



Libraries and Learning Services

# University of Auckland Research Repository, ResearchSpace

## Version

This is the publisher's version. This version is defined in the NISO recommended practice RP-8-2008 <http://www.niso.org/publications/rp/>

## Suggested Reference

Kenealy, T. W., Sheridan, N. F., & Orr-Walker, B. J. (2017). Six new studies about diabetes: What can we learn that might benefit Māori and Pacific people? *New Zealand Medical Journal*, 130(1450), 8-11. Retrieved from <https://www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2017/vol-130-no-1450-17-february-2017/7153>

## Copyright

Items in ResearchSpace are protected by copyright, with all rights reserved, unless otherwise indicated. Previously published items are made available in accordance with the copyright policy of the publisher.

For more information, see [General copyright](#), [Publisher copyright](#), [SHERPA/RoMEO](#).

# Six new studies about diabetes: what can we learn that might benefit Māori and Pacific people?

Timothy W Kenealy, Nicolette F Sheridan, Brandon J Orr-Walker

This edition of the Journal includes five observational papers on aspects of diabetes epidemiology and service delivery in New Zealand, and one randomised controlled trial of an obesity intervention. We shall refer to these as papers on retinopathy,<sup>1</sup> vitrectomy,<sup>2</sup> pancreatitis,<sup>3</sup> gestational diabetes (GDM),<sup>4</sup> diabetic ketoacidosis (DKA)<sup>5</sup> and enhanced Green Prescription (the obesity intervention trial).<sup>6</sup> The papers collectively represent a welcome contribution to the diabetes literature. It is heartening to see audit and research into diabetes in New Zealand across a wide range of topics, disciplines and institutions.

We have chosen to consider what these papers say, and where they could lead, in respect to one of the most intractable problems with diabetes in New Zealand—the unfair burden of diabetes on Māori and Pacific peoples. This disproportionate burden has been reported for at least 30 years<sup>7</sup> and Māori diabetes has been a national priority since at least 2001.<sup>8</sup> Despite real efforts and some successes,<sup>9,10</sup> even those who have contributed enormously will agree that the net effect remains incomplete and inadequate. We consider each paper in turn, recognising that we do not necessarily address the issues of central interest to the authors.

*Retinopathy paper.*<sup>1</sup> Māori and Pacific people attending for first retinal screening have similar or higher rates of retinopathy than New Zealand European. The only potentially changeable risk factor identified was improved glucose control. Retinopathy rates were calculated after excluding 28% of people due to incomplete data and the 27% who did not attend, including 44% of Māori who did not attend. The authors

muster arguments for a community optometrist-based retinal screening. We would argue that no service is acceptable with this level of missing data and non-attendance. Both issues need attention that is likely to involve further audit and research.

*Vitrectomy paper.*<sup>2</sup> Māori have a disproportionate rate of vitrectomy, and non-New Zealand European have reduced survival after vitrectomy (hazard ratio 2.2 for mortality compared with New Zealand European). The only potentially changeable risk factor identified was an association with renal failure, itself dependent on blood pressure, glucose control and other known risk factors including ethnicity. We already know that Māori and Pacific develop diabetes up to 10 years earlier than New Zealand European, and that they progress faster to cardiovascular disease<sup>11</sup> and renal failure.<sup>12</sup> At the level of the individual patient, vitrectomy is a marker on the road to perdition and should trigger specialist diabetes review. At a population level the vitrectomy data supports a strong case for preferential allocation of people and resources, and probably new population-based and community-based strategies, to address Māori and Pacific diabetes.

*Pancreatitis paper.*<sup>3</sup> Māori have the highest reported rate of acute pancreatitis worldwide. No potentially changeable risk factors were identified in the data analysis, although uneven geographical distribution may point to regional differences in service access and delivery, and the literature cited suggested other risk factors including alcohol. Overall rates of hospital admission for pancreatitis are likely to be accurate. Distinction between acute and chronic pancreatitis, based on discharge codes,

must be less definitive, and a diagnosis of diabetes any time after pancreatitis must be a tenuous link as diabetes is much more common than pancreatitis. Nevertheless, our comments are essentially the same as for vitrectomy—hospital admission for pancreatitis or diabetes should trigger a specialist diabetes review.

