

Pacific Health Review

Making Education Easy

Issue 23 – 2015

In this issue:

- *Timing of pregnancy registration in NZ*
- *BP treatment intensification in Pacific Peoples with T2DM and renal disease*
- *Poorer health among older Pacific Peoples compared with other NZ ethnic groups*
- *Considering child health in the Pacific*
- *Invasive GAS disease on the rise in NZ*
- *High rates of late bookings for antenatal care in the CMDHB*
- *Suggestions for improving primary care in NZ*
- *Sugar intake, dental decay and rheumatic fever*

Abbreviations used in this issue

BP = blood pressure
CKD = chronic kidney disease
DKD = diabetes kidney disease
eGFR = estimated glomerular filtration rate
GAS = group A streptococcal
RF = rheumatic fever
T2DM = type 2 diabetes mellitus



THELOWDOWN.CO.NZ
HELPFUL TIPS AND ADVICE
FOR YOUNG NEW ZEALANDERS

Kia orana, Fakaalofa lahi atu, Talofa lava, Malo e lelei, Bula vinaka, Taloha ni, Kia ora, Greetings.

Welcome to Pacific Health Review.

We are pleased to bring you a selection of recent publications addressing topics of importance for Pacific health. These include primary care, antenatal care, rheumatic fever, child health in NZ and the Pacific region, chronic conditions, and health of older people. A common theme raised by our commentators in this edition is that many of the problems are well known. Examples include: the barriers to care associated with health literacy, English language proficiency and differences in cultural beliefs between providers and Pacific peoples and the impact of the underlying socioeconomic determinants of health. Whilst the issues and challenges are widely identified and understood, the evidence for effective interventions specifically for Pacific people in the New Zealand context remains undeveloped. The range of recommendations raised in this edition include increasing the Pacific health workforce, models of primary care tailored to respond to acute needs associated with infectious diseases as well as longer term partnership approaches for managing chronic conditions, and providing support for addressing issues outside the health sector. Turning these insights into evidence to inform policy and practice remain a key priority for the Pacific health sector.

Matafanua Hilda Fa'asalele

Chief Advisor Pacific Health
Pacific Health Improvement Team
Sector Capability and Implementation, Ministry of Health

Dr Debbie Ryan, Principal Pacific Perspectives, coordinated the commentaries for this issue of Pacific Health Review.
debbieryan@researchreview.co.nz pacificperspectives@clear.net.nz

Changing trends in pregnancy registration for New Zealand women

Authors: Dixon L et al.

Summary: These researchers reviewed records from the 81,821 pregnant New Zealand women who registered with a midwife Lead Maternity Carer (LMC) between 2008 and 2010 and had data recorded in the New Zealand College of Midwives Clinical Outcomes Research Database (COMCORD). The study aimed to determine whether women are registering earlier in pregnancy. A trend was observed towards earlier registration, with 22.0% of women registering before 10 weeks' gestation in 2008 increasing to 29.9% in 2010. Women of New Zealand European ethnicity were more likely to register before 10 weeks' gestation compared to women of Māori or Pacific ethnicity. Women aged <20 or >40 years were more likely to register in the second or third trimester than other age groups.

Comment (Mary Matagi: registered nurse and midwife; Pacific representative, NZ College of Midwives National Committee):

The strength of this paper is the large sample used and the identification of trends over a three-year period. The findings add to emerging evidence¹ that Pacific women do not engage in a timely manner with a maternity provider. Interestingly, although a call for earlier registration has been recommended by the Perinatal and Maternal Mortality Review Committee (PMMRC²) since 2011, the paper argues ambiguity remains around the ideal time for pregnancy registration and whether earlier registration results in better outcomes. Despite this, the most recently released (9th) PMMRC report indicated that there have been some slight shifts in perinatal mortality rates, one of which is a small but significant reduction of stillbirths at term. However, Pacific (& Māori) remain over-represented across the perinatal and maternal mortality rates; prompting the call for earlier engagement with a maternity provider for this identified group. In addition, although this study has highlighted several contributing factors to late registration with a maternity provider, this is mostly gleaned from overseas sources. A local report commissioned by the Counties Manukau District Health Board, following its maternity review in 2011, exposed some concerning evidence on the attitudes of maternity staff experienced by teen, young, Māori, Pacific and vulnerable mothers.³ Exploring these issues further may shed more light on this identified group's reluctance in seeking early registration with a maternity provider.

