

Pacific Health Review

Making Education Easy

Issue 38 – 2023

In this issue:

- An update on paediatric acute haematogenous osteomyelitis in NZ
- Pacific patients' reasons for attending EDs for non-urgent conditions
- Referrals for publicly-funded bariatric surgery in Counties Manukau
- A policy focus on ownership is needed to transform NZ's health system
- Impact of socioeconomic deprivation and ethnicity on adverse outcomes in T2DM
- Oral health service utilisation by adolescents in Canterbury
- Ethnic differences in 25-year risk of CKD in patients with T2DM
- Screening, diagnosis and management of Pacific peoples with prediabetes in NZ
- Economic costs of noncommunicable diseases in the Pacific
- Sociodemographic and behavioural factors related to obesity in Palau

Abbreviations used in this issue

BMI = body mass index
CKD = chronic kidney disease
DHB = District Health Board
ED = emergency department
GP = general practitioner
T2DM = type 2 diabetes mellitus

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

Welcome to the latest issue of Pacific Health Review.

This issue covers a range of topics of interest to Pacific people living in Aotearoa New Zealand and the Pacific Region. We report that Pacific and Māori children and those with socioeconomic disadvantage are most at risk for acute haematogenous osteomyelitis; presentations by Pacific people to EDs in South Auckland are neither excessive nor unreasonable (contrary to popular wisdom); and there are blatant ethnic disparities in publicly-funded bariatric surgery in NZ. Other research includes a look at barriers to free dental services among adolescents, and the wide-reaching impact of noncommunicable diseases in Pacific countries.

We hope you find these and the other selected studies interesting, and welcome your feedback.

Kind regards,

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An update on pediatric acute hematogenous osteomyelitis in New Zealand – a decade on

Authors: McDonald ACE et al.

Summary: This retrospective study determined the incidence of paediatric acute haematogenous osteomyelitis (AHO) over a 10-year period in NZ. Demographic data, presentation features, investigations, management, and complications were collected for 796 children aged 6 weeks to 15 years (mean 7.7 years) that were hospitalised with paediatric AHO across two centres in 2008–2017. The incidence of paediatric AHO was 18 per 100,000 per annum. Pacific and Māori children were overrepresented (57%), and 51% of children were from low socioeconomic areas. Methicillin-sensitive *Staphylococcus aureus* was the most common pathogen (87%). 325 children (41%) had surgery and 44 (5.5%) were admitted to the paediatric intensive care unit, with 9% mortality. The number of children with chronic infection increased from 1.7% in the previous decade to 5.7% in 2008–2017.

Comment (CT): Osteomyelitis is a serious infection that usually affects the growing skeleton. This descriptive study of AHO over a 10-year period in NZ confirms the general view that Pacific and Māori children and those with socioeconomic disadvantage are most at risk. Compared with a decade earlier (1997–2007), the incidence of AHO in NZ declined from 25 per 100,000 to 18 per 100,000 during 2008–2017. The incidence of AHO in high-income countries is reported to be 5 per 100,000. AHO is particularly common in children under 5 years of age. Māori, Pacific and male children remain over-represented in this study, similar to observations in the 1997–2007 decade. Children with chronic infection increased almost 3-fold from a decade earlier. AHO is a serious condition and early diagnosis and treatment is essential.

Reference: *J Pediatr Orthop* 2023;43(8):e614-8

[Abstract](#)

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Independent commentary by Sir Collin Tukuitonga KNZM

Sir Collin Tukuitonga is a medical graduate and Public Health Physician with extensive experience in health policy, research, management, and leadership in NZ and internationally. He is the inaugural Associate Dean Pacific and Associate Professor of Public Health at the University of Auckland. Prior to this role, he was the Director-General of the Pacific Community based in New Caledonia.



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Pacific patients' reasons for attending the emergency department of Counties Manukau for non-urgent conditions

Authors: Yang CJ et al.

