

# Māori Health Review™



Making Education Easy

Issue 69 – 2017

## In this issue:

- *Obesity lowers quality of life in children & teens*
- *Inequities exist in NZ university graduate outcomes*
- *Addressing medical student remediation*
- *Recruiting adults to a smartphone-delivered nutrition trial*
- *Developing the Index of Multiple Deprivation for NZ*
- *Risk of stomach cancer in NZ*
- *Perinatal data and risk of abusive head trauma*
- *A high prevalence of TBI among male prisoners*
- *Diabetes among Māori women with past GDM*
- *Low adherence to STI retesting guidelines*
- *Influenza deaths by age, ethnicity and SES*
- *Mortality trends in Australian Aboriginals and NZ Māori*

### Abbreviations used in this issue

- GDM** = gestational diabetes mellitus  
**NZDep** = New Zealand Deprivation Index  
**OR** = odds ratio  
**SES** = socioeconomic status  
**STI** = sexually transmitted infection  
**TBI** = traumatic brain injury

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Ngā mihi

### Matire

Dr Matire Harwood

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## Assessment of health-related quality of life and psychological well-being of children and adolescents with obesity enrolled in a New Zealand community-based intervention programme: an observational study

**Authors:** Anderson YC et al.

**Summary:** This paper details health-related quality of life (HRQOL) and psychological well-being of obese children and adolescents aged 4–16 years (mean age, 10.6 years; body mass index [BMI]  $\geq 98^{\text{th}}$  percentile) upon enrolment (from January 2012 through August 2014) into a multidisciplinary community-based, 12-month obesity programme in Taranaki, which targeted indigenous people and those from most deprived households. The study cohort of 233 participants (45% Māori, 45% New Zealand European, 10% other ethnicities, 30% from the most deprived household quintile) had a mean BMI score of 3.12. At entry into the programme, parents and children completed separate versions of the HRQOL questionnaire. Parents (or the child if aged  $>11$  years) filled out a second questionnaire to screen for behavioural and emotional difficulties, such as anxiety, sleep issues and aggression. Parents scored their children's HRQOL and psychological well-being lower than scores in age-matched, normal-weight Australian children from the Health of Young Victorians study (mean, 63.4 vs 83.1;  $p < 0.001$ ). In multivariable analysis, child and parental generic scaled scores decreased in older children ( $\beta = -0.70$  and  $p = 0.031$ ,  $\beta = -0.64$  and  $p = 0.047$ , respectively). Nearly half (43.5%) of all participants reported behavioural difficulties (as assessed by Achenbach's Child Behavior Checklist [CBCL]/Youth Self Report [YSR] total score) and the prevalence of emotional and behavioural problems was 6-fold higher than normative populations ( $p < 0.001$ ).

**Comment:** I remember when this study was being considered, and worried about the potential for 'deficit' or victim-blaming outcomes. Instead, I see that the researchers have provided mana-enhancing recommendations for managing obesity, a growing and stigmatising condition for our young people.

**Reference:** *BMJ Open*. 2017;7(8):e015776

[Abstract](#)

## Independent commentary by Dr Matire Harwood

Dr Matire Harwood (Ngapuhi) has worked in Hauora Māori, primary health and rehabilitation settings as clinician and researcher since graduating from Auckland Medical School in 1994. She also holds positions on a number of boards, committees and advisory groups including the Health Research Council. Matire lives in Auckland with her whānau including partner Haunui and two young children Te Rangiura and Waimarie.



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## Equity in New Zealand university graduate outcomes: Māori and Pacific graduates

**Authors:** Theodore R et al.

**Summary:** This examination of data from the Graduate Longitudinal Study New Zealand compared Māori and Pacific university graduate outcomes with outcomes of other New Zealand graduates. The data were collected during the students' final year of study (n=8719) and again at 2 years post-graduation (n=6104). At 2 years post-graduation, employment outcomes were comparable between Māori, Pacific and other New Zealand graduates, but student debt burden and financial strain was significantly higher amongst Māori and Pacific graduates. They were significantly more likely to help others (e.g., family) in various scenarios (e.g., lending money), and they were much more willing to volunteer for community projects compared to the other graduates.