Overall, this paper is a springboard for stimulating robust discussions and further research applicable within the Aotearoa New Zealand context. I believe the key issues include the need to understand Pacific worldviews and perspectives around pregnancy and find culturally responsive solutions that will enable Pacific women to move forward positively and engage with a maternity provider in a timely manner. Qualitative research is a means for eliciting lived experiences; adding more depth and richness to our understanding of these issues.

1. Low P, et al. (2015) Factors affecting antenatal care attendance by mothers of Pacific infants living in New Zealand.
2. Perinatal and Maternal Mortality Review Committee: reporting mortality 2011. Wellington: Health, Quality and Safety Commission; 2013.
3. Pacific Perspectives Ltd (2013) Maternity Care experiences of Teen Young, Maori, Pacific and Vulnerable Mothers at Counties Manukau Health. Pacific Perspectives. Wellington.

Reference: *J Prim Health Care*. 2014;6(4):279-85

[Abstract](#)

Intensification of blood pressure treatment in Pasifika people with type 2 diabetes and renal disease: a cohort study in primary care

Authors: Tan J et al.

Summary: A community-based programme aimed at optimising blood pressure (BP) enrolled 47 Pacific primary-care patients (aged 18–65 years) with type 2 diabetes, an estimated glomerular filtration rate (eGFR) of ≥ 40 mL/min/1.73m² and urinary albumin-to-creatinine ratio (ACR) of ≥ 40 mg/mmol; 39 participants completed ≥ 17 months of the programme. This ethnic-concordant integrated model of care involved a diabetologist, primary care physicians and nurses and was associated with a median BP decrease of 13/12 mmHg ($p < 0.05$) and a decrease in urinary ACR from 126 to 51 mg/mmol ($p < 0.05$). Compared with participants with no remission in albuminuria, those with albuminuria remission had faster eGFR loss during the first year (13.6 vs 3.5 mL/min/1.73m² per year; $p = 0.02$), but the rate of loss slowed during the second year. End-stage renal failure occurred in two participants.

Comment (Pauline Sanders-Telfer: Clinical Nurse-Leader, Alliance Health Plus PHO):

Pasifika people are over-represented in diabetes kidney disease (DKD) in New Zealand. This article describes the Auckland-based DEFEND trial, a randomised controlled trial. The trial studied the effectiveness of the 12-month community-based intervention in achieving BP target $< 130/80$ mmHg in Māori and Pasifika patients with type 2 diabetes and DKD. This primary care intervention supports the success shown by other primary care chronic kidney disease (CKD) studies in New Zealand. The study provides an example of Pasifika health professionals and teams working with Pasifika people to achieve encouraging results in targeted approaches to Pasifika health needs.

Positive aspects that contributed to the results included: use of a culturally appropriate model of care to engage with Pasifika people; increase in the knowledge base in Primary Care around CKD and BP medication titration; use of a nurse-led clinic model of care; provision of consistent lifestyle and self-care support; and collaboration between Primary Care, Renal and Diabetic specialists and the local pharmacist.

One of the key findings, that only 30% of patients achieved remission of albuminuria, suggests that current therapies for DKD may be inadequate. However, there was acknowledgement that an intervention would more likely benefit patients with higher renal reserve at baseline, as remission was more rapid in the first year compared to the second. The patients enrolled in the study had an eGFR ranging from 40–81 mL/min/1.73m². A greater incidence in the remission of albuminuria for a longer duration may be achieved by using more specific entry criteria that targeted patients with a higher eGFR.

An interesting finding was the familial clustering of nephropathy in Pasifika people, regardless of the presence of diabetes. This is definitely an area requiring further study a comparison to other ethnic minorities either indigenous or migrant populations internationally would be interesting.

