with a low incidence of acute rheumatic fever hospitalisations* (July 2013).

Vision

This plan contributes to the vision of *Taranaki Whanui He Rohe Oranga: Taranaki Together, a Healthy Community.*

Main outcome measure

Reduce the present incidence of disease (2012/13) in Taranaki from 0.9 per 100,000 (one case per year) to below 0.3 per 100,000 (one case every three years) by 2017.

Term of Plan

The plan is for the period 20 October 2013 to 30 June 2017.

Reporting

"DHBs with a lower incidence of rheumatic fever … are not required to report against their Rheumatic Fever Prevention Plan. The Ministry of Health will monitor the rheumatic fever hospitalisation rates in these DHBs through their general monitoring processes. If a DHB has a significant increase in rheumatic fever numbers or rates, they will be required to submit a more detailed action plan and will be required to report against progress." [Ministry of Health July 2013]

Project Management Approach, Roles and Responsibilities

A Project Management approach will be taken to complete the Plan. The Project Team will include:

Project Owner:	Becky Jenkins, Service Manager Population Health
Project Champion:	Dr Jonathan Jarman, Medical Officer of Health
Maori Health Advisor:	Ngawai Henare, Chief Advisor Maori Health
Project Team:	Yet to be decided – to include service manager population health, medical officer of health, public health nurse manager, community paediatrician, chief advisor Maori health, primary health care representative, whanau ora service provider. The Project Team will meet annually to review prevention activities, and ensure that quality targets are being met and that actions are consistent with need.

Part 2 Overview of Rheumatic Fever

Rheumatic fever is recognised nationally as a significant contributor to poor child health outcomes in New Zealand. It is a disease that is caused by the complications of an untreated streptococcal throat infection.

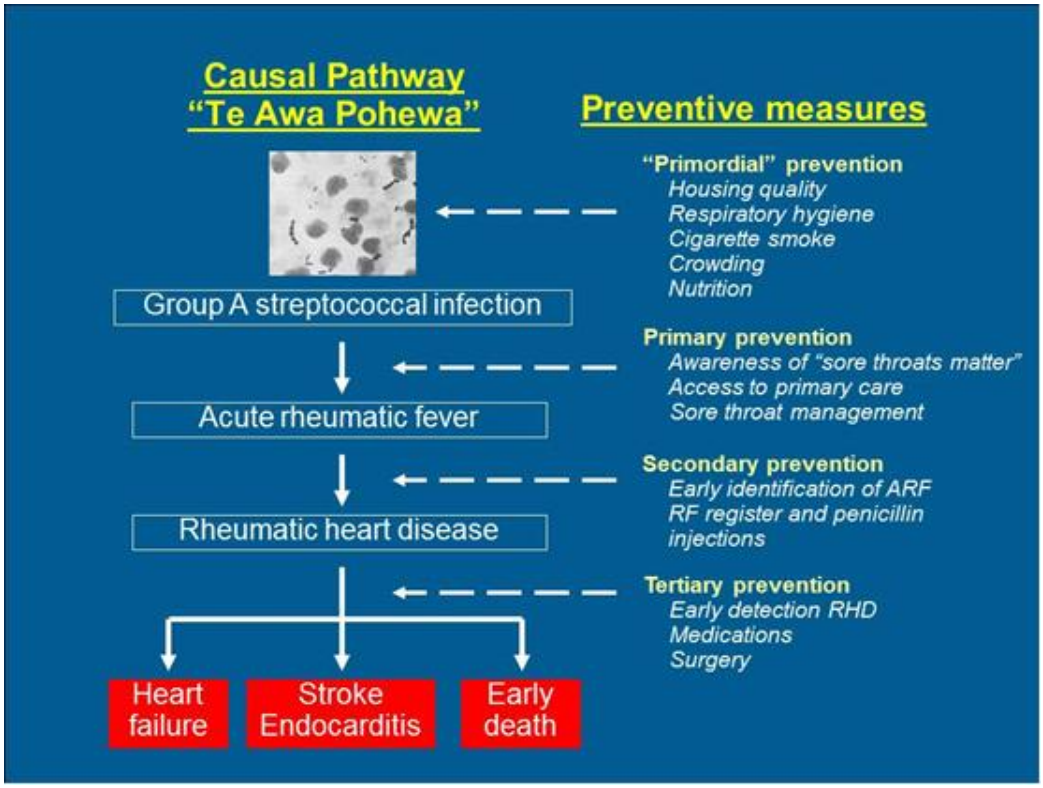
Children with rheumatic fever normally need to be hospitalised for several weeks. A proportion of children with rheumatic fever suffer permanent heart damage. Once discharged from hospital they need to receive injections of penicillin every 21-28 days for ten or more years to prevent a recurrence of the disease. Patients with a recurrence are at very high risk of further heart damage. Chronic rheumatic heart disease is a major cause of premature death for people aged less than 65 years.

