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Summaries

The cost of everything and the value of nothing: New Zealand's under-investment in health

Virginia Mills, Lyndon Keene, James Roberts, Harriet Wild

Is the health system over-spending or is it a victim of systemic under-funding? With the sacking of Health New Zealand – Te Whatu Ora's board and the appointment of a commissioner this question is being asked more and more often. One answer presented by the Government is the introduction of health targets, but is this business-like mentality at odds with our healthcare goals and rising need? Demand for healthcare has surged upwards in recent years, outpacing the rate of population growth that would normally account for this. Compared to other countries, New Zealand invests less money in its health system overall. Ill health has vast consequences for New Zealand and this paper calls for an apolitical, independent inquiry into how we fund our health system, including the true cost of health services and investigating the economic gains New Zealand would realise if health was viewed as an investment in people, instead of a cost of having people.

Asian health in Aotearoa New Zealand: highlights and actionable insights

Sherly Parackal, Eleanor Holroyd

The health status of Asians in Aotearoa New Zealand has not changed much since 2003, especially among South Asians who continue to have poorer nutritional behaviours. Consequently, a high proportion of South Asians are overweight or obese and are three times more likely to be on treatment for diabetes in comparison to New Zealand Europeans. Poor nutritional behaviours, such as meeting the guidelines for fruit and vegetable consumption and frequency of fast food consumption, have worsened among all Asian groups. Additionally, heightened racism and stigmatisation faced by Asian communities worsen health issues and decrease engagement with healthcare services, particularly mental health, making it vital to action equity-based non-discriminatory healthcare delivery in partnerships with allied non-governmental organisations.

Twenty-year review of the bariatric programme at Te Whatu Ora Waitematā

Megan Grinlinton, Mavis Orizu, Michael Booth

Obesity is a life-threatening and pervasive issue affecting one in three New Zealanders. Bariatric surgical procedures have been found to dramatically improve patient outcomes in treating obesity. There is significant socio-economic, ethnic and geographical inequity in terms of patient access to bariatric surgery throughout Aotearoa New Zealand. The authors propose that more hospitals throughout the country should offer increased access to bariatric surgery. Metabolic surgery has a high safety profile and low complication rate when compared with other commonly performed procedures, in appropriately trained surgeons. Improving access to bariatric surgery for these high-needs patients will improve individual health outcomes and save healthcare dollars.

Promoting digital inclusion for enhanced resident wellbeing: an examination of aged residential care facility websites

Wendy Wrapson, Chiara Gasteiger

Digital inclusion has a positive impact on health and wellbeing through fostering social connectivity and access to information. This study explored whether aged residential care (ARC) facilities provide opportunities to socially connect online and whether the COVID-19 pandemic affected the provision of these opportunities. Data were extracted from ARC facility-related websites in 2019, and again in 2021 following COVID-19 lockdowns. Only minimal advances appeared to have been made by ARC facilities in supporting digital inclusion of residents during that timeframe. Aged care providers could be more proactive in enabling digital inclusion by providing internet access and digital learning opportunities.

Acute and persistent post-operative pain following mastectomy: a descriptive study in a tertiary hospital cohort

Jenna Donaldson, Sami Swadi, Chris Frampton, Christian Brett

Pain persisting months to years after mastectomy surgery for breast cancer is a recognised complication that can significantly impact patients' quality of life. Our study found that 66% of patients had some form of pain symptoms following mastectomy, but only 5% met diagnostic criteria for the more severe post-mastectomy pain syndrome (PMPS). Persistent pain was more likely if patients were younger, had additional surgery to remove lymph nodes under the arm or had been given chemotherapy. This information is useful for both patients and their doctors to accurately discuss what might be expected during recovery from breast cancer surgery.

Safety and feasibility of same-day discharge for per-oral endoscopic myotomy

Jun Young Kim, Michael Chieng, Rees Cameron, Frank Weilert

Per-oral endoscopic myotomy is a medical procedure used to treat patients with difficulty swallowing due to a condition called achalasia. This procedure is minimally invasive and is performed internally without needing any outside skin incisions. An endoscope is used to free up the muscle layers of the food pipe internally to allow the passage of food more freely. Traditionally, patients needed to be admitted for monitoring in hospital, leading to increased hospital stays and wait times; however, we have demonstrated that this procedure can be performed safely as an outpatient procedure without increasing risk.

Attempt to engage, yet failure to obtain successful bowel cancer screening: more likely in Māori, Pacific peoples, Asians, men and high-deprivation areas

Chey G Dearing, Louise O'Connor, Georgia C Dearing, Bernard McEntee

In New Zealand, bowel cancer is the second highest cause of cancer death, which is why a bowel cancer screening programme has been introduced. Some people attempt to engage one or multiple times with screening yet fail to ever obtain successful screening. In New Zealand, over 7,000 individuals fall into this category and it's more likely in men, Māori, Pacific peoples and Asians or those living in high-deprivation areas. Because of this, we suggest drop-off location checking services for all participants are required in New Zealand.

Māori experiences and perspectives of hospital treatment in the context of acute care

Misty Edmonds, Stephanie Shankar, Te Inuwai Elia, Carlos FC Campos, Mataroria Lyndon, Jennifer M Weller

In this research, led by Māori researchers, we explored Māori experiences as patients presenting acutely to hospital. Our aim was to explore elements of cultural safety in the care they experienced, and potentially use this knowledge to improve training for doctors and nurses caring for Māori patients. We interviewed Māori participants from a wide range of backgrounds, from health professionals to gang affiliates. Our participants spoke of the need to build trusting relationships with patients and whānau; to create safe spaces for patients and whānau; to improve staff cultural safety; and to treat patients as individuals, not making assumptions about them based on their Māori ethnicity. Importantly, they spoke of the need to uphold the mana of all patients, showing respect and empowering them as partners in their care. These insights can guide our efforts to enhance cultural safety for Māori patients and whānau through targeted staff training and structural changes.

Eruptive xanthomas

Sanjana Mathew, Carol Lobo, Sowmya Kaimal, Sujata Raj

We report a case of a 34-year-old male who developed multiple small, yellow bumps on his skin, known as eruptive xanthomas, over the past decade due to untreated diabetes and high cholesterol. After starting appropriate medications to control his blood sugar and cholesterol levels, the lesions significantly improved. Eruptive xanthomas are caused by extremely high levels of circulating fat in the blood. Lifestyle modifications, management options and regular medications for management of the lipid profile can help reduce the lesions and prevent recurrence. This case highlights the importance of investigating and treating underlying health issues to prevent serious complications.

The cost of everything and the value of nothing: New Zealand's under-investment in health

Virginia Mills, Lyndon Keene, James Roberts, Harriet Wild

In July, Minister of Health Dr Shane Reti dismissed Health New Zealand – Te Whatu Ora's Board, despite most positions already being vacant, and appointed a commissioner, Professor Lester Levy. The commissioner holds all the functions, duties, powers and protections of the Board and has been charged with finding NZ$1.4 billion in savings in the current financial year. In announcing the decision, the minister cited serious concerns about oversight and deterioration in financial outlook, with Health New Zealand – Te Whatu Ora over-spending by $130 million per month.[1] Since then, a public debate has played out between political parties about whether cost overruns are due to financial mismanagement or inadequate funding in the 2024 Budget. Official data and documents suggest New Zealand's health system has been systemically under-funded, and our analysis of the 2024–2025 health budget suggests funding for this financial year is also inadequate. It is unlikely that cost overruns are solely due to financial mismanagement.

Each year, politicians claim "record investment" in health. In context, the cost of providing health services increases annually due to population growth, ageing, inflation and wage growth, and so must the budget. Collectively, these are referred to by the New Zealand Treasury as "cost pressures." On the surface, the 2024–2025 health budget received a large increase of 6.2%, or $1.739 billion, compared to estimated actual spending in 2023/2024. However, most of this increase was in capital spending ($1.647 billion) and of that, $1.379 billion was allocated to remediate historical claims under the *Holidays Act*.[2] This meant Vote Health's operational budget for day-to-day running of the health system increased by just $93 million (or 0.4%) from estimated actual spending in 2023/2024. This relatively small increase is mainly due to the discontinuation of some time-limited funding streams, one-off costs in 2023/2024 funding reductions and savings, which totalled $2,093 million. Much of the "new" additional funding of $1.43 billion allocated in the Budget to meet cost pressures is therefore recycled or relabelled money.[3] Health New Zealand – Te Whatu Ora officials indicated at their annual review hearings in March that this fell short of what was needed to maintain current levels of service.[4]

Budget pressures are also driven by increasing demand for acute care and backlogs of planned care. Demand for acute care has outpaced population growth in the last decade, with presentations at emergency departments growing by 22.5% between 2013/2014 and 2022/2023.[5] Severity of presentations also increased, with immediately or potentially life-threatening events (triage levels 1–3) up 51.1%.[5] Hospital discharge rates suggest demand for acute care is displacing capacity for planned care.[5] Also, the COVID-19 pandemic resulted in a planned care backlog that continues to grow. As of May 2024, 39.8% of patients who were given a commitment to treatment were not treated within 4 months, and 37.1% of patients were waiting longer than 4 months for a first specialist assessment (FSA).[6]

Health targets have been set for the sector, but funding to deliver these targets is not evident in the 2024 Budget. In March, the minister introduced these targets:

- 95% of patients will wait fewer than 4 months for elective treatment, and
- 95% of patients will wait fewer than 4 months for an FSA.