Sustainability is an important issue for new initiatives. While this study was funded by the Ministry of Health, the current structure of Primary Healthcare means that the provision of services is relative to the accessibility of funding and not patient need. International research with Nurse-led clinics has demonstrated clinical and financial benefits with high patient satisfaction. I believe Nurse-led clinics must be utilised more consistently in the Primary Healthcare setting in New Zealand. Other information that would have been useful from this study was the time spent by the clinic staff to deliver this more targeted approach. This would assist with understanding the time investment required and inform the possible funding streams, either existing or potential, that could support initiatives of this nature.

There is an increasing number of Pasifika people affected by DKD who consequently progress to end-stage renal disease (ESRD). Renal replacement therapy (RRT) is costly to quality of life of Pasifika people and the health system, therefore, the benefit of investing in prevention is key to addressing this issue. The comparative costs of preserving an active member of society and delaying the progression of CKD to ESRD and RRT demonstrates the savings gained and funding shifts that are required. This is an important health issue for Pasifika people and must be viewed as such from a funding perspective.

Reference: *N Z Med J.* 2014;127(1404):17-26

[Abstract](#)

Health and wellbeing of older Pacific Peoples in New Zealand

Authors: Lotoala F et al.

Summary: This paper describes findings from a secondary analysis of wave one data from the Health, Work and Retirement study (<http://hart.massey.ac.nz/>), a large-scale longitudinal study of New Zealanders aged 55–70 years that began in 2006 and collects data at 2-yearly intervals on health, physical activity, social support, work status and attitudes, retirement status and attitudes, sociodemographic information and whakapapa/whanaungatanga. The study sample consisted of 6653 individuals aged 55–70 years randomly sampled from the electoral roll, 108 of whom identified as belonging to a Pacific ethnic group. The remainder of the sample comprised New Zealand European, Māori, Asian and other ethnic groups. Pacific elders had poorer physical and mental health and reported higher rates of health conditions, in comparison with all other ethnic groups. The relationship between ethnicity and health was partially explained by lower socioeconomic status, less physical activity, and greater alcohol consumption. In analyses adjusting for multiple health risks, socioeconomic and demographic variables, ethnicity continued to predict lower levels of physical health, suggesting that there are other factors which contribute to higher rates of poor health for people of Pacific ethnicity. Pacific Peoples born in New Zealand had better health than those not born in New Zealand.

Comment (Lisa Kitone: Pacific health consultant): This study makes an important contribution to the relatively scarce evidence base about the health of older Pacific people and by examining the complexities of ethnicity, socioeconomic status and health, raises issues of broader application to Pacific health.

It is recognised that as numbers of older Pacific people rise (a 125% increase in the proportion of Pacific people aged 65 years and over is projected in the next 15 years), health system responses will need to reflect an increasingly diverse population. The researchers illustrate this by utilising a small sample from the Health, Work and Retirement study. Identifying a range of unique issues relating to the health of older Pacific people, their findings emphasise both the need for further research in this area and the necessity of timely Pacific analysis from larger research projects.

The significant role of socioeconomic status to health outcomes for the study sample echoes a well-established body of New Zealand and international evidence. It underlines the importance of concerted social policy focus to address socioeconomic inequalities, not only for older Pacific people as individuals, but also the broader family units that so often provide the majority of care and support to older relatives. Of particular interest, though, are findings about ethnicity as a contributor to health outcomes (independent of socioeconomic status and other health risk variables). Posing some compelling questions about the specific study sample, the research highlights how much we have yet to understand about the distinctive elements that 'make up' Pacific ethnicity and how these factors impact on health. Elucidating these factors – whether related to migrant or NZ born trajectories, communication issues such as levels of English proficiency and health literacy, cultural beliefs or previous experiences – remains an ongoing challenge for improving the health of Pacific older people and their families.

Reference: *N Z Med J.* 2014;127(1407):27-39

[Abstract](#)

aniva
ANIVA WORKFORCE
FONO
25-26 November 2015
Wellington
Registration details will be available soon on www.aniva.co.nz

Closing the gaps in child health in the Pacific: An achievable goal in the next 20 years

Authors: Duke T et al.