In New Zealand rheumatic fever is linked to poorer housing conditions, overcrowding, and lack of recognition and treatment of GAS throat infections. It is one of the most striking of all health inequalities in New Zealand.

Nationally there has been an increasing trend in the incidence of rheumatic fever. One of the Government's key result areas for Better Public Services is the reduction of the incidence of rheumatic fever by 2017 by two-thirds.

Causal Pathway

Causal Pathways are a useful population health tool for schematically demonstrating the progression from health to disease and identifying points of intervention "from prevention and promotion to health protection, diagnosis, treatment and care". Below is a causal pathway and points of intervention diagram for rheumatic fever.



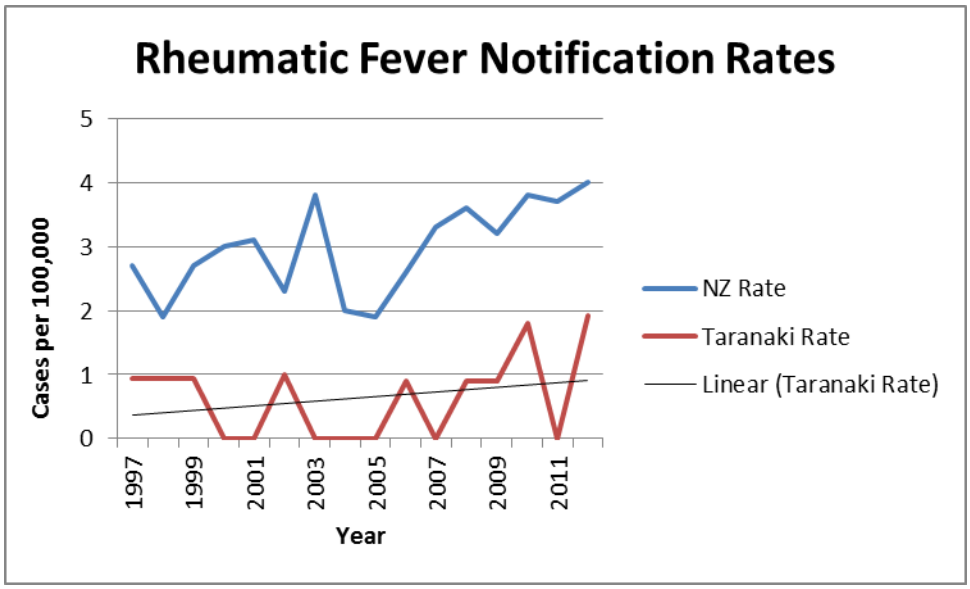
Epidemiology of acute rheumatic fever in Taranaki

Summary of Notifications 1997 - 2012

- There were 11 notifications over 16 years with no recurrences
- Notification rates of acute rheumatic fever in Taranaki were lower than national rates
- The number of cases in Taranaki appear to be slowly increasing
- Ten out of the 11 cases were in children aged between 5 years and 14 years
- There were striking differences between rates in Maori and European children
- All cases in the last 16 years came from the New Plymouth District
- All notified cases were hospitalised

Taranaki is considered to be a "low incidence" area for rheumatic fever. In the 16 year period from 1997 to 2012 there were 11 notified cases. In the most recent three year period (2010-2012) there were 4 notified cases which gave an annualised rate of 1.3 per 100,000. The national notification rate in 2012 was 4.0 per 100,000. There were no recurrences. However the notification rate appears to be slowly increasing. See Graph 1.

Graph 1. Comparison of Taranaki and New Zealand notification rates, 1997-2012



National data show that the people most at risk from acute rheumatic fever are Pacific Peoples and Maori children. The rates in Taranaki are lower than the national rates but there are still significant health inequality differences with Maori rates ten times greater than European rates.

Table 1. Comparison of ethnicity with notification rates in Taranaki and New Zealand

Ethnicity	Taranaki 1997-2012 Notification Rate (annualised) per 100,000	New Zealand 2012 Notification Rate per 100,000
European	0.2 (3 cases)	0.4
Maori	2.8 (7 cases)	13.9
Pacific Peoples	4.6 (1 case)*	22.9

* Low numerator and denominator mean that the estimated rate is very unstable

The highest notification rate in New Zealand in 2012 was for the 10–14 years age group (74 cases), followed by the 5–9 years age group (41 cases). Below is the age distribution in Taranaki for notifications from 1997-2012 with the highest number of cases belonging to the 5-9 year age group.