A $110 million time-limited fund to clear planned care backlogs was included in the previous year's budget but was discontinued in 2024.[2] Documents obtained under the *Official Information Act* show the minister sought advice from Health New Zealand – Te Whatu Ora about how much it would cost to have:

- no patient waiting longer than 15 months for an FSA, and
- no patient waiting longer than 12 months for treatment in the 2024–2025 year.

Officials modelled that additional funding of $723 million would be needed between 2024/2025–2026/2027.[7] This funding was not visible in Vote Health's *Estimates of Appropriations*, suggesting planned care delivery targets are expected to be met from already stretched baseline funding.

Health New Zealand – Te Whatu Ora's performance report for the first quarter of 2024 suggests it does not have enough in the budget for safe staffing and fair pay. The report cites the largest financial risk as unbudgeted care capacity and demand management costs resulting in higher nursing hours than budgeted. It also cites the impact of pay equity, settlement of collective agreements, and *Holidays Act* payments on leave revaluations.[8] This is against a backdrop of its *Health Workforce Plan 2023/24* that estimated a shortage of 1,700 doctors and 4,800 nurses, with a need to recruit or train 1,600 health professionals a year to maintain current staffing levels and meet population growth.[9] The frontline has felt the impact of managing these financial risks, as Health New Zealand – Te Whatu Ora implemented a hiring freeze for non-patient facing roles and a centralised approval process for clinical roles that slowed recruitment. Staffing shortages contribute to clinician burnout, increased waiting times and unmet need. Recent decisions from the Health and Disability Commissioner have demonstrated that under-staffing is a direct factor in patient harm.[10,11]

Significant under-funding of New Zealand's health system was identified in the *Health and Disability System Review*, particularly in infrastructure and data and digital.[12] In 2018, the Treasury estimated a $14 billion repair and construction bill over 10 years for multiple ageing hospital buildings.[13] That figure in 2023 dollars would be well over $17 billion. Over $6 billion has been injected into capital spending since then, but increased costs over time will have absorbed much of that funding.[14] Lack of investment in data and digital systems also poses a significant financial risk. Health New Zealand – Te Whatu Ora's briefing to the incoming minister in November 2023 identified over 4,000 clinical and business system applications, many at or past the end of life, including payroll systems.[15]

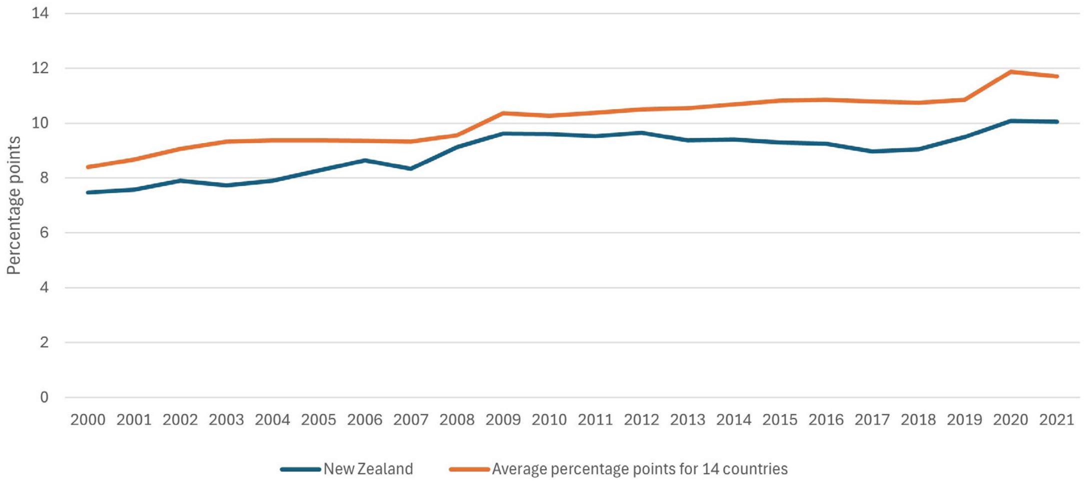
A focus on prevention, equity and addressing the social and commercial determinants of health could offer some relief to increasing costs. However, the political appetite for prevention is low, with the coalition Government adopting policies likely to drive ill health and unmet need. This includes the repeal of the *Smokefree Environments and Regulated Products (Smoked Tobacco) Amendment Bill*, the directive that Pharmac is not required to consider Te Tiriti o Waitangi in its work and the reintroduction of prescription co-payments, with information obtained from the Ministry of Health suggesting almost $15 million in savings per annum on medicines from prescriptions going unfilled. Research suggests those who cannot collect a prescription due to cost are 34% more likely to be admitted to hospital,[16] and there is a significant relationship between not collecting prescriptions due to cost and absenteeism from work.[17]

New Zealand's investment in health tends to be lower than comparable countries, and its healthcare productivity higher. In 2021, New Zealand's total public and private health expenditure was 10% of its gross domestic product (GDP), compared with an average of 11.7% (ranging from 9 to 17%)[18] for 14 OECD countries (Australia, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States of America). New Zealand's total health expenditure would have needed to be $5.8 billion higher in 2021 to match the average proportion of GDP of those 14 countries. Recent research ranks New Zealand as ninth out of 28 high-income countries for healthcare productivity,[19] and New Zealand performs well in international comparisons for administrative efficiency.[20] The commissioner has indicated confidence in finding $1.4 billion in savings from efficiencies. However, with comparatively low investment and relatively high productivity, it is difficult to see how a further $1.4 billion of savings will be found without impacting frontline services.

New Zealand can afford to invest intelligently in the health of its population. As of 2023, New Zealand has the sixth lowest government net debt out of 14 comparable OECD countries.[21] Investment in health is good for the economy. A study covering 25 European countries found that each dollar invested in health generated $4.30 in the economy.[22] Ill health is a significant cost to society from direct and indirect costs including healthcare, absenteeism, presenteeism, working less and unemployment. In 2010, the Treasury estimated the indirect costs of ill health in 2005 as between $4.127 billion and $11.563 billion, or between 2.7 to 7.6% of GDP.[17] For context, the total health budget for 2004–2005 was around $9.917 billion.

Overall, the health budget for 2024–2025 does not provide enough funding to address the cost pressures of inflation, wage growth, ageing and population growth. Nor does it provide funding to clear planned care backlogs from the COVID-19 pandemic, respond to increasing demand for acute care and meet the Government's health targets. Safe staffing and fair pay are viewed as financial risks against budget. Investment to address ailing digital and data and physical infrastructure is lacking. There is an urgent need to open an independent inquiry into how we fund our health system. This includes accounting for the true cost of health services—and the economic gains New Zealand would realise if health was viewed as an investment in our people.

Figure 1: New Zealand's total health expenditure as % GDP, compared to 14 other OECD countries.*



Source: World Health Organization Global Health Expenditure Database, 2024.
*Australia, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States of America.

COMPETING INTERESTS

Nil.