Summary: This paper argues that there is the potential to substantially reduce inequity in child health across the Pacific and Australasia by 2035. The paper highlights current child mortality rates in Australia and New Zealand of 5 and 6 per 1000 live births, respectively, as compared with much higher rates in the Pacific island developing nations; <5 mortality rates range from 13 to 16 (Vanuatu, Fiji and Tonga) to as high as 47 and 58 per 1000 live births (Kiribati and Papua New Guinea, respectively). As the paper acknowledges, these Pacific child mortality rates have been falling by an annual average of 1.4% since 1990, and more rapidly (1.9% per year) since 2000. However, the authors state that much more progress can be made. They detail 16 actions in this paper that would help to close the gaps in child health over the next 20 years and they call for the collective will to be far more ambitious and hopeful than ever before. They also ask for a new type of partnership across the Pacific, based on solidarity and interdependence.

Comment (Dr Teuila Percival QSO: Head of Pacific Health & Senior Lecturer, School of Population Health, University of Auckland): This article provides a very good high-level summary of child health issues and a way forward in the Pacific. Improving child health in the Pacific region is difficult, with challenging geography, limited resources and changing social structures. Of major concern, as discussed by the authors, is the lack of attention paid by funders and global organisations to the Pacific region compared with other developing country regions. Despite child health being prominent in the Millennium Development Goals there has been slow progress and limited traction in making children and their health and well-being Pacific country priorities with associated policy and resourcing. The sixteen high-priority areas for the post-2015 child health agenda outlined in the article are comprehensive and very appropriate. A focus on quality and safety of paediatric and neonatal care will be unsuccessful without the necessary framework and structure (human resources, leadership, health information/data, surveillance, urban and rural health services, structured child health programmes). Priority 4 – Tuberculosis and HIV – is perhaps the only area with limited relevance to all countries in the Pacific, but they remain a major issue for children in the countries with most child deaths, so for the region, need to be a priority.

What is needed to move forward in child health is regional and individual government commitment to children, with policy frameworks that allow for quality health services, child protection and universal education that includes secondary school. Ultimately, each country and the region needs committed leadership to do this.

Reference: *J Paediatr Child Health*. 2015;51(1):54-60

[Abstract](#)

Increasing incidence of invasive group A streptococcus disease in New Zealand, 2002–2012: A national population-based study

Author: Williamson DA

Summary: This paper describes incidence, demographic and molecular epidemiological data for invasive group A streptococcal (GAS) disease in New Zealand between 2002 and 2012. It reports an apparent increase in the incidence of invasive GAS disease over the study period, from 3.9 per 100,000 population in 2002 to 7.9 per 100,000 population ($p < 0.001$) in 2012. There was significant sociodemographic variation in the incidence of disease, with the >75-year age group and Pacific Peoples having the highest incidence. Molecular typing, performed by sequence analysis of the *emm* gene, revealed temporal variation in *emm* types associated with invasive GAS disease, with *emm7* being the overall predominant *emm* type. The diversity of *emm* types varied significantly according to ethnicity. Overall, 59% of GAS isolates were theoretically covered by an experimental M-protein vaccine.

Comment (Dr Api Talemaitoga: Clinical Lead for Rheumatic Fever Prevention, Alliance Health Plus PHO and primary care physician): As a Pacific health professional, I found the report from this laboratory-based surveillance data depressing: that invasive GAS infections increased from 3.9 per 100,000 to 7.9 per 100,000 over the 10 years surveyed, and that the incidence was higher amongst the over 75-year age group and Pacific peoples. I share the authors' concerns about this increase in incidence of invasive GAS disease and I agree that the reasons for this need exploring. I would add that, based on this evidence, a case should be made for prioritising further investigations to those over 75 years and Pacific peoples. Invasive sepsis definition was GAS isolated from normally sterile fluid such as blood, pleural fluid, synovial fluid and cerebrospinal fluid. The acute clinical manifestations of this are summarised. The report also lists important autoimmune sequelae, which can include acute rheumatic fever, rheumatic heart disease and post-streptococcal glomerulonephritis. These rates are embarrassingly high for NZ, which prides itself in comparing our disease rates and health outcomes with other First World countries. The authors note the disparity in incidence rates between ethnic groups, with the highest rates being that of Pacific peoples (twice that of Māori and seven times that of Pākehā). The authors also report that the highest incidence of GAS invasive disease was in patients residing in the highest deprivation areas, a finding that is not surprising to those of us working in this 'space'. The authors state that there has been an increase in GAS invasive infections in other countries including the UK, Finland and Sweden, but the underlying reasons for a significant increase in incidence in NZ remain unclear. They postulate possible contributory factors are the increase in skin and soft tissue infections, and/or change in the virulence of the organisms.