Table 2. Age Distribution

Age group in years	Notifications 1997-2012
0-4	0
5-9	7
10-14	3
15-19	0
20+	1

In the last 16 years all of the notified cases have come from New Plymouth District – New Plymouth City (4), Waitara (4), Inglewood (2) and Urenui (1).

Table 3. Domicile of cases

Taranaki Area	Notifications 1997-2012	Notification Rates per 100,000 (annualised)
New Plymouth District	11	1.0
Stratford District	0	0
South Taranaki District	0	0

Most patients with acute rheumatic fever require hospitalisation. In 2012, 95.9% of cases were hospitalised in New Zealand. All of the cases notified in Taranaki between 1997 and 2012 required hospitalisation.

Notifiable disease data for rheumatic fever data in Taranaki closely mirrors hospitalisation data. Because notifiable disease data is a pre-existing data set which is easily accessible it has been decided that it is easier to use this to monitor progress towards the outcome measure. However this data set will be compared annually against hospitalisation data to check that it is complete and that all cases have been notified.

Part 3 Population Health Approach for rheumatic fever prevention

This section provides details on the range of actions that will be delivered to achieve the following rheumatic fever aim and target:

Main Outcome Measure: Reduce the present incidence of disease (2012/13) in Taranaki from 0.9 per 100,000 (one case per year) to below 0.3 per 100,000 (one case every three years) by 2017.

Acute rheumatic fever initial hospitalisation target numbers each year until 2017 [Ministry of Health July 2013]:

2009/10-2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Baseline number (3-year average)	Target: Remain at baseline level	Target: 10% reduction from baseline level	Target: 40% reduction from baseline level	Target: 55% reduction from baseline level	Target: 2/3 reduction from baseline level
1	1	1	1	0	0

Taranaki has been defined as a "low incidence" area for rheumatic fever and there is an average of less than one case per year. However there remain significant health inequalities in Taranaki - Maori are ten more times likely to develop the illness than Europeans. Rheumatic fever is one of the most striking of all health inequalities in New Zealand. It is also noted that the notification rates in Taranaki appear to be slowly increasing.

For these reasons the Taranaki DHB Rheumatic Fever Prevention Plan needs to be comprehensive in order to tackle the health inequalities but also consistent with local need and available evidence.

The Prevention Plan therefore uses a *Population Health Approach* structure and acknowledges the three main drivers for health inequalities as outlined by Camara Jones (2001). A Population Health Approach is defined as "a unifying force for the entire spectrum of health system interventions -- from prevention and promotion to health protection, diagnosis, treatment and care -- and integrates and balances action between them[1]."

The Prevention Plan below outlines a list of potential strategies which will be reviewed on an annual basis by the Project Team. Local epidemiology and linkages with key stakeholders will drive the type of strategies and extent of the plan.

(A) Information for Action
(B) Addressing the Determinants of Health

[1] Health Canada, Population Health Template: Key elements and actions that define a population health approach. 2001, Strategic Policy Directorate of the Population and Public Health Branch, Health Canada: Canada.

(C) Improving access to health information for vulnerable populations
(D) Engagement with Communities – "Partnership, Participation and Protection"
(E) Improving access to health care for vulnerable populations
(F) Improving the quality of care received
  - Primary Health Care (primary prevention)
  - Secondary Health Care (secondary prevention)
  - Tertiary Health Care (tertiary prevention)

(G) Continuous Quality Improvement

The minimum actions as required by Ministry of Health (July 2013) for low incidence DHBs are:

Actions to treat Group A streptococcal throat infections quickly and effectively

F1 Ensuring that health professionals likely to see high risk children follow the most up-to-date sore throat management guidelines

F2 Ensuring that people with Group A streptococcal throat infections complete a full course of antibiotic treatment (treatment compliance)

Actions facilitating the effective follow-up of identified rheumatic fever cases

F4 Ensuring that all cases of acute rheumatic fever are notified to the Medical Officer of Health within 7 days of hospital admission.

F5 Investigate notified cases as per the 2012 Ministry of Health Communicable Disease Control guidelines, and identify and follow up known risk factors and system failure points. This includes assessing, providing support, and referring to other agencies on issues such as crowding, housing, smoking cessation and nutrition.