**Comment:** See next paper.

**Reference:** *Higher Educat Res Dev.* 2017 Jul 3. [Epub ahead of print]

[Abstract](#)

## Predictors of medical student remediation and their underlying causes: early lessons from a curriculum change in the University of Auckland Medical Programme

**Authors:** Grainger B et al.

**Summary:** These researchers sought to identify what factors increase the likelihood of students requiring remediation during the University of Auckland medical programme, in this analysis of data from 2013 and 2014. Twenty-two lead faculty staff involved in medical student remediation were invited to participate in semi-structured interviews exploring their perspectives about the quality and effectiveness of the remediation work they are involved with. A recent reorganisation of the curriculum content places more emphasis on longitudinal learning and programmatic assessment. This 'new' curriculum was introduced in a staged fashion to Years 2 and 4 in 2013, Years 3 and 5 in 2014 and finally Year 6 in 2015. The analysis revealed that nearly one-fifth (17.7%) of all students required some form of remedial assistance and 93% of all students offered remediation passed their year of study. In a multivariate analysis of student demographics, those who were significantly more likely to require remediation were international students (OR 4.59; 95% CI, 2.62 to 7.98) and students admitted via the Māori and Pacific Admission Scheme (OR 3.43; 95% CI, 2.29 to 5.15). Male students were also slightly more likely than their female classmates to require assistance. No effect was observed for rural origin students, those with a prior degree or who had completed clinical placement in a peripheral hospital. Knowledge application and information synthesis were the most frequently identified underlying problems. Most faculty believed remediation was successful, however, suggested areas for improvements included flexibility in the programme structure, improved diagnostics and improved access to dedicated teaching staff.

**Comment:** Just wanted to highlight a couple of things from these two related papers. First, ethnic inequities in graduate outcomes in Aotearoa exist and have long-term implications. And second, the reasons are complex and therefore multiple interventions will be required along the entire 'pipeline' (from school into and through tertiary study).

**Reference:** *N Z Med J.* 2017;130(1460):73-82

[Abstract](#)

## Effectiveness of recruitment to a smartphone-delivered nutrition intervention in New Zealand: analysis of a randomised controlled trial

**Authors:** Volkova E et al.

**Summary:** These researchers assessed the effectiveness of a range of approaches used to recruit New Zealand adults (aged ≥18 years) to a large, fully automated smartphone-enabled nutrition intervention trial (no face-to-face visits were required) and to examine associations of recruitment strategies with participant demographics. Recruitment was through Internet and social media advertising, mainstream media advertising and research team networks. Recruitment of Māori and Pacific participants was a key focus and ethically relevant recruitment materials and approaches were used where possible. Over a 13-month period, there were 2448 registrations on the study website, and 1357 eligible individuals were randomised into the study. Facebook campaigns were the most successful recruitment strategy overall (43% of all randomised participants) and for all ethnic groups (Māori 44%, Pacific 44% and Other 43%). Recruitment strategy was significantly associated with age (p<0.001), household size (p<0.001), ethnicity (p<0.001), gender (p=0.005) and interest in healthy eating (p=0.022). Those recruited via Internet/social media were younger on average (31 years), whereas those recruited via radio and newspaper advertising were older (36.5 and 37 years, respectively). Facebook campaigns resulted in the highest absolute numbers of study registrations (n=966) and randomisations (n=584). Network strategies and Facebook campaigns cost least per randomised participant (NZ\$4 and NZ\$5, respectively) and radio advertising cost the most (NZ\$179 per participant).

**Comment:** Great to see evidence being published around 'what works' to recruit Māori into research that has the potential to improve health outcomes equitably.

**Reference:** *BMJ Open.* 2017;7(6):e016198

[Abstract](#)

### Māori Health Review and Ministry Publications

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## Dementia: Supplementary Findings from LiLACS NZ for Section Five, 'Service Use and Common Health Conditions' in the report 'Health, Independence and Caregiving in Advanced Age'

Funded by the Ministry of Health, the University of Auckland released the report *Dementia: Supplementary Findings from LiLACS NZ for Section Five, 'Service Use and Common Health Conditions'* in the report *'Health, Independence and Caregiving in Advanced Age'* on the 10th of May 2017. This report establishes how the presence of dementia affects older Māori and non-Māori (aged 80 years and above), and the services they use when the dementia patients also have cardiovascular disease, chronic lung disease and diabetes mellitus.

The study found that dementia was associated with lower functional status, higher frailty, poorer mental and physical health-related quality of life and higher health service use and cost. The combination of dementia with any of the physical health conditions studied in the report (cardiovascular disease, chronic lung disease, and diabetes mellitus) worsened health status and increased health service use and costs.

The project *Te Puāwaitanga O Ngā Tapuwae Kia Ora Tonu/ Life and Living in Advanced Age, a Cohort Study in New Zealand (LiLACS NZ)* is a longitudinal cohort study of New Zealanders in advanced age. LiLACS NZ is the world's first longitudinal study of an indigenous population aged 80 and over.