*GDM paper.*<sup>4</sup> Screening rates for GDM were 76% for New Zealand European women and 56% for Māori women. No potentially changeable risk factors were identified. The obvious first step to improving Māori screening rates is to establish universal screening, rather than targeted screening, in line with current guidelines.<sup>13</sup> After that it is important to re-audit screening rates by ethnicity and actively manage any ongoing differential. This may require prioritising resources to screening Māori women.

*DKA paper.*<sup>5</sup> Māori and Pacific rates of DKA in adults have not obviously changed over time, but this condition is primarily due to type 1 diabetes where the proportions of Māori and Pacific are relatively low. It remains important to routinely cut audit and research results by ethnicity.

*Green Prescription paper.*<sup>6</sup> Most of the participants did not have diabetes (personal communication D Sellman, 2017) but mean BMI was about 40, and any intervention that can improve obesity at this level is relevant to diabetes prevention and management. The study was well-conceived and well-conducted and, given the theoretical basis of the trial, it was reasonable to combine ethnic groups. However, in trials where intervention effect might be different by ethnicity, ie most trials, we should include sufficient numbers of Māori and/or Pacific people to achieve “equal explanatory power” compared to New Zealand European.<sup>14</sup>

If the purpose of health services research is to “pursue knowledge that will inform and influence health policy, practice and service innovation”,<sup>15</sup> whose job is it to take the findings from these papers and elsewhere and work to improve outcomes for Māori and Pacific with diabetes? Firstly, all of us. “One has a moral obligation to consider helping alleviate suffering of individuals wherever one finds them, in light of and commensurate to one’s capacity to do so. In

other words, one ought to help if one can and to the extent one can.”<sup>16</sup> Secondly, we would argue that the academic community has its own specific imperative to translate their findings into real-world justice.<sup>17</sup> We find the current papers, as a group, relatively weak on implications in general, especially as they relate to Māori and Pacific diabetes.

A raft of known service strategies could help address the burden of diabetes for Māori and Pacific. We have noted the need for universal screening for GDM, for using clinical events to trigger specialist review and the need to prioritise resources to Māori and Pacific. A longer list includes using community health workers, self-management support, devolving services to Māori and Pacific providers, health services that are free to the user, systematic (universal) processes in primary and secondary care, tighter integration between primary and secondary care, and public reporting of service and outcome measures from primary and secondary care.

Each of these service strategies can be tested and refined by audit and research. We have already noted the need for routine and repeat audits, for routinely cutting audit and research data by ethnicity, and including sufficient numbers of Māori and Pacific in intervention trials. We suggest that audit and cross sectional studies have maximum value only when repeated after an attempt to improve practice, and longitudinal studies have maximum value only when they can explore the effects of service change. Research funders and commissioners could more actively mandate dissemination and implementation of existing research and new findings as they arise. The remaining requirements for the researcher consist of nothing less than excellent practice that includes: selecting a research topic based on potential to improve service or fairness; collecting data on factors that may be explanatory and changeable and consider these factors in their literature review, analysis and discussion; and actively disseminate findings to policy makers, funders and service providers.

The remaining requirements for policy makers, funders and service providers are to wisely enact the “best-available” evidence, rather than waiting for “best” evidence before changing policy or practice. They

might reflect that the status quo generally has a minimal evidence base and that optimal health service delivery is likely to be accumulated from decades of incremental, systematic research, not something tried once then dropped.<sup>18</sup>

The role of audit and research in respect to health service and equity is to look at

what we are doing to see if we can improve it. In addressing the unfair burden of diabetes on Māori and Pacific, we see excellent practice, and excellent research and evaluation, already in use sometimes in some places. Our plea is for more universal application, “doing science to reduce social inequalities in health while also doing excellent science.”<sup>16</sup>

**Competing interests:**

Nil.

**Author information:**

Timothy W Kenealy, Associate Professor of Integrated Care, Department of Medicine, University of Auckland, Auckland; Nicolette F Sheridan, Associate Dean Equity, Faculty of Medical and Health Science, Associate Professor, School of Nursing, University of Auckland, Auckland; Brandon J Orr-Walker, Endocrinologist and Clinical Head Department of Endocrinology and Diabetes, Division of Medicine, Counties Manukau District Health Board, Auckland.

