



Whanganui District Health Board Rheumatic Fever Prevention Plan

2016-2018

Background

The incidence of rheumatic fever is much higher in New Zealand than other comparable countries. Rheumatic fever is unevenly distributed in New Zealand – it occurs mainly in the North Island, is strongly correlated with poor socio-economic status, and disproportionately affects Māori and Pacific people. Approximately 70 percent of cases occur in school and intermediate aged children.

Nationally there has been an increasing trend in the incidence of rheumatic fever in New Zealand, this has resulted in rheumatic fever becoming a priority for the Prime Minister and clear directions given to the health sector to address the illness. A sector target of reducing rates of new cases by two thirds by 2016/17 has been set. The first step toward this being the creation of this rheumatic fever prevention plan

Whanganui District Health Board and health providers within the region have committed to achieving this target to reducing rheumatic fever two thirds within our region and remaining a low incidence region. This is reflected within the annual plans of the key health provider health stakeholders.

Whanganui District Health Board's reduction of incidences of rheumatic fever is a local priority within its annual plan. Strategies to ensure that rheumatic fever prevention occurs include senior executive management sponsorship, ensuring clinicians are aware of the latest guidelines, effective transfer of care and ensuring systems facilitate the correct 'flagging' of rheumatic fever for both initial identification and follow up treatments appropriately.

The regions Maori Health Plan also highlights the local Iwi's commitment to reducing rheumatic fever, a disease that statistically impacts on their community significantly. This commitment is highlighted within the Maori Health Plans actions. These actions include facilitating an awareness campaign in the Maori community.

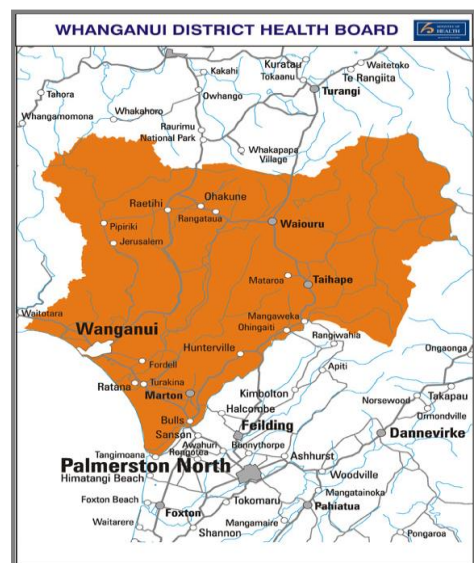
Whanganui Regional Health Network, our regions sole primary health organisation, has also committed itself within their annual plan to adopt a proactive approach to rheumatic fever by supporting practices with education and auditing to ensure that compliance with the latest sore throat guidelines. Additionally the healthy homes initiative being run by the Whanganui Regional Health Network shall give priority to homes with youth in environments which may increase their susceptibility to rheumatic fever.

Geographic and demographic overview of Whanganui District Health Board

Whanganui District Health Board serves a population of 60,120 (census 2013), which includes the Whanganui and Rangitikei Territorial Authority areas, and the Ruapehu Territorial Authority area wards of Waimarino and Waiouru, known as South Ruapehu.

The district covers a total land area of 9,742 square kilometres, much of which is sparsely populated. The terrain is mountainous with two major centres, Whanganui City with a population of 38,100 and Marton with a population of 4,548. The major centres are supported by five smaller towns with a population less than 2000, Waiouru 738, Taihape 1,512, Bulls 1,518, Ohakune 987 and Raetihi 1,040.(Census 2006, Statistics New Zealand).

Compared to the New Zealand average, the population of Whanganui is characterised by a large percentage of Māori (23.5%), small but growing population of Pacific peoples and Asian people (2.9% each group), a higher percentage of young people under 15 years of age (22%) and a relatively large percentage of older people (16%).



The district is also home to a higher percentage of children and young people, with 27.2% less than 19 years of age (as compared to 21.5% for New Zealand), of which 37% are of Māori ethnicity. This indicating that Whanganui is potentially a high risk area for rheumatic fever.

Section One: Overview of rheumatic fever - rheumatic fever in Whanganui

Background

Rheumatic fever is a complication of Group A streptococcal infection, which can cause heart damage. Globally it is the most common cause of heart disease in young people. Incidence has been decreasing in developed countries, but incidence remains comparatively high in New Zealand, especially among Maori and Pacific people.

Cases of rheumatic fever, and recurrences, are notified to the Medical Officer of Health. Nearly all cases are admitted to hospital, so information about incidence can also be obtained from hospital admission data.