The report, along with the 13 previously released LiLACS NZ reports, can be found at the University of Auckland website:

<https://www.fmhs.auckland.ac.nz/en/faculty/lilacs/research/publications.html>



## The New Zealand Indices of Multiple Deprivation (IMD): A new suite of indicators for social and health research in Aotearoa, New Zealand

**Authors:** Exeter DJ et al.

**Summary:** This paper describes the development of a new deprivation index for New Zealand, a theoretical and methodological shift from the New Zealand Deprivation Index that has been used since the 1990s as the universal measure of area-based social circumstances. The study researchers developed a customised geographical boundary file known as Data Zones, which uses routine datasets and methods comparable to current international deprivation indices. They identified 28 indicators of deprivation from national health, social development, taxation, education, police databases, geospatial data providers and the 2013 Census, all of which represented 7 Domains (Employment, Income, Crime, Housing, Health, Education, and Geographical Access). These Domains have been combined into the New Zealand Index of Multiple Deprivation (IMD) and may be used individually or in combination, to explore the geography of deprivation and its association with a given health or social outcome. Geographical variations in the distribution of the IMD and its Domains among the country's 20 District Health Boards suggest that factors underpinning overall deprivation are inconsistent across the country.

**Comment:** As the authors say, the hope is to provide a better understanding of the wider determinants that impact on health. My hope is that a better awareness will lead to policies that dismantle the systems supporting the unequal distribution of these determinants.

**Reference:** *PLoS One.* 2017;12(8):e0181260

[Abstract](#)

## Risk of stomach cancer in Aotearoa/ New Zealand: A Māori population based case-control study

**Authors:** Ellison-Loschmann L et al.

**Summary:** Rates of stomach cancer are disproportionate amongst New Zealand Māori compared to non-Māori. These researchers sought to better understand the reasons for this phenomenon and to identify priorities for prevention. 165 Māori stomach cancer cases from the New Zealand Cancer Registry between 1 February 2009 and 31 October 2013 were matched by 5-year age bands with 480 Māori controls randomly selected from the New Zealand electoral roll. Nearly half (47.9%) of cases were of the diffuse subtype. There were differences in the distribution of risk factors between cases and controls. In logistic regression analysis, stomach cancer risk was strongly increased by having >2 people sharing a bedroom in childhood (OR 3.30; 95% CI, 1.95 to 5.59), testing for *Helicobacter pylori* (OR 12.17; 95% CI, 6.15 to 24.08), being an ex-smoker (OR 2.26; 95% CI, 1.44 to 3.54) and exposure to environmental tobacco smoke in adulthood (OR 3.29; 95% CI, 1.94 to 5.59).

**Comment:** This paper is important for a couple of reasons. Firstly, it is the first national study of stomach cancer in any indigenous population. It also provides useful information about risk factors and screening criteria for stomach cancer.

**Reference:** *PLoS One.* 2017;12(7):e0181581

[Abstract](#)

## Perinatal risk and protective factors for pediatric abusive head trauma: a multicenter case-control study

**Authors:** Kelly P et al.

**Summary:** This case-control study examined the relationship between perinatal data and the first week of life and subsequent abusive head trauma. Perinatal records were examined from 142 cases of abusive head trauma and 550 controls, matched by date and hospital of birth from 1991 to 2010. Cases were admitted to Starship Hospital in Auckland and identified from the hospital child protection team database. In multiple logistic regression analysis, the risk of abusive head trauma decreased with increasing maternal age (OR, 0.91 per year; 95% CI, 0.85 to 0.97) and increasing gestational age at birth (OR 0.79 per week; 95% CI, 0.69 to 0.91). Mothers of cases were more likely to be indigenous Māori (OR 4.61; 95% CI, 1.98 to 10.78), to be single (OR 5.10; 95% CI, 1.83 to 14.23), to have "other social history" (OR 4.29; 95% CI, 1.32 to 13.91) and have missing data for antenatal care, partner status, social concerns, and substance abuse (OR 13.53; 95% CI, 2.39 to 76.47). Case mothers were more likely not to take supplements (nonprescribed medications) in pregnancy (OR 3.53; 95% CI, 1.30 to 9.54), to have rupture of membranes for longer than 48 hours before delivery (OR 13.01; 95% CI, 2.84 to 59.68), and to formula feed (OR for mixed breast and formula feeding 6.06; 95% CI, 2.39 to 15.36) at the time of postnatal discharge (median 3 days).