Although the authors are upfront about the limitations of this data, their study provides us with the epidemiology of GAS invasive disease within the total NZ population and represents one of the few longitudinal studies performed for an entire nation.

I agree with the authors that the increase in incidence is concerning and warrants further investigation, with a particular focus on the reasons why segments of our society (in this case Pacific peoples and those over 75 years) are at higher risk than others.

Reference: *J Infect*. 2015;70(2):127-34

[Abstract](#)

Barriers to early initiation of antenatal care in a multi-ethnic sample in South Auckland, New Zealand

Authors: Corbett S et al.

Summary: The Counties Manukau DHB (CMDHB) in South Auckland serves the most economically deprived areas of New Zealand, with a high proportion of young mothers, and women of Māori and Pacific ethnicity. The CMDHB has high rates of late booking for antenatal care and also the highest perinatal mortality rate in New Zealand, with a 3-year perinatal-related mortality rate of 13.70 per 1000 births compared with the national rate of 10.75 per 1000 births. This study aimed to identify barriers to early initiation of antenatal care (before 19 weeks of pregnancy) among women using CMDHB maternity services. The study involved 826 pregnant women who were either in late pregnancy (>37 weeks gestation) or who had recently delivered (<6 weeks postnatal); all completed a questionnaire about their antenatal care at CMDHB. 137 women (17%) booked for antenatal care at >18 weeks (late bookers). Ethnic groupings were 43% Pacific Peoples, 20% Māori, 14% Asian, and 21% European or other ethnicities. In multivariate analysis, women were significantly more likely to book late for antenatal care if they had limited resources (e.g. no transport) (OR 1.86), no tertiary education (OR 1.96), or were not living with a husband/partner (OR 2.34). Women of Māori or Pacific ethnicity were almost 6 times as likely to book late for antenatal care (ORs of 5.70 and 5.90, respectively) compared with women of European and other ethnicities.

Comment (Mary Matagi: registered nurse and midwife; Pacific representative, NZ College of Midwives National Committee):

This large multi-ethnic study adds information about the reasons for late engagement of mothers with antenatal care discussed in the other paper reviewed in this edition. The findings of this study provide evidence for long-held assumptions that the many barriers preventing Pacific women from engaging early or at all with a lead maternity care provider (LMC). Located in an area with a Pacific-dense demographic and higher socioeconomic disparities, this study suggests that a more integrated primary health care approach that is seamless, culturally cognisant, acceptable and accessible is required for this diverse Pacific population group. Furthermore, the study argues for a more streamlined and integrated maternity data system for all maternity providers to access; thereby ensuring accurate information is disseminated and risk is minimised.

However, questions remain around the role that GPs play as the first point of contact for many women – in this study, when women found they were pregnant, their initial visit was to a GP (72%) or a midwife (19%). This probably reflects the need to address the significant shortage of midwives in CMDHB and primarily the low numbers of Pacific midwives. I would argue that Pacific midwives are intrinsically attuned to the diverse worldviews of Tagata Pasifika (Pacific Peoples), enabling Pacific women/families to overcome linguistic challenges and improve health literacy. Ultimately, this paper provides a sound platform for stimulating constructive dialogue among key stakeholders and policy makers in discussing viable and sustainable solutions that will lead to best health and social outcomes for Pacific women in South Auckland.

Reference: *N Z Med J*. 2014;127(1404):53-61

[Abstract](#)

Good progress for children coupled with recalcitrant inequalities for adults in New Zealand's journey towards Universal Health Coverage over the last decade

Authors: Matheson D et al.

Summary: This article describes how changes in primary health care policy in New Zealand over the last decade have impacted on primary care access equity and avoidable hospital admissions. The study researchers suggest ways in which New Zealand health policy can reduce inequities in primary care access and, in particular, reverse the negative trends observed for the Pacific adult population.