Hospital Admissions

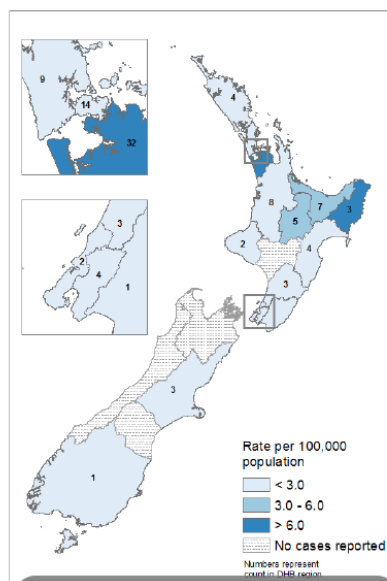
Hospital admissions for first episode rheumatic fever have been zero for the last 4 years as demonstrated in table one. Whanganui has been fortunate in this regards, rheumatic fever certainly has the potential to be a significant risk within our district. Fig one demonstrates this by displaying the actual new cases within New Zealand during the 2015 calendar year, Whanganui has five DHB's on its borders that had confirmed cases during 2015 and is the only DHB within the North Island and one of four nationally to be free of new cases within 2015.

Table one¹

District Health Board	2011	2012	2013	2013/14	2014	2014/15
Hawke's Bay	4	6	<4	<4	<4	<4
MidCentral	5	<4	<4	0	0	<4
Whanganui	4	0	<4	<4	<4	<4
Capital & Coast	12	7	5	8	8	5
Hutt Valley	10	<4	7	5	4	4
Wairarapa	0	0	0	0	<4	<4
Central region	35	17	18	19	17	16

Figure one²

First episode rheumatic fever cases by district health board, 2015



¹ Data provided by MoH

² https://surv.esr.cri.nz/surveillance/RheumaticFever.php?we_objectID=4320

Notifications

Within the previous two years, no confirmed new case of rheumatic fever have been made to the public health department. Notification processes are in place at secondary services / primary care levels with a safety net report coding report being monitored outside of the hospital and public health department to ensure no case is not escalated or investigated.

Incidence Rates

Incidence rates for New Zealand have been calculated from annual surveillance summaries and published by the ESR³. For national statistics, the rate of initial illness for Pacific people is significantly higher than for Māori and the national average (22.5, 8.8 and 3.0 per 100,000 total population respectively in 2015).

Overarching principles to maintaining low levels of new cases

As the demographical background section indicated, Whanganui DHB population contains a large proportion of the highest risk population, predominately young Maori, within our region with a significantly higher than average decile rating. Despite this increased high risk group the levels of rheumatic fever within our region remain at a low level.

This low prevalence can be attributed to a large extent to primary care providers (GPs, practice nurses, midwives and other health care providers) and public health services, maintaining a high level of vigilance within practices and schools with an increased awareness of the expected robust treatment for suspected Group A streptococcal throat infections following current national recommendations.

Whanganui District Health Board along with Whanganui Regional Health Network will continue to demonstrate their commitment to maintaining the low rate of incidences of rheumatic fever as a local priority within their annual plans. Strategies within the district health board to maintain our low level rheumatic fever are twofold and rely on all our health provider partners within our community.

Firstly, early identification and treatment of Group A streptococcus, particularly in high risk youth (five to 14 years of age) who nationally account of 78 of all cases during 2015. Early recognition of group A streptococcus infections will result in an increased appropriate education and antibiotics therapy.

The introduction of free under 13 visits and prescriptions from GP's is expected to enhance compliance with rheumatic fever prevention treatments and maintain the DHB's record of zero new rheumatic fever cases within our region.

Secondly, ensure that those currently living with rheumatic fever receive timely treatment with maximised compliance, this will minimise the lifelong impact of the disease, and allow suffers to enjoy the best possible standards of living.

Table two - Actions of Whanganui District Health Board has planned to reduce incidences of Group A streptococcus, rheumatic fever and preventable complications of rheumatic fever

Action	Impact	Measure
Senior executive management sponsorship	Rheumatic fever remains a priority at all levels of the organisation. Strategic decisions are made with consideration of the potential impact on rheumatic fever	Strategic decisions ensure organisational resources are maintained and expanded where necessary to minimize the occurrence and impact of rheumatic fever