Summary: This study investigated Pacific patients' reasons for visiting the ED at Counties Manukau Health for non-urgent conditions. 353 patients who self-presented to the ED with a non-urgent condition in June 2019 were surveyed. 39% of them were Pacific, 19% were Māori and 42% were non-Māori non-Pacific (nMnP). 42% of Pacific patients, 30% of Māori patients and 40% of nMnP patients had been to their GP prior to presenting to the ED. The most common reasons for ED attendance among Pacific and other patients were: suggested by a health professional (41%); usual care unavailable (28%); symptoms not improving (21%); and symptoms too severe to be managed elsewhere (19%).

Comment (CT): This is an important study given high media and political interest in ED use in NZ, especially in South Auckland. This study of 353 patients who self-presented to ED with a non-urgent condition showed that Pacific people were slightly under-represented (39%) compared with 41% of the resident South Auckland population at the 2018 Census. Furthermore, almost half of Pacific patients had been to their GP prior to presenting to the ED. A significant proportion of patients were told by a health professional to present to ED. It appeared that other reasons for presenting to ED were reasonable, including inability to access usual care. Contrary to popular wisdom, presentations by Pacific people to ED were not excessive nor unreasonable. Inability to access usual care and being told by health professionals to present to ED suggests continuing pressure on GPs and primary care practitioners in the community. Urgent support is needed for community providers, and funding for primary care should be updated.

Reference: *N Z Med J 2023;136(1577):23-34*

[Abstract](#)



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Investigating the distribution of primary and secondary care referrals for public-funded bariatric surgery at Counties Manukau Health (CMH)

Authors: Bradley K et al.

Summary: This study evaluated referral rates from primary and secondary care providers across the Counties Manukau DHB for publicly-funded bariatric surgery. Referral data for 1195 patients were extracted from hospital records for the period 2017–2019. 87% of referrals were from primary care (328 GPs across 158 practices). Referral rates varied regionally, from a low of 0.2 per 1000 to a peak of 71.5 per 1000. 86% of referrals were received from the public system, with the remainder from private practice. Diabetes was the most common referral specialty, followed by general surgery and orthopaedics. 434 out of 1195 referrals (36%) proceeded to bariatric surgery. Pākehā were more likely to proceed to surgery than Māori and Pacific patients (50%, 31% and 22%, respectively), despite having similar referral numbers.

Comment (CT): The prevalence of obesity among Pacific adults in NZ is 71% compared with 50.8% of Māori, 31.9% of European/other and 18.5% of Asian adults. The prevalence of obesity among children differs by ethnicity, with 35.3% of Pacific and 17.8% of Māori being obese, followed by 6.6% of Asian and 10.3% of European/other children (MOH). Obese children are more likely to be obese adults. Pacific women are more likely to be overweight and obese compared with Pacific men. This study of 1195 referrals for bariatric surgery across Counties Manukau DHB during the period 2017–2019 found that only 22% of Pasifika patients proceeded to bariatric surgery compared with 31% of Māori. Half of all Pākehā referrals proceeded to surgery despite similar referral rates and lower prevalence of obesity in the community. These differences illustrate the stark inequities that exist in NZ, and the reformed health system should seek to reduce these ethnic differences in access to health care.

Reference: *N Z Med J 2023;136(1577):65-75*

[Abstract](#)

The ownership elephant is becoming a mammoth: A policy focus on ownership is needed to transform Aotearoa New Zealand's health system

Authors: Reidy J et al.

Summary: The current mix of public and private provision of health services in NZ dates back to the health system's formation in the 1930s, where the aim of the government was to ensure the provision of universally accessible health care. However, it is time for government policy regarding ownership of health services in NZ to be revisited amid health system reform and increasing reliance on private provision (particularly for primary and community care). The health system has historically comprised a range of different service-provider types, characterised by three main types of ownership: private for-profit, third sector/not-for-profit (non-governmental organisations, Pacific and community trusts), and state-owned. A fourth ownership type (Māori ownership) has emerged over the past three decades. The mix of ownership types in the system requires deliberate policy attention if equity goals are to be met. However, ownership (particularly the growth of corporate ownership) is the 'elephant in the room', possibly because of anxiety about whether discussing ownership might precipitate a crisis similar to that seen when the health system was introduced in the 1930s.