**Corresponding author:**

Timothy Kenealy, Associate Professor of Integrated Care, University of Auckland South Auckland Clinical School, Middlemore Hospital, Private Bag 93311, Otahuhu, Auckland 1640.

t.kenealy@auckland.ac.nz

**URL:**

<http://www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2017/vol-130-no-1450-17-february-2017/7153>

**REFERENCES:**

1. Chang LL, Lee A, Wilson S. Prevalence of diabetic retinopathy at first presentation to the retinal screening service in the greater Wellington region of New Zealand 2006–2015, and implications for models of retinal screening. *NZ Med J* 2017; 130(1450):78–88.
2. Kim B, Lee KL, Guest S, Worsley D. Long-term survival following diabetic vitrectomy. *NZ Med J* 2017; 130(1450):69–77.
3. Pendharkar SA, Matthew J, Zhao J, Windsor JA, Exeter DJ, Petrov MS. Ethnic and Geographic Variations in the Incidence of Pancreatitis and Diabetes After Pancreatitis in New Zealand: A Nationwide Population-Based Study. *NZ Med J* 2017; 130(1450):55–68.
4. Daly B, Raiman I, Goodson J. Factors Associated with Screening for Diabetes in Pregnancy in a predominantly Māori population. *NZ Med J* 2017; 130(1450):25–31.
5. Braatvedt G, Tekiteki A, Britton H, Wallace J, Khanolkar M. 23 years of managing diabetic ketoacidosis at Auckland Hospital. *NZ Med J* 2017; 130(1450):16–24.
6. Sellman D, Schroder R, Deering D, Elmslie J, Foulds J, Frampton C. Psychosocial enhancement of the Green Prescription for Obesity Recovery: A Randomized Controlled Trial. *NZ Med J* 2017; 130(1450):44–54.
7. Issacs R, Scott D. Diabetic patient discharges from Middlemore Hospital in 1983. *N Z Med J*. 1987; 100:629–631.
8. King A. He Korowai Oranga: Maori Health Strategy. Wellington: Ministry of Health;2001.
9. Kenealy T, Eggleton K, Sheridan N, Robinson E. Systematic care to reduce ethnic disparities in diabetes care. *Diabetes Res Clin Pract*. 2010; 89:256–261.
10. Tipene-Leach DC, Coppell KJ, Abel S, Pahau HL, Ehau T, Mann JI. Ngati and healthy: translating diabetes prevention evidence into community action. *Ethn Health*. 2013; 18(4):402–414.
11. Kenealy T, Elley C, Robinson E, et al. An association between ethnicity and cardiovascular outcomes for people with type 2 diabetes in

- New Zealand. *Diabet Med.* 2008; 25:1302–1308.
12. Elley CR, Robinson T, Moyes S, et al. Derivation and Validation of a Renal Risk Score for People with Type 2 Diabetes. *Diabetes Care.* 2013; 36(10):3113–3120.
  13. Ministry of Health. Screening, Diagnosis and Management of Gestational Diabetes in New Zealand: A clinical practice guideline. Wellington: Ministry of Health; 2014.
  14. Te Rōpū Rangahau Hauora a Eru Pōmare. Mana Whakamārama - Equal Explanatory Power: Māori and non-Māori sample size in national health surveys. Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare, Wellington School of Medicine and Health Sciences, University of Otago; 2002.
  15. den Hertog P, van der Wietze A, de Jong MW. Capabilities for managing service innovation: towards a conceptual framework. *Journal of Service Management.* 2010; 21(4):490–514.
  16. Venkatapuram S. Justice and Global Health Research. *Am J Bioeth.* 2016; 16(10):46–47.
  17. Kenealy T. How universities can help create a wiser world: The urgent need for an academic revolution. Commentary on Nicholas Maxwell. *J Eval Clin Pract.* 2014; 21(3):535–537.
  18. Gawande A. Testing, testing. The health-care bill has no master plan for curbing costs. Is that a bad thing? *The New Yorker Digital Edition* 2009.