³ <https://surv.esr.cri.nz/surveillance/RheumaticFever.php>

<p>Ensuring clinicians in both primary and secondary care follow the National Heart Foundation guidelines and adapt practice as required to meet these guidelines</p>	<p>Clinicians in the primary and secondary settings will utilize the gold standard national guidelines. This will ensure consistency of care and actively manage Group A streptococcal throat infections quickly and effectively</p>	<ul style="list-style-type: none"> ▪ Attendance and participation in education sessions on the new guidelines ▪ Reduction in rheumatic fever rates by 2/3 planned to meet our target ▪ Reduction in Group A streptococcal throat infection within our community ▪ Achieved by: <ul style="list-style-type: none"> ▪ Increased throat swabbing within our community ▪ Increased utilization of appropriate antibiotics therapy for potential Group A strep infections
<p>Ensure the effective transfer of care between clinicians is seamless to minimise the impact on continuity of care and treatment</p>	<p>Rheumatic fever patients will receive a seamless transfer of care between primary, secondary and the paediatric service. This seamless service will be hallmarked by effective communication between clinicians and the patient/whānau</p>	<ul style="list-style-type: none"> ▪ Public health will meet with all new clients prior to them being discharged for the first time on the ward ▪ Enhance understanding of care and treatment by the patient ▪ Higher levels of compliance with treatment regimes ▪ Reduced level of hospitalisation due to rheumatic fever and its complications, coupled with an increase in OPD attendances and reduction in DNA rates
<p>Ensure current system in place which flags rheumatic fever when initially identified, and additionally when follow up treatments are due, meets the needs of lead clinicians</p>	<p>Clinicians identify new cases to the medical officer of health within 7 days and systems allow the public health nurses to identify when a patient is due to receive antibiotics therapy</p> <p>Develop a 'safety net' in the form of a DHB reporting services report that flags possible rheumatic fever cases. This will be checked on a monthly basis</p>	<ul style="list-style-type: none"> ▪ All new cases reported within seven days to the medical officer of health ▪ All patients commence and complete antibiotic treatments as per guidelines ▪ No new case will be caught in the safety net. All new cases will be notified to public health while an inpatient
<p>School based public health nurses will swab students with sore throats on a standing order basis if required</p>	<p>Increase the level of identification and successful treatment of Group A strep throat infection, early identification and treatment will reduce the prevalence and of throat infections reduce the prevalence of rheumatic fever</p>	<ul style="list-style-type: none"> ▪ Increase in throat swabbing ▪ Early commencement of OAB if infection identified

Public health with its long-standing relationship with clients is able to maintain a higher level of compliance of antibiotic treatment.	Youth will remain under the care of the public health team until the age of 21 unless they opt out or leave the district	<ul style="list-style-type: none"> Pt's shall remain more treatment compliant than cohorts who leave the public health service previously
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The region Maori health plan also highlights the local Iwi's commitment to raising awareness to contribute to the reduction rheumatic fever levels among its population that nationally has a significantly higher risk of contracting rheumatic fever.

Table three - Actions the Whanganui Maori Health Plan 2016-18 has planned to reduce incidences of Group A streptococcus, rheumatic fever and preventable complications of rheumatic fever

Action	Impact	Measure
Facilitate an awareness campaign in the Maori community of the link between streptococcus bacteria and rheumatic fever	<p>Maori within the region, both parents and their wider whanau will have a better understanding of the recommended actions such as tamariki indicate streptococcus type symptoms</p> <p>Increased awareness of the importance of treatment compliance</p>	<ul style="list-style-type: none"> Increase levels of tamariki attending GP's with sore throats Increased levels of antibiotic prescriptions being filled for youth Reduced levels of maori youth contracting rheumatic fever Reduction in hospitalisations episode due to reoccurrences of rheumatic fever

Whanganui Regional Health Network, our regions sole primary health organisation, which is linked to every practice in our region, has also committed itself adopting a proactive approach to rheumatic fever by supporting practice with education and auditing. As an overview of rheumatic fever patient, adults were being cared for effectively within the primary care setting with their antibiotic regime and process to notify and recall patients who need or missed antibiotics. This demonstrates that the primary setting has the capacity to care for rheumatic fever effectively.

Table four - Actions Whanganui Regional Health Network have planned to reduce incidences of Group A streptococcus, rheumatic fever and preventable complications of rheumatic fever

Action	Impact	Measure
Adapt the prioritisation of 'healthy homes and healthy environment' assistance to take the risk of rheumatic fever into account, This is achieve my maintaining funding, creating referral pathways to ensure effective prioritisation of resource	High risk populations will have an enhanced opportunity to receive assistance from the Whanganui Regional Health Network for insulation, home ventilation and heating advice	<ul style="list-style-type: none"> Increased levels of practical assistance for youth living in high risk home environments Level of home insulations within the region increases Reduction in SUDI Reduction in smokers within homes Maintain zero cases of new rheumatic fever cases within primary care.
Act as a navigator to assist our population access subsidised home insulation from other sources	<p>High risk children and families living in homes that in need of insulation are given priority</p> <p>Whanganui Regional Health Network will continue to insulate homes</p>	