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REFERENCES

1. New Zealand Government. Commissioner replaces Health NZ Board [Internet]. 2024 Jul 22 [cited 2024 Jul 26]. Available from: https://www.beehive.govt.nz/release/commissioner-replaces-health-nz-board
2. Vote Health. The Estimates of Appropriations 2024/25 [Internet]. Wellington, New Zealand : Manatū Hauora –Ministry of Health; 2024 [cited 2024 Jul 26]. Available from: https://budget.govt.nz/budget/pdfs/estimates/v5/est24-v5-health.pdf
3. Association of Salaried Medical Specialists – Toi Mata Hauora, New Zealand Nurses Organisation – Toputanga Tapuhi Kaitiaki o Aotearoa. Just Treading Water: A joint analysis of the Health Budget for 2024/2025 [Internet]. Wellington, New Zealand: Association of Salaried Medical Specialists Toi Mata Hauora and New Zealand Nurses Organisation Toputanga Tapuhi Kaitiaki o Aotearoa; 2024 Jun [cited 2024 Jul 26]. Available from: https://asms.org.nz/wp-content/uploads/2024/06/Just-Treading-Water-ASMS-NZNO-June-2024.pdf
4. New Zealand Parliament. Annual Review of Health New Zealand Te Whatu Ora (first hearing). Wellington, New Zealand: Hansard; 2024.
5. Association of Salaried Medical Specialists – Toi Mata Hauora. Anatomy of a health crisis: By the numbers [Internet]. Wellington, New Zealand: Association of Salaried Medical Specialists Toi Mata Hauora; 2024 Mar [cited 2024 Jul 26]. Available from: https://asms.org.nz/wp-content/uploads/2024/04/ASMS-Anatomy-of-a-Health-Crisis-210416.pdf
6. Manatū Hauora – Ministry of Health. Elective Services Patient Flow Indicators Web Tool [Internet]. 2024 Jul 10 [cited 2024 Jul 26]. Available from: https://tewhatuora.shinyapps.io/ESPI_app/
7. Health New Zealand – Te Whatu Ora. Final Advice on planned care targets. Wellington, New Zealand: Health New Zealand – Te Whatu Ora; 2024 Feb. Report No.: HNZ00037392.
8. Health New Zealand – Te Whatu Ora. Quarterly Performance Report: Quarter ending 31 March 2024 [Internet]. Wellington, New Zealand: Health New Zealand – Te Whatu Ora; 2024 Jul [cited 2024 Jul 26]. Available from: https://www.tewhatuora.govt.nz/assets/Publications/Quarterly-Reports/Quarterly-Performance-Report-quarter-ending-31-March-2024-updated-120724.pdf
9. Health New Zealand – Te Whatu Ora. Health Workforce Plan 2023/24 [Internet]. Wellington, New Zealand: Health New Zealand – Te Whatu Ora; 2023 Jul [cited 2024 Jul 26]. Available from: https://www.tewhatuora.govt.nz/publications/health-workforce-plan-202324/
10. Health and Disability Commissioner – Te Toihau Hauora, Hauātanga. Care provided during pregnancy and prolonged labour [Internet]. Wellington, New Zealand: Health and Disability Commissioner – Te Toihau Hauora, Hauātanga; 2024 Jul [cited 2024 Jul 26]. Available from: https://www.hdc.org.nz/decisions/search-decisions/2024/21hdc00367/
11. Health and Disability Commissioner – Te Toihau Hauora, Hauātanga. Commissioner-Initiated Investigation into delays in provision of non-surgical cancer services [Internet]. Wellington, New Zealand: Health and Disability Commissioner – Te Toihau Hauora, Hauātanga; 2024 Feb [cited 2024 Jul 26]. Available from: https://www.hdc.org.nz/news-resources/news/commissioner-initiated-investigation-into-delays-in-provision-of-non-surgical-cancer-services/
12. Manatū Hauora – Ministry of Health. Health and Disability System Review - Final report: Pūrongo Whakamutunga [Internet]. Wellington, New Zealand: Manatū Hauora – Ministry of Health ; 2020 Mar [cited 2024 Jul 26]. Available from: https://www.health.govt.nz/publication/health-and-disability-system-review-final-report
13. Manatū Hauora – Ministry of Health. The National Asset Management Programme for district health boards: Report 1: The current-state assessment

[Internet]. Wellington, New Zealand: Manatū Hauora – Ministry of Health; 2020 [cited 2024 Jul 26]. Available from: https://www.health.govt.nz/publication/national-asset-management-programme-district-health-boards-report-1-current-state-assessment

14. Phil Pennington. Construction inflation, insufficient planning add to hospital project cost blow-outs [Internet]. Available from: https://www.nzherald.co.nz/nz/construction-inflation-insufficient-planning-add-to-hospital-project-cost-blow-outs/E7DXNJBSUBFMNCTQRMNZZPFS3U/
15. Health New Zealand – Te Whatu Ora. Briefing to the incoming Minister [Internet]. Wellington, New Zealand: Health New Zealand – Te Whatu Ora; 2023 Nov [cited 2024 Jul 26]. Available from: https://www.tewhatuora.govt.nz/publications/briefing-to-the-incoming-minister/
16. Jeffreys M, Pledger M, McKenzie F, et al. Consequences of cost barriers to prescriptions: cohort study in Aotearoa New Zealand. N Z Med J. 2024 May 17;137(1595):48-63. doi: 10.26635/6965.6431.
17. Holt H. The Cost of Ill Health [Internet]. Wellington, New Zealand: The Treasury – Kaitohutohu Kaupapa Rawa; 2010 [cited 2024 Jul 26]. Available from: https://www.treasury.govt.nz/sites/default/files/2010-11/twp10-04.pdf
18. World Health Organization Global Health Expenditure Database [Internet]. [cited 2024 Jul 26]. Available from: https://apps.who.int/nha/database/Select/Indicators/en
19. Australian Government: Productivity Commission. Advances in measuring healthcare productivity [Internet]. Canberra, Australia: Productivity Commission; 2024 Apr [cited 2024 Jul 26]. Available from: https://www.pc.gov.au/research/completed/measuring-healthcare-productivity
20. Schneider E, Shah A, Doty M, et al. Mirror, Mirror 2021: Reflecting Poorly. Health Care in the U.S. Compared to Other High-Income Countries [Internet]. Washington D.C., United States: The Commonwealth Fund; 2021 Aug [cited 2024 Jul 29]. Available from: https://www.commonwealthfund.org/publications/fund-reports/2021/aug/mirror-mirror-2021-reflecting-poorly
21. International Monetary Fund. IMF Data Mapper: Net debt [Internet]. Washington D.C., United States: International Monetary Fund; 2024 Apr [cited 2024 Jul 29]. Available from: https://www.imf.org/external/datamapper/GGXWDN_G01_GDP_PT@FM/ADVEC/FM_EMG/FM_LIDC
22. Reeves A, Basu S, McKee M, et al. Does investment in the health sector promote or inhibit economic growth? Global Health. 2013;9:43. doi: 10.1186/1744-8603-9-43.

Asian health in Aotearoa New Zealand: highlights and actionable insights

Sherly Parackal, Eleanor Holroyd

Currently, “Asians” make up 17% of the population in Aotearoa New Zealand. This proportion has doubled since 2013.[1] Focus on the health of Asians in Aotearoa New Zealand was first initiated in 2005 through an investigation using the 2002–2003 New Zealand Health Survey data.[2] Subsequently, there have been other reports using both health survey[3] and administrative health data.[4] Asian health in Aotearoa New Zealand in 2024 reports trends in various health indicators from the health survey from 2002–2003 to 2021 for the South Asian, Chinese and Other Asian groups separately. Disaggregated data of health indicators are critical to understand the sub-group differences and prevent masking the true state of health due to the effect of averaging.[5] The Other Asian group is a concerning mixed grouping of East and Southeast Asians who have differing risks for disease—for example, diabetes.[5] This editorial aims to highlight the health status for both children and adults, focussing on health indicators with worrying trends, and provide actionable insights for a way forwards in addressing and improving Asian health in Aotearoa New Zealand.

Nutrition behaviours and associated health consequences

Nutritional behaviours, such as meeting the guidelines for fruit and vegetable consumption, had worsened among South Asian children, with only a quarter meeting these guidelines. A significant increase in weekly consumption of fast foods from around half in 2006 to over 90% in 2021 among children of all three Asian ethnic groups is very worrying. One in two children of all three Asian ethnicities consumed fizzy drinks one or more times a week in the most recent surveys. Not surprisingly, one in 10 children of all three Asian ethnicities had experienced tooth decay, and/or an abscess and/or an infection. Although the prevalence of overweight/obesity did not change across the survey years, one in five South Asian and a quarter of Other Asian children were overweight or obese in 2021. Unless addressed with urgency, a high proportion of Asian children are on a trajectory for developing cardiometabolic diseases in later life, the cost implications of which at a personal, societal and health system level would be significant.

Even more worrying is the decreasing trend observed for meeting the guidelines for fruit and vegetable consumption among all three adult Asian subgroups across the survey years, which ranged from 26–32% in 2019–2021 and was significantly lower than in NZ Europeans. Less than half in all three Asian sub-groups were physically active in the last 7 days in the 2019–2021 surveys, with a trend for a decline in the proportion who were sedentary among South Asians and Chinese from 2003–2021. Nevertheless, eight out of 10 South Asians were either overweight (17%) or obese (65%) and, consequently, South Asians had a higher risk of being on medication for hypertension (risk ratio [RR] 1.37; 95% confidence interval [CI] 1.01–1.85), and high cholesterol (RR 1.71; 95% CI 1.28–2.30) in comparison to NZ Europeans. Prevalence of obesity was 41% among Chinese and 50% among Other Asians. Across the survey years South Asians and Other Asians had three-fold and two-fold higher risk for being treated for diabetes respectively.