Comment (CT): The NZ health system is struggling to cope with rising demands as the population gets older and chronic ethnic inequities remain entrenched. The 'cradle to the grave' social policy ethos introduced in the Social Welfare Act of 1938 is a distant memory. Treatment in hospitals was meant to be free and GP visits were heavily subsidised by the government. Many New Zealanders are now unable to afford health care and the public health system is unable to secure the necessary healthcare workforce. The world leading Pae Ora (Healthy Futures) Act 2022 is not matched by the reality of health care delivery. The growth of community-owned Māori and Pacific healthcare clinics provides a beacon of hope for these communities who have had major problems accessing healthcare services. The capacity of these clinics remains short of being able to meet the healthcare needs of Māori and Pacific people. The risk is that the growth of corporate ownership of GP practices will further compromise health care in NZ where profits will triumph over people.

Reference: *N Z Med J 2023;136(1576):74-81*

[Abstract](#)



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Adverse clinical outcomes attributable to socioeconomic and ethnic disparities among people with type 2 diabetes in New Zealand between 1994–2018

Authors: Yu D et al.

Summary: This NZ study investigated the impact of socioeconomic deprivation and ethnicity on adverse clinical outcomes in patients with T2DM. 36,267 patients with T2DM who were enrolled in the Diabetes Care Support Service in Auckland in 1994 were followed up until death or study end (31 Dec 2019). Attributable fractions (AFs) for clinical outcomes were estimated for the whole population and for specific populations, with NZ Europeans and/or least deprived population as references. Adjusted population AFs indicated that 6.6% of premature mortality, 17.1% of myocardial infarction (MI), 35.3% of stroke, 14.3% of heart failure, and 15.9% of end-stage renal disease (ESRD) could be attributed to deprivation; while 14.3% of premature mortality, -3.3% of MI, -0.5% of stroke, 4.7% of heart failure, and 13.3% of ESRD could be attributed to ethnicity. NZ Europeans and Asians were most affected by deprivation across outcomes.

Comment (CT): The prevalence of T2DM in Aotearoa is 5.3% in Māori, 11.1% in Pacific people, 5.7% in Asians and 4.7% in European/others (HSQC Atlas of Healthcare Variation 2019). It is generally understood that the prevalence of diabetes is higher than reported because almost half of all people with diabetes remain undiagnosed. This is an interesting study of 36,267 people with T2DM enrolled with the Diabetes Care Support Service in Auckland over a 25-year period. A significant proportion of adverse health outcomes were estimated to be attributable to socioeconomic deprivation and ethnicity. Māori had the highest rate of premature mortality, heart failure and ESRD, Pasifika the next highest rate of ESRD, but Europeans had the highest rate of MI and stroke.

Reference: *Clin Epidemiol* 2023;15:511-23

[Abstract](#)

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Adolescents and oral health service utilization in Canterbury, New Zealand

Authors: Lee JJM et al.

Summary: This study investigated geospatial and epidemiological factors associated with utilisation of the publicly-funded Adolescent Oral Health Service (AOHS) in Canterbury. Routine data were collected and analysed from AOHS visits of adolescents aged 13–14 years in 2019–2020. Dental practices were largely concentrated in large urban areas and in the least deprived neighbourhoods. After adjustment for confounding factors, adolescents living in the most deprived areas of Christchurch City had a higher risk of non-utilisation of the dental service than adolescents in the least deprived areas (adjusted risk ratio [aRR] 1.38, 95% CI 1.26–1.51), and adolescents living in remote areas had a higher risk of non-utilisation than those in urban core areas (aRR 1.36, 95% CI 1.20–1.54). Māori (aRR 1.37, 95% CI 1.29–1.46) and Pacific (aRR 1.46, 95% CI 1.35–1.59) adolescents had higher risks of non-utilisation than NZ European adolescents.