Whanganui's population are assisted through the government subsidised home insulation schemes when not meeting Whanganui Regional Health Network criteria, maximising the amount of insulated homes in the region

Section two

Actions to treat Group A streptococcal throat infections quickly and effectively

Whanganui District Health Board firmly supports the need for nationally consistent gold standard practice being implemented throughout the region by all health professionals on suspected Group A strep throat infections. The National Heart Foundation's Sore Throat Management Guidelines are recognised within Whanganui District Health Board as best practice and all primary and secondary care providers, along with public health services utilise these guidelines.

The Whanganui District Health Board prevention plan will ensure that health professionals recognise that high risk children, identified as being 5-19 years old, Maori or Pacific and typically living in a high decile environment, receive the most up to date sore throat management guidelines as part of the planned roll out education program. All stakeholders within the region will be given the opportunity to attend. It has been identified that these health professionals will include community pharmacies, GP's, YOSS, public health nurses, especially those in school based health services and early childhood centres where there is higher risk of Group A streptococcus lower decile, high Maori/Pacific populations exist. In addition opportunistic health services such the emergency department and Whanganui Accident and Medical clinic (after hours GP service) are also likely to be more likely to see children with sore throats.

Measurement of compliance with the new sore throat guidelines

Evidence for the successful implementation of the sore throat guidelines may be measured using some or all of the follow (yet to be confirmed):

- Increased diagnostic investigations, e.g. throat swabs (aligning this with positive results)
- Increased general practice attendance by youth (measured by free GP visit for under 13 and primary health organisation reporting)
- Increased prescriptions for antibiotics
- Narrative reporting on the implementation of guidelines by NGO (as reported within contracts such as Whanau Ora)
- Clinical audits of medical records in both GP's and the emergency department

Ultimately the final measure must maintain zero cases of acute rheumatic fever case which occur in Whanganui, reduced hospitalisation due to exacerbation of chronic rheumatic fever and an increase in compliance with treatment regimes. As indicated in section one, figure one, the diagnosis pattern within our region is sporadic, which suggests that the real success of our prevention plan may take several years to evidence, however with no cases within the region since the plan was first implemented just indicate this approach is working.

Ensuring patients with suspected Group A streptococcal throat infections adhere to completing courses of antibiotic treatment

Effective monitoring of patient compliance with treatment regimes is known to be problematic, factors such as cost, complexity, convenience and underlying health knowledge all impact on compliance. The highest risk group for rheumatic fever, youth, also rely on their actions of their families to ensure they can access medications and encourage compliance with treatment regimes.

Core to maximising the compliance of medication regimes are the practitioners prescribing medication, pharmacies dispensing medication and public health being encouraged to consistently explain the reason for the antibiotic treatment at the time of their consultation. This explanation will include potential risk of Group A streptococcal throat infections, the importance of filling and completing the prescription.

Whanganui District Health Board encourages the use of single daily doses of antibiotics to maximise compliance. The role of the community pharmacy in supporting this education is vital and as such this stakeholder group will be alert to and encouraged to participate in education on the Heart Foundations

new Sore Throat Guidelines, ensuring a consistent reinforcing message is received by the patient and their whanau at each contact with a health professional.

Within Whanganui District Health Board, all school aged children identified as having Group A streptococcal throat infections are referred to the medical officer of health, who instigates a treatment plan (if not commenced by GP at time of throat swabbing) this is managed by the public health team. The public health nurse assigned to the school where the child is registered will be responsible for ensuring that the medication is taken as prescribed and the course is completed.

Measurement of compliance medication regimes

Measuring compliance of treatment is exceptionally difficult. Whanganui District Health Board believes that by minimising the barriers to compliance, is the most effective to promote compliance.

Whanganui District Health Board encourages health professionals to reduce barriers by:

- Clear explanations and education at time of consultation
- Emphasis on the importance of completing antibiotic courses
- Simple treatment regimes
- Information available on how to obtain financial support for health cost
- Reinforcement of education by other health professional

Ultimately the final measure must be the reduction in cases of acute rheumatic fever case which occur in Whanganui as a result of Group A streptococcal throat infections.

Section three

Actions facilitating the effective follow up of identified rheumatic fever cases

Ensuring patients with a past history of rheumatic fever receive monthly antibiotics not more than five days after their due date

Effective monitoring of patient compliance with treatment regimes is known to be problematic. Monitoring of compliance within Whanganui District Health Board varies depending on the age of the patient.