Comment (Dr Corina Grey: Research Fellow of Epidemiology and Biostatistics, University of Auckland): Whether or not you agree that Ambulatory Sensitive Hospitalisations (ASH) are a useful indicator of primary care access, the results of this study by Matheson and colleagues are disappointing. Collectively, hospitalisation rates for asthma, bronchiectasis, eczema, cellulitis, ischaemic heart disease, stroke and heart failure, among other conditions, were highest in Pacific children and adults over the period 2002–2014. While ASH rates for Māori and non-Māori non-Pacific adults aged 45–64 years decreased slightly over the study period, ASH rates for Pacific adults consistently and significantly increased. In 2014, Māori adults had over double the non-Māori non-Pacific rate of ASH, while Pacific adults had over triple the rate. There were also large differences in ASH rates by NZDep score: 45–64-year-olds residing in the most deprived quintile had over triple the rate of those in the most affluent neighbourhoods throughout the study period. Given the over-representation of Pacific people in these deprived areas, further analysis of the relationship between hospitalisation rates, ethnicity and deprivation would be useful.

The ethnic and socioeconomic inequalities in ASH rates demonstrated in this study are unacceptable. Reducing these inequalities will require a whole-of-government approach. Many of the solutions will be outside the direct influence of the health sector. However, within this sector, there are strategies that can, and should, be implemented. The fact that over the same time period inequalities in ASH rates between Pacific and non-Māori non-Pacific children, particularly those aged 0–4 years, were reduced indicates that specific, targeted interventions to remove barriers to primary care access (such as the Zero Fees for Under 6's initiative) can make a difference. We must also be mindful that access barriers are not just financial: factors such as the availability of GPs in high-need areas, the cultural competency of providers and the ability to obtain timely appointments are also important. Any interventions will need to be adequately funded, explicit in their expectations of providers, and regularly evaluated. Thought also needs to be put into how other aspects of the health system could be improved, for example, management of care in the emergency department and provision of specialist care in the community. Finally, at the risk of stating the obvious, health sector strategies to reduce avoidable hospitalisations in Pacific people and other vulnerable groups will need to be part of a wider government programme to reduce inequalities in the fundamental determinants of health, including housing, income, education and employment.

Comment (Dr Teuila Percival QSO: Head of Pacific Health & Senior Lecturer, School of Population Health, University of Auckland): Ambulatory Sensitive Hospitalisations are often used as a measure of Primary Care performance. This is a very important article describing the trend in Ambulatory Sensitive Hospitalisations since 2002. In the 0–4-year-old age group there has been a reduction for both Māori and Pacific children. The gap between Māori and other children has closed (555 compared with 515 per 100,000) but less so for Pacific children, which continue to have the highest child ASH rates at 703 per 100,000. The trend for improvement is not seen in the adult age group with a deterioration (increase) in ASH rates for Pacific adults aged 45–64 years. ASH rates have remained static among Māori and other adults, resulting in a widening of the disparity between Pacific adults compared with Other and Māori. An analysis by deprivation showed improvement in ASH rates was greatest for the most deprived quintile, but there remains a continuing large disparity between the most deprived and least deprived groups.

The authors note that policy initiatives in Primary Healthcare such as the Free under-6 programme and the Very Low Cost Access scheme have improved access for children, which might explain the positive changes in Pacific child ASH rates we are seeing compared with the converse for Pacific adults (45–64 years). The most prevalent conditions in the 0–4-year-old Ambulatory Sensitive Hospitalisations are gastroenteritis, respiratory conditions, asthma, and dental. They have in common an acute or infectious diseases origin, necessitating an acute or targeted Primary Care response to prevent hospitalisation. This is in contrast to the bulk of adult ASH conditions, which are those of chronic diseases, where the Primary Care response needs to be a longstanding partnership with the patient to effectively treat and prevent complications for ischaemic heart disease and diabetes.