Given the similarities in poor nutritional behaviours in both child and adult Asians, particularly South Asians, it is imperative to co-design and implement culturally appropriate interventions targeting intergenerational behaviours to reduce the risk of poor oral health, obesity and cardiometabolic diseases.

Mental health

South Asian and Chinese children were found to have fewer diagnoses of anxiety or depression compared with European children, which could be attributed to specific cultural factors and data collection processes. Trends in rising mental health issues among Asian children in Aotearoa New Zealand, potentially worsened by the COVID-19 pandemic, are worrying. An investigation into key mental health and wellbeing indicators from 2001 to 2019 among Aotearoa New Zealand secondary school students indicated a trend for increased prevalence of significant depression symptoms, particularly among Māori students (14–28%; odds ratio [OR] 2.6) and Asian students (13–25%; OR 2.2), with a significantly large increase in suicidal thoughts among Asian students from 2001 to 2019 (12–20%, OR 1.7).[6] The need for increased resources and policy support for culturally and linguistically appropriate mental health services to improve outcomes for Asian populations is paramount.[7] The loneliness of older Asian adults has also been a hidden concern as they face uneven intergenerational exchanges and dwindling international support, leading some to reluctantly choose formal aged care services.[8] Hence, it is important that the rapid growth of the ethnic Asian population in Aotearoa New Zealand is met with adequate mental health services, which currently is not the case, creating significant barriers and delays in care.

Better research funding for co-design approaches, close intersectoral collaboration with non-governmental organisations (NGOs) and developing culturally tailored, non-stigmatised mental health service delivery across the lifespan is critical to meet the mental health needs of Aotearoa New Zealand Asians.

Health service utilisation

Asians were less likely to have regular primary healthcare providers compared to non-Asians, despite recent and increased engagement among Chinese adults. Asian adults participated more in screenings and preventive measures than the general population. Moreover, Asian children also had high immunisation rates. Access to acute oral healthcare was poor in Asian adults along with Māori and Pacific people, despite increased dental check-ups among Asians. However, Asian and other migrant populations, including refugees, continue to face disparities in healthcare utilisation due to the attitudes of health professionals, culturally unacceptable service practices and structural issues such as affordability and accessibility.[9]

Current healthcare services must acknowledge diverse cultural beliefs and incorporate culturally safe practices into health professional education and ongoing service training to address barriers to primary healthcare service access and positive patient experiences.

Ethnic discrimination

In 2020/2021, two of five Chinese adults and one of five South Asian and Other Asian adults were victims of ethnically motivated verbal attacks and were two times more likely to have been treated unfairly because of their ethnicity. Among migrant adolescents, financial status and perceived ethnicity influenced their experiences of discrimination in Aotearoa New Zealand.[10] The COVID-19 pandemic intensified racism, with the Asian community facing significant stigmatisation with media portrayals linking them to the virus exacerbating the issue.[11] Whatever the motivation, racial discrimination has been clearly linked to poor health outcomes and diminished healthcare quality.[12]

Advocating for responsible media representation and anti-racist policies is crucial to ensuring equitable resource access and addressing systemic discrimination. Healthcare interventions should include cultural safety education for professionals to reduce discriminatory practices. Furthermore, addressing racism and discrimination as an intersecting barrier to accessing healthcare services requires systemic change, including diversifying the ethnic mix of the healthcare workforce to create more equitable health systems.

In summary, the trends observed from two decades of health data indicate increasing prevalence of cardiometabolic diseases, particularly among South Asians. Other recent Aotearoa New Zealand data indicate increased mental health needs, especially among Chinese adults and youth of all three Asian groups, exacerbated by poor healthcare access, ethnic discrimination and systematic and structural racism. There is an urgent need for action towards policy changes in reporting disaggregated data for the Asian sub-groups, improving health services, increasing funding for co-designed, evidence-based interventions and improving health workforce ethnic diversity. It is critical that these approaches are implemented in partnership with allied NGOs and other grass root-level community organisations to address the unique needs of Asian and other ethnic communities in Aotearoa New Zealand.

COMPETING INTERESTS

Sherly Parackal is a strategic member of the Ethnic Health Collective, which is administered by The Asian Network Incorporated (TANI). TANI has collaborated with Sherly Parackal on several Asian health projects as a project stakeholder.

Eleanor Holroyd is a strategic member of the Ethnic Health Collective, which is administered by The Asian Network Incorporated (TANI). Eleanor Holroyd is also chair and board member of New Settlers Family and Community Trust (NFACT)—a refugee resettlement NGO.

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REFERENCES

1. Stats NZ. 2023 Census population counts (by ethnic group, age, and Māori descent) and dwelling counts [Internet]. 2024 May 29 [cited 2024 Aug 6]. Available from: https://www.stats.govt.nz/information-releases/2023-census-population-counts-by-ethnic-group-age-and-maori-descent-and-dwelling-counts
2. Scragg R, Maitra A. Asian Health in Aotearoa: an analysis of the 2002/03 New Zealand Health Survey. The Asian Network Inc; 2005. pp. 1-94.
3. Scragg R. Asian Health in Aotearoa in 2011-2013: trends since 2002-2003 and 2006-2007 [Internet]. Auckland: Northern Regional Alliance Ltd; 2016 [cited 2024 Aug 4]. Available from: https://www.ecald.com/assets/Resources/Assets/Asian-Health-Aotearoa-2011.pdf
4. Mehta S. Health needs assessment of Asian people living in the Auckland region [Internet]. Auckland: Northern DHB Support Agency; 2012 [cited 2024 Aug 4]. Available from: https://www.countiesmanukau.health.nz/assets/About-CMH/Performance-and-planning/health-status/79875e5978/2012-health-needs-of-asian-people.pdf
5. Parackal S, Coppell K, Yang CL, et al. Hidden figures and misnomers: a case for disaggregated Asian health statistics in Aotearoa New Zealand to improve health outcomes. N Z Med J. 2021;134(1546):109-116.
6. Sutcliffe K, Ball J, Clark TC, et al. Rapid and unequal decline in adolescent mental health and well-being 2012-2019: Findings from New Zealand cross-sectional surveys. Aust N Z J Psychiatry. 2023;57(2):264-282. doi:10.1177/00048674221138503.
7. Chung DWK, Hall KH, Nie JB, Jaye C. “There is a huge need, and it’s growing endlessly”: perspectives of mental health service providers to ethnic Chinese in Aotearoa New Zealand. N Z Med J. 2022;135(1556):62-72.
8. Zhao IY, Holroyd E, Wright-St Clair VA, et al. Feeling a deep sense of loneliness: Chinese late-life immigrants in New Zealand. Australas J Ageing. 2022;41(3):448-456. doi:10.1111/ajag.13108.
9. Kanengoni-Nyatara B, Watson K, Galindo C, et al. Barriers to and Recommendations for Equitable Access to Healthcare for Migrants and Refugees in Aotearoa, New Zealand: An Integrative Review. J Immigr Minor Health. 2024 Feb;26(1):164-180. doi: 10.1007/s10903-023-01528-8.
10. Simon-Kumar R, Lewycka S, Clark TC, et al. Flexible resources and experiences of racism among a multi-ethnic adolescent population in Aotearoa, New Zealand: an intersectional analysis of health and socioeconomic inequities using survey data. Lancet. 2022;400(10358):1130-1143. doi:10.1016/S0140-6736(22)01537-9.
11. Liu LS, Jia X, Zhu A, et al. Stigmatising and Racialising COVID-19: Asian People’s Experience in New Zealand. J Racial Ethn Health Disparities. 2023;10(6):2704-2717. doi:10.1007/s40615-022-01448-7.
12. Talamaivao N, Harris R, Cormack D, et al. Racism and health in Aotearoa New Zealand: a systematic review of quantitative studies. N Z Med J. 2020;133(1521):55-68.

Twenty-year review of the bariatric programme at Te Whatu Ora Waitematā

Megan Grinlinton, Mavis Orizu, Michael Booth

ABSTRACT

AIMS: Obesity is a significant health issue. Te Whatu Ora Waitematā serves a population of 650,000 patients across the North Shore, Waitākere and Rodney areas. The Waitematā bariatric service at North Shore Hospital was introduced in October 2001. The aim of this study was to review the development and impact of the service over the last 20 years, and identify whether equivalent bariatric services could viably be introduced into other hospitals in Aotearoa New Zealand.