**Comment:** See next paper.

**Reference:** *J Pediatr.* 2017;187:240-6

[Abstract](#)

## Prevalence of traumatic brain injury in a male adult prison population and its association with the offence type

**Authors:** Mitchell T et al.

**Summary:** These researchers examined the prevalence of traumatic brain injury (TBI) in a male prison population in New Zealand and sought to determine any associations between prevalence and age, ethnicity, offence type, security classification and sentence length. 1054 offenders admitted to a new Corrections Facility over a 6-month period (May through November 2015) completed a TBI history screen. Most (63.7%) had sustained  $\geq 1$  TBI in their lifetime; one-third (32.5%) had experienced multiple injuries. One-fifth of the cohort had experienced their first TBI injury before the age of 15 years. A regression model was able to correctly classify 66.9% of cases and revealed that being of Māori ethnicity or being imprisoned for violent, sexual or burglary offences were independent predictors of TBI ( $\chi^2 = 9.86$ ;  $p = 0.28$ ).

**Comment:** Reading these papers together, you can't help thinking that many of these men in prison are not even aware that they may have experienced TBI in the perinatal period. In both studies, the authors have gone beyond mere description to providing clear recommendations about how we reduce TBI and the long-term, negative consequences.

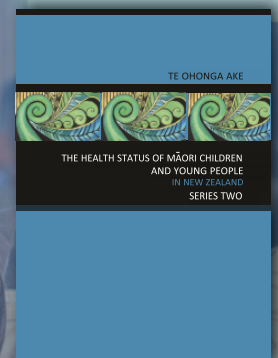
**Reference:** *Neuroepidemiology.* 2017;48(3-4):164-70

[Abstract](#)

## Te Ohonga Ake: The Health Status of Māori Children and Young People in New Zealand Series Two was released on 23 June 2017.

The publication was funded by the Ministry and produced by the New Zealand Child Youth and Epidemiology Service (NZCYES) at the University of Otago. The sections that are presented in the publication include: issues in infancy, issues for ages 0-24 years, respiratory system conditions, communicable diseases, unintentional injuries, reproductive health and mental health.

The publication (along with previous reports in the Te Ohonga Ake series) can be accessed at: <https://ourarchive.otago.ac.nz/handle/10523/7390>



## Diabetes among Māori women with self-reported past gestational diabetes mellitus in a New Zealand Māori community

**Authors:** Simmons D et al.

**Summary:** These researchers investigated the progression to type 2 diabetes among Māori women with previous gestational diabetes mellitus (GDM). The study recruited 2786 Māori women aged 28–86 years without previously diagnosed diabetes between 2004 and 2006 and residing permanently in the Waikato and Southern Lakes areas. All were invited to participate in an oral glucose tolerance test. Fifty (1.8%) women reported previous GDM. The prevalence decreased significantly with age ( $p=0.009$ ). Women aged <50 years with previous GDM had higher body mass index (mean, 35.6 kg/m<sup>2</sup> vs 32.4 kg/m<sup>2</sup>;  $p<0.01$ ), waist circumference (mean, 105.3 cm vs 96.9 cm;  $p<0.01$ ), fasting blood glucose (mean, 5.5 mmol/L vs 5.1 mmol/L;  $p\leq 0.01$ ), 2-hour post-prandial blood glucose (mean, 6.6 mmol/L vs 5.6 mmol/L;  $p<0.01$ ) and HbA1c (mean, 6.0% vs 5.8%;  $p<0.05$ ) than women without previous GDM. In analyses standardised for age, previous GDM (age <70 years, above which no women had prior GDM) was a significant risk factor for newly detected diabetes (OR 4.0; 95% CI, 1.67 to 9.71). Women aged <40 years with prior GDM were significantly more likely to have undiagnosed diabetes than women without previous GDM (20.0% vs 1.5%;  $p<0.001$ ).

**Comment:** Our research group has also recently interviewed Māori women with a history of GDM and found that many of them had received poor quality care (such as missed opportunities for testing/management) and were now living with the long-term effects – type 2 diabetes, CVD and obesity. GDM must be a considered a health priority for antenatal services working with Māori, and all, women.