There have been some important child health initiatives over this period of time. Notably, there has been an improvement in the immunisation schedule and immunisation coverage for Pacific and Māori children. The pneumococcal vaccine was introduced into New Zealand's schedule in 2008. The hospitalisation rates for invasive pneumococcal disease in the under-6-year-olds have halved since then. There will be the added complexity of social issues specific to Pacific such as Primary Care catering for the needs of non-residents. What is worth considering from this article is why Māori are doing so well. Child Māori ASH rates are almost the same as Other (non-Māori, non-Pacific). Adult Māori ASH have maintained the same rate and disparity gap with other adults whereas Pacific adults have got worse. Consideration of the health and social funding priority, models and quantum for Māori compared with Pacific might be worth looking at.

Reference: *N Z Med J*. 2015;128(1415):14-24

[Abstract](#)

Rheumatic fever in New Zealand: what are the teeth trying to tell us?

Authors: Thornley S et al.

Summary/Comment (Dr Api Talemaitoga: Clinical Lead for Rheumatic Fever Prevention, Alliance Health Plus PHO and primary care physician): I really like this article, which suggested new ways of thinking about the seemingly intractable problem of high rates of rheumatic fever (RF) in Pacific and Māori children in Aotearoa. The article highlights the high rates of RF in Pacific (80 per 100,000) and Māori (30 per 100,000) children and the relationship to tooth decay. The incidence rates of RF in Pacific and Māori children are far in excess of the rate among European children, which is 1 per 100,000. In 1938, a Canadian dentist, Weston A. Price, found that 95% of children with acute RF also had advanced dental caries. The connection between the unusually high incidence of RF in Māori and Pacific children and that these children are also disproportionately affected with dental caries compared to European children has been shown in oral health surveys.

It is widely known that excess dietary sugar intake causes dental decay and provides energy to some species of bacteria implicated in the pathogenesis of dental decay and RF.

The association between GAS infections and systemic, joint and cardiac complications has long been established and is thought to be due to an autoimmune response to the infection. These authors argue that further investigation is warranted, as the connection of RF with tooth decay (as linked to a high sugar content in food and drinks) may explain some of the ethnic differences in the incidence of RF. Biologically, one of the GAS bacteria (*Streptococcus mutans*) is known to have a central role in the pathogenesis of dental caries. Thus, there is a plausible link between high sugar intake, dental caries and the development of acute RF.

The authors (2 of whom are Pacific health researchers) call for a case-control study to evaluate the evidence for an association (direct or otherwise) between sugar intake, dental decay and incidence of RF. This makes sense, as despite the plethora of initiatives targeting the socioeconomic determinants of health (including poor housing, poverty, overcrowding and reduced access of health services) usually associated with RF, the actual mechanisms linking these factors and RF remain unclear.

Much is being done for the prevention of RF in NZ at present, such as throat swabbing in schools, free sore throat clinics and pharmacies, but results remain disappointing. In the spirit of aiming for continuing improvement, the authors challenge us to look at what other risk factors and associations may help us find solutions to this terrible disease that can have such a long-term effect on individuals and their families.

The evidence of a link between RF and tooth decay would have many important implications for policy makers. Reducing the incidence of RF is one of the New Zealand Government's Better Public Service Targets and better information about causal factors would contribute to improved investment to reduce RF. Robust evidence of a direct connection between RF and tooth decay would strengthen the mandate for Government action targeting high sugar foods and drinks and lessen the perceptions of government nanny state interventions in the area of nutrition.

We have good evidence that junk food taxes work. On 1 January 2014, Mexico imposed a 10% tax on sugar-sweetened beverages; by the end of 2014, sugary drink consumption had reduced by 12%. Soft drink taxes can be implemented by our Government, which has seen similar success with tobacco price increases in the past 10 years. Further to this theme, the American Heart Association recently recommended a severe restriction on intake of sugar-rich foods, albeit in an attempt to prevent weight gain and protect against cardiovascular health.

Reference: *Pac Health Dialog*. 2014;20(1):7-10

[Abstract](#)

Privacy Policy: Research Review will record your email details on a secure database and will not release it to anyone without your prior approval. Research Review and you have the right to inspect, update or delete your details at any time.

Disclaimer: This publication is not intended as a replacement for regular medical education but to assist in the process. The reviews are a summarised interpretation of the published study and reflect the opinion of the writer rather than those of the research group or scientific journal. It is suggested readers review the full trial data before forming a final conclusion on its merits.