METHODS: A retrospective audit was conducted of the 20-year results of the Waitematā bariatric surgical service to identify the impact of technology, teaching and research on service provision.

RESULTS: Since its inception, the Waitematā bariatric service has launched minimally invasive surgery, multiple operative options and an enhanced recovery after surgery (ERAS) protocol. Approximately 100 cases are performed per year. Of these, 3.4% of patients require admission to the intensive care unit/high dependency unit (ICU/HDU), with an average length of stay (LOS) of 0.66 days. The 1-year mortality rate is 0.39%. Eleven surgical fellows have undergone post-fellowship training with the service, which is a recognised training unit for the post-fellowship AANZGOSA/ANZMOSS programme.

CONCLUSIONS: Bariatric surgery can be performed safely and has good long-term outcomes. The Waitematā bariatric service is dedicated to providing excellent care within the resource constraints of a public healthcare system. The high number of procedures, low requirement for ICU/HDU and low mortality rate suggest that bariatric surgery could be safely performed within a public setting in secondary and regional hospitals across the country.

Obesity is a common disease with a considerable burden of cost on society. The World Health Organization describes the prevalence of obesity as an epidemic. A 2021 report by Hāpai Te Hauora has found that obesity-related healthcare costs are approximately NZ$2 billion per year, which is 8% of the Aotearoa New Zealand total health budget.[1] These costs continue to climb when compared with two previous estimates—in 1997, with an estimate of $135 million or 2.5% of healthcare costs,[2] and 2012, with an estimate of $624 million or 4.4% of healthcare expenditure.[3] Obesity contributes to a wide variety of other health issues including type 2 diabetes mellitus (T2DM), cardiovascular disease, cancer, depression and mental health disorders, and osteoarthritis. As the rate of obesity rises in Aotearoa New Zealand, the cost of orthopaedic operations such as knee joint replacements will continue to exponentially climb, increasing the pressure on an already stretched healthcare system.[4]

Bariatric surgery is the most effective treatment of morbid obesity in carefully selected patients. It can result in long-term weight loss, remission of T2DM and improved oncological, cardiovascular, respiratory, reproductive and other physical outcomes. It also results in significant improvement of quality of life outcomes.[5] Bariatric surgery decreases long-term mortality, morbidity and the use of healthcare resources in morbidly obese patients.[6] Despite the large body of evidence demonstrating its benefits, only around 1% of eligible patients receive bariatric surgery.[7] Although bariatric surgery is not a solution to the obesity epidemic that we are currently facing, it has transformative individual benefits, and is an effective tool that can be used in situations where few options are available.

The bariatric service at North Shore Hospital is a publicly funded service that is available to all eligible patients in the Waitematā catchment area. The Waitematā bariatric service was introduced in October 2001, and the first open gastric bypass was performed on 31 July 2002. The patient pathway begins with an electronic referral by their general practitioner (GP). Referral criteria include: a patient with a body mass index (BMI) of 40 or more; a patient with a BMI of 35 or more with one other obesity-related disease such as cardiovascular disease, T2DM or obstructive sleep apnoea (OSA); and a history of failed weight-loss attempts. Patients must have a clear understanding of what is involved, and a commitment to a permanent lifestyle change. These criteria are based on the National Institutes of Health (NIH) Consensus guidelines.[8] The grading surgeon prioritises the patient according to clinical need and comorbidities. Bariatric referrals are generally graded as priority three (i.e., non-urgent).

The patient is waitlisted for an educational group seminar. At this seminar the patient is introduced to the multidisciplinary team. They are given education around the surgical options and a goal weight to reach prior to being considered eligible for surgery. This weight-loss target is calculated at 10% of excess body weight above a BMI of 25kg/m^2. When the patient meets their goal weight, this is communicated directly with the clinical nurse specialist (CNS). The patient is booked for a first specialist appointment (FSA) with an upper gastrointestinal surgeon, where operative options are discussed, and is waitlisted for surgery.

The patient undergoes surgery, and during their inpatient stay is reviewed by the CNS and dietician. Written dietary guidelines are given to the patient on discharge. Patients are usually seen 6 weeks after surgery, and depending on the operation, may be seen twice more within 1–2 years. There is ongoing outpatient support from the dietician service if required. Care is handed back to the GP once the bariatric service is satisfied that the patient has fully recovered and has no ongoing issues with dysphagia, pain, weight regain or nutrition.

Methods

We conducted a retrospective review using electronic records to identify all patients at North Shore Hospital who had bariatric surgery performed between 1 July 2002 and 30 September 2022. Demographic data including patient age, gender, smoking status, diabetes status, American Society of Anaesthesiologists (ASA) grade and date of death (if relevant) were anonymously collected. Operative data including date and type of operation, complications, intensive care unit/high dependency unit (ICU/HDU) admission, length of stay (LOS), return to theatre or readmission were recorded. As this was a retrospective review and clinical data were acquired anonymously and confidentially, patient consent was not required.

Results

Demographics

A total of 1,536 procedures on 1,449 patients were performed at North Shore Hospital from July 2002 to September 2022. The average patient age was 45.6 years at presentation (range 19–77 years). Of the patients, 1,104 (76.2%) were female and 345 (23.8%) were male. Fifty-five (3.8%) patients were smokers, 585 (40.4%) were ex-smokers, 692 (47.8%) were never smokers and 117 (8.1%) were status unknown. In total, 335 (23.1%) patients were diabetic. Seven (0.5%) patients were ASA 1, 681 (47.0%) patients were ASA 2, 747 (51.6%) patients were ASA 3, 14 (0.9%) patients were ASA 4 and zero patients were ASA 5. There was one death within 90 days in 20 years. This occurred in the community and the cause of death was unknown.

Primary ethnicity

A total of 1,035 (71.4%) of patients identified as European, 245 (16.9%) as Māori, 90 (6.2%) as Pacific peoples, 38 (2.6%) as Middle Eastern, Latin America or African (MELAA), 37 (2.5%) as Asian and four (0.25%) as Other (Figure 1). Figure 2 demonstrates the ethnicity breakdown of bariatric patients per year. As 2020 was affected by the COVID-19 pandemic, with nation-wide lockdowns having a far-reaching impact on the healthcare system, all patient numbers fell for 2020–2022.

LOS during the admission listed

The average patient LOS was 3.7 days. Figure 3 demonstrates how this has decreased over time as service provision and health provider education has improved. The service has developed bariatric protocols that have enabled patients to have a consistent care plan in the post-operative phase.

Complications

Fifty-three patients (3.7%) required ICU/HDU in the peri-operative phase. The average ICU/HDU LOS in this patient group was 0.66 days. Fifty-seven patients (3.9%) required a return to theatre during their index admission. A total of 217 patients (15.0%) required readmission within 30 days. Over a 20-year follow-up, 81 (5.6%) patients died following their operation. One patient (0.07%) died within 90 days and five further patients (0.35%) died within a year of their operation. The causes of death for these six patients were: metastatic duodenal adenocarcinoma (one), locally advanced pancreatic adenocarcinoma (one), metastatic oesophageal adenocarcinoma (one), sepsis (one), and unknown (one). Four deaths were in the community and two deaths were in hospital.

Figure 1: Ethnicity of patients undergoing bariatric surgery from 2002–2022.

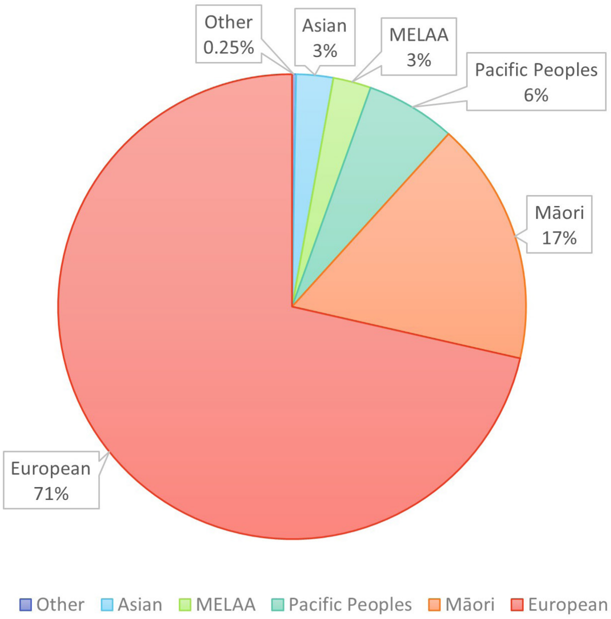


Figure 2: Bariatric patients by ethnicity grouping and year.