F7 Ensuring that all patients notified with rheumatic fever are entered onto the Rheumatic Fever Register and patients with a past history of rheumatic fever receive monthly antibiotics not more than 5 days after their due date

Key themes in this plan are:

- An overall commitment to reduce mortality, morbidity, and health inequalities caused by rheumatic fever in Taranaki.
- *He Korowai Oranga – The Māori Health Strategy* (2002) sets the direction for Māori health development in the plan.
- Linkages with key stakeholders to ensure efficiency, effectiveness and accessibility.
- Consistency with local need – local epidemiology will drive the development and implementation of this plan
- Consistency with available evidence of effectiveness – an evidence-based approach, use of best practice guidelines, and monitoring of performance with an aim of continuous improvement will underpin all activities – See Appendix One.
- Coherence and integration with other actions in the Plan as well as with other activities within the DHB including:
  - Better, Sooner and More Convenient health services
  - Regional collaboration, integrated care and value for money services
  - The DHB and PHU planning services together
  - Good quality service performance information

Key Stakeholders:

Patients, their caregivers and whanau
Vulnerable populations – school-aged children, parents and caregivers, grandparents
Schools
Iwi
Maori communities
Whanau Ora providers
Public health nurses
Dental therapists
General practitioners and practice nurses
Pharmacists
Paediatricians
Laboratories
PHOs
Government Departments - Ministry of Health, Housing NZ, TPK, CYFS
NGOs that provide services for Maori children
Neighbouring DHBs

RHEUMATIC FEVER PREVENTION PLAN

A. Information for Action

Ref No.	Short Term Outcome	Short Term Outcome Indicators	Activities	Activity Performance Measures[2]
A1	Regular and timely reporting of results and sharing of information with stakeholders and Project Team.	Annual report.	Annual report showing rheumatic fever notification trends and ethnic differences in Taranaki which is disseminated to key stakeholders.	Annual report completed by 31 March each year.
A2	Ensure that the notifiable disease data set is complete	Annual report.	Compare DHB hospitalisation data for rheumatic fever with the notifiable disease data set.	Annual report completed by 31 March each year.

B. Addressing the Determinants of Health (Primordial Prevention)

Ref No	Short Term Outcomes	Short Term Outcome Indicators	Activities	Activity Performance Measures[2]
B1	Public health input into organisations and agencies which have an impact on the social determinants of health.	Annual report.	Collate present activities in the areas of housing quality, reduction of cigarette smoking, reduction of overcrowding and better nutrition for children in Taranaki and determine if there are opportunities for more public health input.	Annual report completed by 31 March each year.

C. Improving Access to Health Information for Vulnerable Populations

Ref No	Short Term Outcomes	Short Term Outcome Indicators	Activities	Activity Performance Measures[2]
C1	Improved health literacy about rheumatic fever prevention in communities with a high incidence of rheumatic fever (please note that there are currently no high incidence areas in Taranaki)	Annual review by Project Team to ensure consistency with local need and available evidence.	Educating key people in vulnerable communities such as schools and kohunga about rheumatic fever prevention	Annual review by the Project Team by 30 April each year.
C2			Ensure that all agencies that have contact with children and their whanau have information about "sore throats matter" and "if your child is sick see a doctor" (eg pharmacists, dentists, dental therapists,	

[2] Please note that DHBs with a lower incidence of rheumatic fever … are not required to report against their Rheumatic Fever Prevention Plan

			health educators, CYFS, PHNs, school nurses)	
C3			Carrying out cough etiquette and hand hygiene education in schools	

D. Engagement with Communities – "Partnership, Participation and Protection"

Ref No.	Short Term Outcomes	Short Term Outcome Indicators	Activities	Activity Performance Measures[2]
D1	Empower people in high incidence areas to have an equal role in the planning, implementation and delivery of rheumatic fever prevention services (please note that there are currently no high incidence areas in Taranaki)	Annual review by Project Team to ensure consistency with local need and available evidence.	Work in partnership with communities using the principles of partnership, participation and protection.	Annual review by the Project Team by 30 April each year.

E. Improving Access to Health Care for Vulnerable Populations

Ref No.	Short Term Outcomes	Short Term Outcome Indicators	Activities	Activity Performance Measures[2]
E1	Culturally safe patient-centred primary and secondary health care services	To be reviewed annually by the Project Team to ensure consistency with local need and available evidence.	Look at ways to reduce barriers to health services for Maori children and improve cultural appropriateness and acceptability of main stream services for Maori	Annual review by the Project Team by 30 April each year.
E2	Timely and effective evidence-based management of all high risk children with sore throats		Investigate public health nurse prescribing under standing orders for children with group A Streptococcal throat infections in communities with a high incidence of rheumatic fever (please note that there are currently no high incidence areas in Taranaki)	