Comment (RNS): In Aotearoa NZ, children have received free dental services until their 18th birthday since 1921. Despite publicly-funded dental services for children, changes in oral health outcomes are modest with Pacific and Māori children's and adolescents' rates of oral health disease being nearly double those of non-Māori/non-Pacific children and adolescents. This study therefore uses geospatial and epidemiological methods to investigate other barriers to accessing and utilising publicly funded oral healthcare services among adolescents in Aotearoa, including dental practice/adult population ratios and ethnic discrimination for Māori, Pacific and ethnic minority populations. From the analysis of data, the findings show that spatial inequities of dental health services exist in Canterbury, with area-level deprivation, living in rural areas, and ethnicity being significantly associated with non-utilisation of dental health services. The recommendations for policy and future research noted by the researchers provide a useful way forward for further research and actions to improve access to dental health for Māori and Pacific communities.

Reference: *Community Dent Oral Epidemiol* 2023;51(3):388-98

[Abstract](#)

Ethnic differences in 25-year risk of incident chronic kidney disease among people with type 2 diabetes in New Zealand

Authors: Yu D et al.

Summary: This NZ study investigated ethnic differences in the 25-year risk of CKD in patients with T2DM. The cohort comprised 5458 NZ European, 3402 Māori, and 5376 Pacific patients with T2DM who were registered with the Diabetes Care Support Service; none of the patients had CKD at baseline. Adjusted hazard ratios for developing any CKD, CKD stage II, CKD stage III, CKD stage IV and CKD stage V over a 25-year period for Māori versus NZ European were 1.18 (95% CI 0.99–1.41), 1.10 (95% CI 0.91–1.32), 1.70 (95% CI 1.19–2.43), 3.93 (95% CI 2.16–7.14), and 3.74 (95% CI 1.74–8.05), respectively, and for Pasifika versus NZ Europeans were 1.31 (95% CI 1.09–1.57), 1.26 (95% CI 1.05–1.52), 1.71 (95% CI 1.14–2.57), 3.75 (95% CI 1.40–10.05), and 4.96 (95% CI 1.56–15.75), respectively.

Comment (RNS): Rates of CKD and deaths resulting from CKD are high for Māori and Pacific populations in Aotearoa NZ. This study seeks to provide further data on risks of each stage of CKD for different ethnic groups. The authors were able to use comparable cohorts of NZ European, Māori and Pacific cohorts with T2DM by utilising a novel quasi-trial matching method to reduce model dependence and tapered matching method to balance potential confounders. The analysis showed that over a 25-year period, Māori and Pacific cohorts with T2DM have significantly higher risks of CKD at each stage of CKD II–V despite matching for possible confounders. The findings show a need to take into account the ethnic differences in the incident rate of developing each stage of CKD when designing intervention studies to prevent the progression of diabetes-related renal disease.

Reference: *BMJ Open Diabetes Res Care* 2022;10(6):e003077

[Abstract](#)

Independent commentary by Dr Roannie Ng Shiu

Dr Roannie Ng Shiu is the Pasifika Medical Association (PMA) Senior Research Fellow with the University of Auckland Faculty and Medical and Health Sciences Office of the Associate-Dean Pacific. Her primary role is to deliver robust high-quality Pacific health equity research and to increase the Pacific health workforce in Aotearoa with the recruitment and retention of Pacific health students. She was previously with the Department of Pacific Affairs at the Australian National University. Roannie is Samoan and was raised in South Auckland and graduated from the University of Auckland with a PhD in Community Health.



Screening, diagnosing and management of Pacific peoples with prediabetes in New Zealand primary healthcare clinics with high concentrations of Pacific peoples

Authors: Faletau J et al.

Summary: This study investigated primary healthcare clinicians' knowledge and practice regarding screening, diagnosis and management of prediabetes in Pacific patients. An online survey was conducted with 30 primary healthcare clinicians between Feb and Apr 2021. Eligible clinicians were employed in a primary healthcare clinic with >50% of enrolled patients being Pasifika. All of the clinicians reported that their prediabetes screening, diagnosis and management were in accordance with the NZ Ministry of Health guidelines. The most common factors that prompted screening were a family history of T2DM (83% of clinicians), ethnicity (80%), and BMI (80%). 93% of clinicians said their initial management strategy involved recommending dietary changes and physical activity; 53% of them referred patients to a diabetes prevention lifestyle change programme.