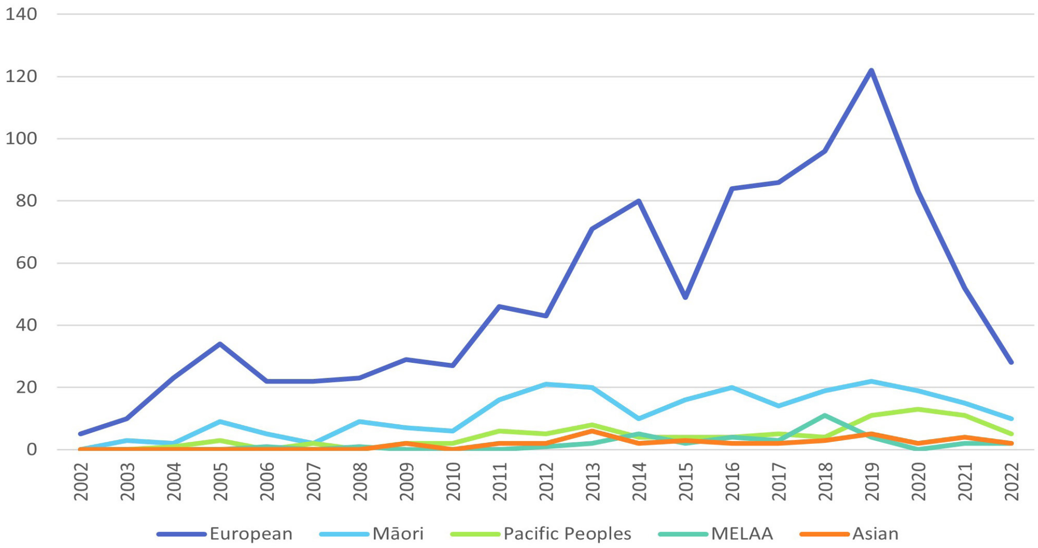


Figure 3: Average LOS in days from 2002–2022.

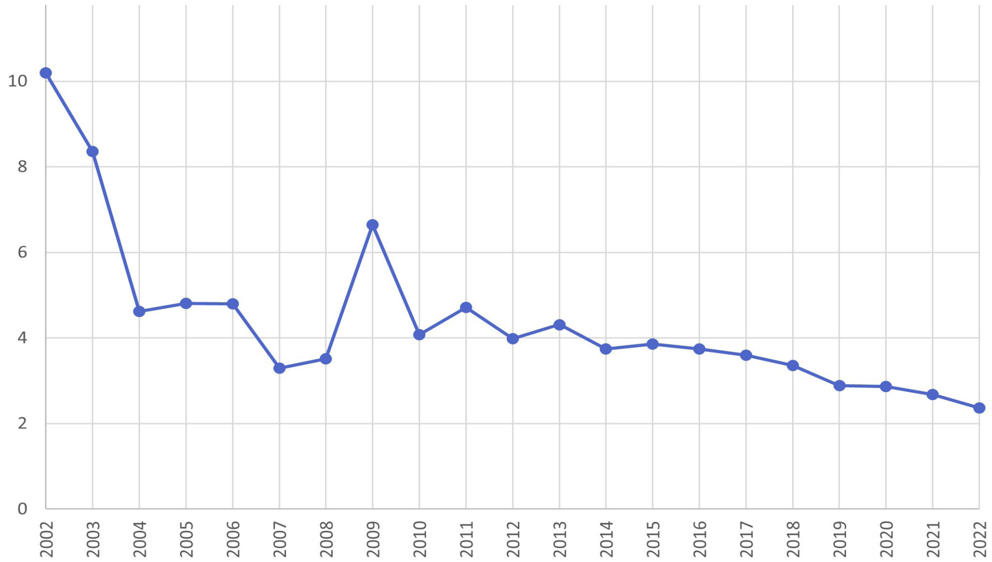
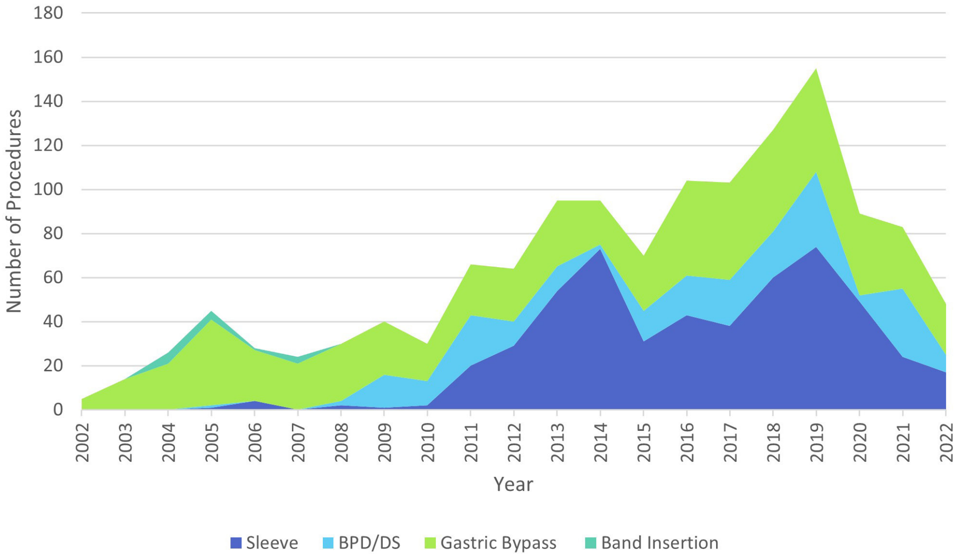


Figure 4: Total number of bariatric procedures.



Procedures

Procedures offered include sleeve gastrectomy (SG), gastric bypass +/- silastic ring and biliopancreatic diversion with duodenal switch (BPD/DS). The total number of procedures excluding reversal, revision and trial patients was 1,349 (Figure 4).

A total of 522 SG procedures were performed: 519 were laparoscopic and three were open (Figure 5).

A total of 226 BPD/DS procedures were performed: 160 were laparoscopic and 66 were open (Figure 6).

A total of 580 gastric bypasses were performed: 523 were laparoscopic and 57 were open (Figure 7).

A total of 13 gastric band insertions were performed. No gastric bands were placed after 2007. A total of 123 gastric band removals were performed (Figure 8).

Figure 5: Sleeve gastrectomy (SG).

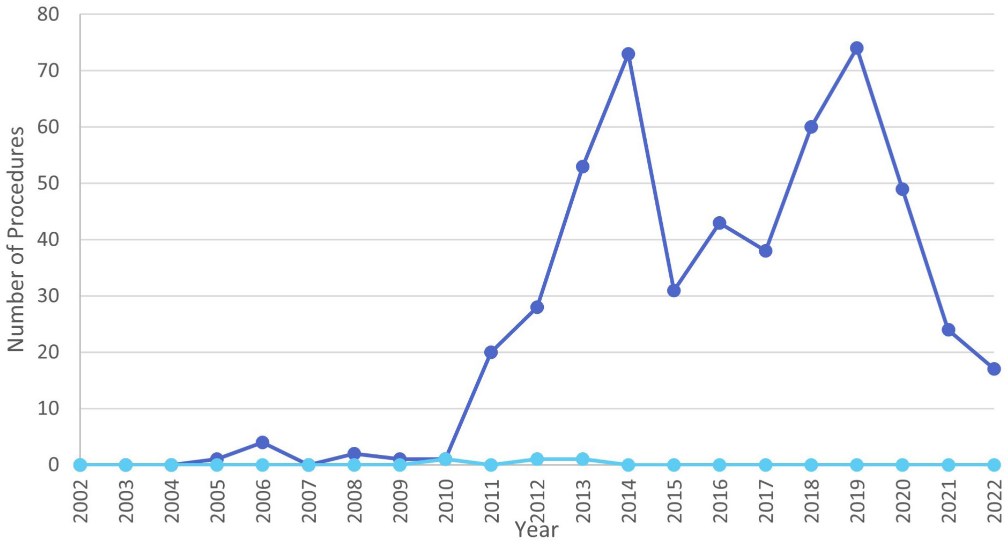


Figure 6: Biliopancreatic diversion with duodenal switch (BPD/DS).