Whanganui District Health Board Youth Population

Patients with a past history of rheumatic fever within Whanganui District Health Board, who attend school, are monitored for antibiotic compliance by the public health team. This monitoring system places the responsibility of monitoring treatment compliance on the public health nurse responsible for the school the patients attend, a central register of RF youth is maintained by the public health team which monitor the date treatment was due and the date the treatment is received. This monitoring has proved very successful with excellent compliance bicillin treatments.

Public health has identified that the drop off in compliance following a youth leaving school is significant, factors influencing the reduced compliancy of treatment:

- Moving away from the Whanganui region without engaging in with new treatment providers in new location
- Lifestyle choice with a lower priority personal health
- Cost associated with accessing general practice
- Youth preferring to engage with youth focused services

Whanganui District Health Board Adult Population

Once rheumatic fever patients pass into the care of General Practices within our DHB, GP's typically utilise internal monitoring systems which mirror call back systems for other regular treatments i.e. depot contraceptive injections. This system has proved successful with the small amount of primary care based rheumatic fever patients within our community who receive treatment through primary care although is dependent on client engagement with their service.

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

As indicated within regions overview of rheumatic fever, in the last 6 years 5 new cases have occurred (all within 2010-11). All were reported to the medical officer of health within the expected period. These referrals are made by the paediatric department staff directly to public health. Whanganui District Health Board will review the process and system around this to ensure the robustness of this system and ensure the process is available on the organisations 'intranet' system to ensure other areas are able to access the correct reporting process if required.

Identification and following-up known risk factors and system failure points in cases of rheumatic fever

Whanganui District Health Board's public health department will complete case review on all new cases of rheumatic fever when they emerge. Findings from these reviews will be peer reviewed within wider organisational review body the Morbidity and Mortality Committee. This committee would ensure that a detailed investigation which highlighted any learning's from new rheumatic fever cases, to reduce new cases or enhance local practice was preformed and then ensure any recommendations are carried out.

Whanganui District Health Board Rheumatic Fever Prevention Plan Actions Table

The table below indicates the planned actions that have been identified within the pretension plan as action that need completion as part of the plan and have not been completed at time of writing. Action contained with other documents such as the Maori Annual Plan and Whanganui Regional Health Network Annual Plan will not be included.

Section one: Overview of rheumatic fever within Whanganui District Health Board

Action	Action completed by	Completion responsible by	Expected Completion Date
Review processes to ensure a seamless transition of care and information occurs between patients and health professionals.	Lead by PH but involving Whanganui Regional Health Network, Paediatric service, medical service	Itayi Mapanda	Ongoing
Ensure a seamless transition of care between primary care, paediatric and physicians as required			Ongoing
Public Health services to allow school based nurses to swab sore throats of children on a standing order basis	Public Health	Itayi Mapanda	Ongoing
Monthly monitoring of the rheumatic fever 'safety net' report to ensure all case have been identified	Public health	Itayi Mapanda	Ongoing

Section two: Actions to treat Group A streptococcal throat infections quickly and effectively

Action	Action completed by	Completion responsible by	Expected Completion Date
Facilitate the dissemination of National Heart Foundation sore throat guidelines to stakeholders within the DHB and community	Public Health Whanganui Regional Health Network Pharmacy	Patrick O'Connor	Ongoing
Facilitate education opportunities with Whanganui DHB's health providers such as PH staff, pharmacies and GP's	Pharmacy Medical officer for health	Patrick O'Connor	Ongoing
Monitor the impact of new guides by monitoring diagnostics and treatments dispensed	Pharmacy Public health	All health stakeholders	Ongoing
Clinical notes audit to ensure compliance post implementation	WRHN ED HOD	WRHN ED HOD	Ongoing

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

Action	Action completed by	Completion responsible by	Expected Completion Date
Whanganui District Health Board to review processes to ensure that new Rheumatic fever cases are reported to	Public Health	Jon Buchan	Maintain

the medical officer of health within seven days of a case being diagnosed			
Whanganui District Health Board will require public health to commence case reviews in conjunction with the medical officer of health which will be presented to the Morbidity and Mortality Committee.	Public Health	Tracey Schiebli	On Going
Public health staff will be informed of new cases of rheumatic fever while the patient is still on the paediatric ward to allow introductions to their service, and the nurse who will continue to work with them in the community	Paediatric ward and Public Health	Children's ward CNM and Public Health manager	Systems aligned by the end of Q1 2016/17
All discharge letters following a paediatric inpatient care episode will include a weight to facilitate safe antibiotic follow up	Paediatric Ward CNM and Lead paediatrician	HOD paediatrics	Implemented by of Q1 2016/17