F. Improving Quality of Care Received

Ref No.	Short Term Outcomes	Short Term Outcome Indicators	Activities	Activity Performance Measures[2]
Primary Health Care (primary prevention)				
F1	Timely and effective evidence-based management of all high risk children with sore throats	General practitioners and practice nurses who see high risk children will be sent laminated copies of appropriate sore throat management algorithms after each case of rheumatic fever is notified in Taranaki.	Ensuring that health professionals likely to see high risk children follow the most up-to-date sore throat management guidelines	Annual review by the Project Team by 30 April each year.
F2	All cases with Group A streptococcal throat infections complete a full course of antibiotic treatment.	General practitioners and practice nurses who see high risk children will be sent laminated copies of appropriate sore throat management algorithms after each case of rheumatic fever is notified in Taranaki.	Ensuring that people with Group A streptococcal throat infections complete a full course of antibiotic treatment (treatment compliance)	
F3	High level of general practice awareness about sore throats and rheumatic fever.	General practitioners and practice nurses who see high risk children will be sent laminated copies of appropriate sore throat management algorithms after each case of rheumatic fever is notified in Taranaki.	Increase general practice awareness of the importance of sore throats in vulnerable populations – receptionist, practice nurse, GP – doctor and nurse champions	
Secondary Health Care (secondary prevention)				
F4	Timely notification of all cases of acute rheumatic fever as required by the Health Act 1956.	Each case will be audited.	Ensuring that all cases of acute rheumatic fever are notified to the Medical Officer of Health within 7 days of hospital admission.	Annual review by the Project Team by 30 April each year.
F5	Comprehensive and evidence-based follow-up of all cases of acute rheumatic fever.	Each case will be audited.	Investigate notified cases as per the 2012 Ministry of Health Communicable Disease Control guidelines, and identify and follow up known risk factors and system failure points. This includes assessing, providing support and referring to other agencies on issues such as crowding, housing, smoking cessation and nutrition.	
F6	Complete and accurate Epi-Surv database.	Each case will be audited.	Enter timely and accurate data onto Epi-Surv, in accordance with the Manual of Public Health Surveillance.	

F7	All patients at risk from rheumatic heart disease receive regular, timely and appropriate chemoprophylaxis	Annual audit	Ensuring that all patients notified with rheumatic fever are entered onto the Rheumatic Fever Register and patients with a past history of rheumatic fever receive monthly antibiotics not more than 5 days after their due date	
F8	Take corrective action if recurrent cases involve system failures.	Case audit for all recurrent cases.	Review cases of recurrent rheumatic fever to identify reasons for recurrence (where identifiable) and take actions to improve secondary prevention where indicated	
Tertiary Health Care (tertiary prevention)				
F9		To be reviewed annually by the Project Team to ensure consistency with local need and available evidence.	No activities are currently planned.	Annual review by the Project Team by 30 April each year.

G. Continuous Quality Improvement

Ref No.	Short Term Outcomes	Short Term Outcome Indicators	Activities	Activity Performance Measures[2]
G1	Improved outcomes, reduced costs, and improved patient experiences	Annual report of activities carried out under F4 – F8 completed by 31 March each year. All activities to be reviewed annually by the Project Team to ensure consistency with local need and available evidence.	Carry out continuous quality improvement activities which answer three questions – what are we trying to accomplish, how will we know that a change is an improvement, what changes can we make that will make an improvement?	Annual review by the Project Team by 30 April each year.

Part 4 Funding

Funding

This plan will be funded from pre-existing DHB and PHU funding streams.

Appendix – Evidence Base and Best Practice Guidelines

Evidence Base and Best Practice Guidelines

1. American Academy of Pediatrics. Red Book: 2009 Report of the Committee on Infectious Diseases. 28th Ed.
2. Heymann DL. 2008. Control of Communicable Disease Manual. 19th Ed. American Public Health Association
3. Ministry of Health. He Korowai Oranga. Maori Health Strategy. Wellington. November 2002
4. Ministry of Health 2012. Communicable Disease Control Manual 2012. Wellington: Ministry of Health
5. Ministry of Health/ESR: Manual for Public Health Surveillance in New Zealand 2001. Wellington: Ministry of Health/ESR.
6. National Heart Foundation. 2006. New Zealand Guidelines for Rheumatic Fever: 1: Diagnosis, management and secondary prevention. Auckland: National Heart Foundation of New Zealand. URL: www.nhf.org.nz/index.asp?pageID=2145846025
7. National Heart Foundation. 2008. New Zealand Guidelines for Rheumatic Fever: 2: Group A streptococcal sore throat management. Auckland: National Heart Foundation of New Zealand. URL: www.nhf.org.nz/files/Rheumatic%20Fever%20Guideline%202.pdf
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10. Treaty of Waitangi 1840