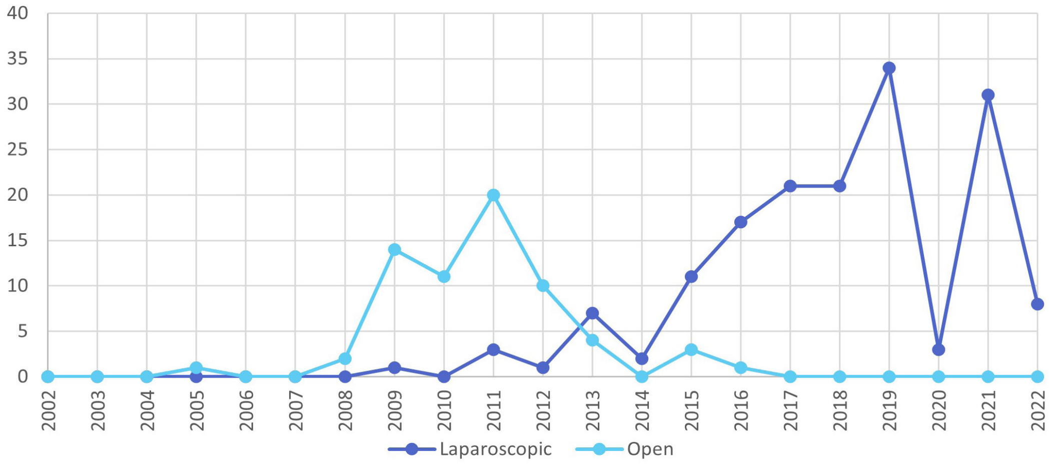


Figure 7: Gastric bypass.

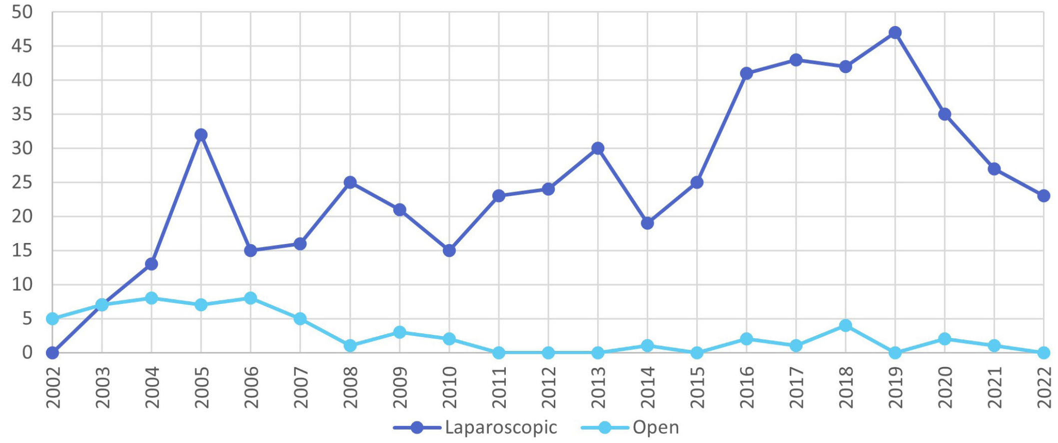
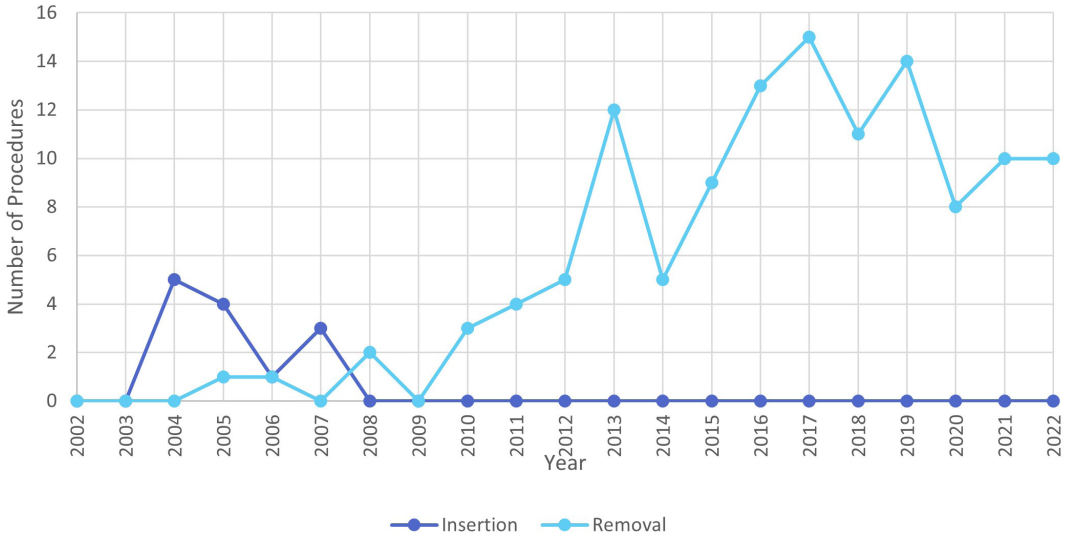


Figure 8: Gastric band insertion and removal.



One hundred and ninety-four revision and reversal procedures were performed. Nineteen patients with a silastic ring underwent laparoscopic removal, and three had a laparoscopic revision. One BPD/DS patient had a laparoscopic reversal, and two patients had a laparoscopic revision. Two gastric bypass patients had a laparoscopic reversal, 18 had a laparoscopic revision, three had an open reversal and 14 had an open revision. Eight gastric band patients had a laparoscopic revision, 123 patients had a laparoscopic removal and one had an open removal.

Discussion

Bariatric surgery in the public sector

One-third of the population of Aotearoa New Zealand is obese, and we have the third highest adult obesity rate out of all Organisation for Economic Cooperation and Development (OECD) countries.[1] The New Zealand Health Survey 2020/2021 showed an increase in obesity in adults from 31.2% in 2019–2020 to 34.3% in 2020–2021.[9] Bariatric surgery has been found to result in durable weight loss, and provide significant metabolic benefits to patients and their quality of life.[5] It is widely known that obesity has a strong relationship with socio-economic status. In Aotearoa New Zealand, adults living in the most deprived areas are 1.6 times as likely to be obese as those living in the least deprived areas.[9] Allowing increased public access to bariatric surgery will assist those economically disadvantaged patients who need it the most.

Despite this, there are ongoing limitations within the public sector for funding of metabolic surgery. The Aotearoa New Zealand national rate of publicly funded bariatric procedures in 2013–2014 was 2.7 per 1,000 morbidly obese patients, less than 5.2 per 1,000 in the United Kingdom and Ireland in 2011, and 8.0 per 1,000 in Australia in 2014–2015.[10,11] Research has shown that more than 90% of bariatric surgery is performed in the private health sector in Australia and over 70% in Aotearoa New Zealand.[12] A 2017 study suggested that only 15 public Australian hospitals out of a potential 700 institutions nation-wide offer a formalised bariatric-metabolic surgical service.[13]

Aotearoa New Zealand is not only limited by healthcare dollars, but by the availability of appropriately trained upper gastrointestinal surgeons, and operating theatre space and time. In 2013–2015, 11/19 district health boards (DHBs) provided 407 metabolic operations for morbidly obese patients.[10] As training opportunities and the number of consultant surgeons increase, the availability of metabolic surgery may become available to larger numbers of patients across the regions. Health New Zealand – Te Whatu Ora was formed to replace the country's 20 DHBs in July 2022. One of the aims of this public health agency is to eliminate geographic, socio-economic and ethnic inequity of healthcare delivery. However, it is uncertain as to how quickly and realistically these goals can be achieved.

The Waitematā bariatric service has undergone many developments since its inception. The era of laparoscopic surgery and the subsequent development of surgical skills among bariatric surgeons has expanded the landscape of operative options. The service has transitioned almost entirely to minimally invasive surgery over the past 20 years. Strengths of the bariatric service include a full range of restrictive and malabsorptive surgery, low mortality, minimal ICU/HDU requirements, skilled staff and competitive training opportunities.

The Australian and New Zealand Metabolic and Obesity Surgery Society (ANZMOSS) and Collective Public Bariatric Surgery Taskforce 2020 guidelines identified that bariatric surgery has limited clinical governance and structured training opportunities, and that a greater number of public training positions are required in this rapidly growing discipline to ensure better patient outcomes.[12] North Shore Hospital is an Australian and Aotearoa New Zealand Gastric and Oesophageal Surgery Association/ANZMOSS approved training unit and a competitive department for post-fellowship upper gastrointestinal training in Australasia. Eleven upper gastrointestinal and bariatric surgical fellowships have been completed. The unit has published the results of one randomised controlled trial comparing the 5- and 7-year outcomes of diabetes and obesity in SG versus Roux-en-Y gastric bypass (RYGB).[14,15] The 10-year outcomes are in the process of being published, and three more randomised controlled trials are underway. At least 27 further peer-reviewed articles have been published in relation to and by the Waitematā bariatric service since inception. The employment of surgeons trained in robotic, laparoscopic and endoscopic techniques allow patients access to a broad range of bariatric surgical options, including loop gastric bypass and BPD/DS.