Comment (RNS): Screening and prevention of diabetes for Pacific communities is crucial in reducing the high rates of T2DM in Pacific adults. Primary health organisations in communities with high Pacific populations play a pivotal role in strengthening the screening and prevention of diabetes. Using an online survey, the authors gathered information on primary healthcare professionals' knowledge of screening, diagnosing and management of pre-diabetes of Pacific adults. The findings are positive and showed that primary healthcare professionals are using the appropriate diagnostic tools to identify risk and follow best practise guidelines.

Reference: *J Prim Health Care* 2023;15(2):162-6
[Abstract](#)

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The value of lost output and cost of illness of noncommunicable diseases in the Pacific

Authors: Hou X et al.

Summary: Noncommunicable diseases (NCDs) are the leading cause of death in most countries in the Pacific, ranging from an estimated 60% of deaths in Solomon Islands to 77% of deaths in Fiji. This study estimated the economic costs due to NCDs in 11 Pacific Island nations (Fiji, Kiribati, Marshall Islands, Micronesia, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu) over the period 2015–2040, using lost output and cost of illness approaches. Analysis of the data revealed five important findings: 1) the economic cost of NCDs due to mortality burden is much greater in Pacific Island countries than the global average; 2) cardiovascular disease accounts for the greatest economic burden in the Pacific, followed by diabetes; 3) the economic burden of NCDs is increasing with time; 4) the biggest driver of lost output from NCDs is the loss of labour due to early death; and 5) the cost of illness due to diabetes is high across the Pacific countries.

Comment (RNS): The Pacific faces twin crises of climate change and NCDs, with NCDs now the leading causes of death in most countries in the region. NCDs will continue to rise substantially over the next few decades due to high population growth and ageing and high incidence of NCD risk factors. Treating NCDs has an enormous economic burden on small Pacific economies. NCD morbidity and mortality also impact on labour economic loss with early death from NCDs shown to be the biggest driver for lost economic output. Preventing and reducing the incidence of NCDs in the Pacific region is an economic and health imperative. This article provides important data to highlight the wide-reaching impacts of NCDs in Pacific countries by estimating the economic costs of NCDs in already fragile and vulnerable Pacific economies. NCDs have a huge impact. The analysis and findings demonstrate the need for a coordinated approach within national governments and with the donor community for targeted interventions to reduce the long-term costs associated with NCD mortality and morbidity.

Reference: *Health Policy Open* 2022;3:100073
[Abstract](#)

Sociodemographic and behavioral factors related to obesity among adults in the Republic of Palau based on the WHO STEPwise approach to NCD risk factor surveillance 2011–2013

Authors: Hasegawa M et al.

Summary: This cross-sectional study examined sociodemographic and behavioural factors associated with obesity in Palau (population 20,000). Data for 2133 adults aged 25–64 years were extracted from the WHO STEPwise approach to noncommunicable diseases (NCD) risk factor surveillance (STEPS survey) that was implemented in 2011–2013. Mean BMI and the prevalence of general obesity and central obesity were higher in women (29.9 kg/m², 45.5% and 85.4%, respectively) than in men (29.3 kg/m², 40.4% and 67.6%, respectively). After adjustment for potential confounding factors, being native Palauan, chewing betel nut, working at a government office (males), and having a higher household income (females) were found to be positively associated with general and central obesity.

Comment (RNS): The WHO STEPwise approach has been used widely across the Pacific to provide data and information for national governments and ministries of health on NCD risk factors. There have been ongoing calls from Pacific clinicians and researchers about the need to provide flexibility in the survey design to ensure it is culturally appropriate while maintaining the robustness of the tool. The Palauan experience highlights the possibilities of adapting the STEPS survey for a local context with the inclusion of questions on betel nut consumption. The findings demonstrate that this was an important inclusion, as betel nut consumption was found to have a positive association with general and central obesity for both men and women in Palau. Another key finding is the need for increasing domestic production of vegetables, given the inverse association of frequent vegetable consumption with obesity in women.

Reference: *Environ Health Prev Med* 2023;28:39
[Abstract](#)

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