**Reference:** *Aust N Z J Obstet Gynaecol.* 2017 May 15. [Epub ahead of print]

[Abstract](#)

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## Retesting and repeat positivity following diagnosis of *Chlamydia trachomatis* and *Neisseria gonorrhoea* in New Zealand: a retrospective cohort study

**Authors:** Rose SB et al.

**Summary:** This paper reports rates of retesting and repeat positivity 6 weeks to 6 months following diagnosis of chlamydia or gonorrhoea between July 2012 and July 2015 in Wellington primary care and sexual health clinics. Of all 6530 cases, 1919 (29%) were retested between 6 weeks and 6 months; 347 (18%) of those retested returned positive results. In logistic regression analysis adjusted for potential confounders (age, gender, ethnicity and socioeconomic deprivation), factors associated with significantly lower odds of retesting included male gender (OR 0.4; 95% CI, 0.34 to 0.48, reference female), New Zealand Māori (OR 0.72; 95% CI, 0.61 to 0.85, reference European) and Pacific ethnicities (OR 0.49; 95% CI, 0.39 to 0.62, reference European). Factors associated with significantly higher odds of repeat positivity when retested included male gender (OR 2.0; 95% CI, 1.14 to 2.82), younger age (15–19 years, OR 1.78; 95% CI, 1.32 to 2.41, reference 20–24 years), chlamydia/gonorrhoea co-infection at the index event (OR 2.39; 95% CI, 1.32 to 4.35, reference chlamydia only), New Zealand Māori (OR 1.6, 1.18 to 2.17, reference European) and Pacific ethnicities (OR 1.88; 95% CI, 1.22 to 2.9, reference European).

**Comment:** Nothing more to add here but perhaps consider auditing your own practice – I know I will be.

**Reference:** *BMC Infect Dis.* 2017;17(1):526

[Abstract](#)

## Modelled seasonal influenza mortality shows marked differences in risk by age, sex, ethnicity and socioeconomic position in New Zealand

**Authors:** Khieu TQT et al.

**Summary:** These researchers applied modelling techniques to assess the distribution of seasonal influenza-attributable mortality in New Zealand by ethnicity and socioeconomic status (SES). Quasi Poisson regression models were populated with weekly counts of deaths and isolates of influenza A, B and respiratory syncytial virus covering the period 1994 through 2008. SES was derived from the New Zealand Deprivation Index (NZDep). The estimated average mortality rate was 13.5 per 100,000 people, totalling 1.8% of all deaths in New Zealand. Influenza mortality differed markedly by age, sex, ethnicity and SES. Relatively vulnerable groups were males aged 65–79 years (rate ratio [RR] 1.9; 95% CI, 1.9 to 1.9, reference females), Māori (RR 3.6; 95% CI, 3.6 to 3.7, reference European/Others aged 65–79 years), Pacific (RR 2.4; 95% CI, 2.4 to 2.4, reference European/Others aged 65–79 years) and those living in the most deprived areas (RR 1.8; 95% CI, 1.3 to 2.4) for NZDep 9&10 (the most deprived) compared with NZDep 1&2 (the least deprived).

**Comment:** Highlighting the importance of immunisations, particularly for those people with comorbidities. Although I wonder if those dying from flu-related CVD knew that they had underlying CVD. Perhaps free immunisations should be offered on the basis of ethnicity and neighbourhood deprivation?

**Reference:** *J Infect.* 2017;75(3):225-33

[Abstract](#)

## Mortality trends in Australian Aboriginal peoples and New Zealand Māori

**Authors:** Phillips B et al.

**Summary:** This analysis compared age-specific mortality and life expectancy (at birth) (LE) and adult all-cause mortality rates by sex for the indigenous populations of Australia (from 1990) and New Zealand (from 1950), and for all Australia and non-Māori of New Zealand (from 1890), to 2012–2014 (where data were available in published sources and national statistical agency reports). LE improved for all populations, although the LE gap overall between indigenous Australians and all Australians has not diminished over time. From the first estimates in 1950–1952, LE for Māori initially converged with non-Māori, widened during the 1990s, and have begun to close again since then. Recent LE gaps in Australia (males 12.5; females 12.0 years in 2010–2012) were larger than in New Zealand (males 7.3; females 6.8 years in 2012–2014). Premature adult mortality (15–59 years) improved for all populations, but mortality ratios show little change since 2000, with Indigenous at 3.5–4 times that of all Australians, and Māori 2–3 times that of non-Māori. Using decomposition analysis, the study researchers identified ages 35–59 years as the age interval contributing most strongly to differences in LE between Indigenous and all Australians (2010–2012), whereas it was 60–74 years between Māori and non-Māori (2012–2014).

**Comment:** It's really useful to have this information. However, with my 'promoting indigenous leadership' pōtae on, I would have liked to have seen a kaupapa Māori public health voice here too.

**Reference:** *Population Health Metrics.* 2017;15:25

[Abstract](#)

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