Safety of bariatric surgery in public sector

Bariatric surgery can be safely and efficiently performed in publicly funded units across Australasia.[16,17,18] The morbidity and mortality of bariatric procedures is favourable when compared directly with other commonly performed abdominal procedures. The Australian Bariatric Surgery Registry data document a significant adverse event rate of 2.4% for primary metabolic surgery.[12] This is comparable to laparoscopic cholecystectomy, which has a significant complication rate of 0.6–3.4%.[19] A 2021 bariatric surgery meta-analysis found that mortality rates were 0.03% for gastric band, 0.05% for SG, 0.09% for one-anastomosis gastric bypass, 0.09% for RYGB and 0.41% for BPD/DS.[20] In comparison, data from the Health Quality & Safety Commission found that between 2007–2017, 30-day mortality for patients undergoing an elective laparoscopic cholecystectomy was 0.15–0.22%, elective hip arthroplasty was 0.10–0.18% and elective colorectal resection was 1.67–2.03%.[21] These results suggest that bariatric surgery is in fact safer than many commonly performed operations that occur in regional centres.

Other studies have shown that a public bariatric service is viable and can reduce health inequities for a high-needs population. Currently there are five Australian studies published that directly analyse public bariatric surgery.[16,17,22,23,24] A 2014 pilot study in Australia of 65 patients found a significant reduction in BMI from a mean of 48.2kg/m2 to 35.7kg/m2 by 24 months, and significant resolution of T2DM, hypertension and OSA by 18 months, with continued improvements beyond 24 months.[22] The success of a public bariatric service at the Alfred Hospital (Melbourne) was demonstrated in a 2016 study. Over a period of 6 years, 1,453 procedures were performed. Substantial weight loss was observed, and comorbidities and quality of life significantly improved.[16]

Clough et al. compared gastric banding, SG and RYGB at Box Hill Hospital (Melbourne) in 2016. They found that laparoscopic gastric band patients performed poorly, with an excess weight loss of 29.9%, but RYGB patients had an excess weight loss of 75.7% and SG patients of 52.7%.[17] The Austin Hospital (Melbourne) recently published a 10-year retrospective review of their experience providing bariatric surgery in a public setting, with 995 patients and 1,086 bariatric procedures. There was a 26.2% total body weight loss for primary procedures, and 17.4% for revisional procedures. At 2 years' follow-up, treatment was ceased or reduced in 65% of diabetics, 29% of hypertensive patients and 69% of OSA patients. They concluded that public bariatric programmes could deliver equivalent results with private.[24] In 2023, Chadwick et al. directly compared bariatric surgery in public versus private by comparing data from eight government-funded and 25 private Australian hospitals. The authors found that there were comparable metabolic and weight loss outcomes and safety.[25] There is an ongoing vested interest in increasing public access to bariatric surgery from healthcare providers. This trend is likely to continue as more literature reflects the multitude of benefits for patients.

The results of this study show that a publicly funded bariatric service is safe, can be performed on patients with multiple comorbidities and has a low mortality rate. A hospital that performs major abdominal surgery and has ICU/HDU facilities is capable of offering a bariatric service to its patients. This would allow rural communities and high-needs groups access to metabolic surgical options. Bariatric surgery decreases hospital costs for obese patients with high resource use.[18] Increased public funding has the potential not only to positively benefit high-needs individuals, but also to provide significant cost savings over a long period to the public healthcare sector.

Barriers to accessing bariatric surgery

Bariatric surgery in Aotearoa New Zealand is a restricted resource and access to funded surgical options is limited to those who are considered the highest-needs group. National and region-specific criteria have been developed in an effort to assist with objective selection of patients in the resource-constrained environment of public healthcare. Despite improvements in this area of bariatric surgery, significant inequity remains. Māori and Pacific peoples have three to five times higher rates of obesity when compared with other ethnic groups in Aotearoa New Zealand.[26] Minority ethnic groups have high population needs for bariatric surgery, but are still under-represented in terms of publicly funded surgery.[26,27,28]

Both Māori and Pacific peoples face significant disparities in accessing bariatric surgical treatments, and in having higher rates of obesity-related diseases and lower socio-economic status compared with New Zealand European patients.[26] Bennett et al. found that Māori and Pacific peoples were less likely to receive bariatric surgery than European patients, and that patients with increased deprivation and rurality were less likely to receive bariatric surgery.[29] Rahiri et al. found that the number of publicly funded bariatric procedures from 2010 to 2014 was three times lower in Māori and five times lower in Pacific peoples compared with New Zealand European/Other.[26]

Some regions are performing better than others in terms of access of surgery for minority ethnic groups. A retrospective study conducted in the Waitematā district found that between 2010–2020, Māori received 19% of all bariatric procedures at Waitematā, surpassing population parity of 10% in the region.[30] However, equity is not achieved by proportional, equal care. In order to improve ethnic inequity, higher prioritisation must be placed on groups of patients who are under-served.

The root causes of racial inequity are complex and multifaceted, and include access to primary care, cultural competency and diversity of healthcare workers, patient engagement, institutionalised racism and unconscious bias. Racial discrimination is associated with a range of poorer health outcomes and reduced access to and quality of healthcare.[31] Clinical environments with an under-representation of ethnically diverse staff are seen as barriers to developing emotional safety, trust and acceptance of the surgical process with patients undergoing bariatric surgery.[27]

Inequitable access to bariatric surgery by geographical region is another major issue that needs to be addressed. Regional differences in allocation and provision of bariatric surgery are wide and do not align with the population prevalence of obesity. Murphy et al. found that there was a more than 16-fold difference in bariatric surgery intervention rates and in funding allocation for bariatric surgery between DHBs nationally.[10] In this study, the Waitematā district performed the second highest number of bariatric surgeries in 2013/2014 and 2014/2015. Despite having a lower prevalence of BMI >/=40 patients at 2.7%, Waitematā outperformed the Ministry of Health target number of bariatric surgeries across 2013/2014 and 2014/2015. These results are likely reflective of a well-established bariatric service within a large district that receives more funding for metabolic procedures.

It is crucial that ongoing work is done to ensure that the highest-needs patients are served by the public health system, and that the distribution of this limited resource is fair and just. Public funding for bariatric surgery in Aotearoa New Zealand was established in 2008, but at this time there were no explicit targets set to ensure equitable access to Māori and Pacific peoples.[32] The NIH guidelines are commonly used when it comes to determining a patient's eligibility for bariatric surgery.[8] These guidelines for the management of obesity and its associated comorbid conditions have recently been updated in 2023.[33] Ethnicity remains elusive as a contributing factor when it comes to deciding a patient's eligibility.

Over time it has become evident that specific groups of patients are disadvantaged. Further efforts must be made to improve access to care. In February 2023, Te Whatu Ora Te Toka Tumai Auckland introduced an equity adjustor score, which seeks to reduce inequity by including a patient's ethnicity among other factors. The goal of this score was to correct existing health inequity and access to care for Māori and Pacific peoples, who have high levels of deprivation and worse health outcomes when compared with other ethnicities across Aotearoa New Zealand. Public controversy surrounded the adoption of this score, resulting in a pause to further roll-out after its introduction.[34] Recently, it has been reported that Health New Zealand will stop using this tool after a review found it was "legally and ethically justifiable" but did not follow "best practice."[35]

In 2023, Srikumar et al. developed the first national prioritisation tool used for publicly funded bariatric surgery in Aotearoa New Zealand. This tool takes into account four major criteria (impact on life, likelihood of achieving maximum benefit with respect to control of diabetes, duration of benefit and surgical risk) to characterise the need and potential to benefit.[36] Further studies are planned to determine the external validity of this tool. If consistently used in all Aotearoa New Zealand hospitals, this tool may significantly improve equitable access for patients requiring metabolic surgery.

Challenges and limitations

Limitations of the Waitematā bariatric service include list cancellations, theatre time constraints, unprecedented national emergencies such as COVID-19, staffing and minimal online peri-operative support for patients. Other factors that may impact on the service include widespread adoption of glucagon-like peptide-1 receptor agonists, the development of endoscopic bariatric therapies, government changes to the healthcare system, improved urban design and unforeseen events that may have an impact on delivery of healthcare. Strong central regulation of the food environment is likely to make a significant difference, but is unlikely to be achieved due to the influence of advertising and an ongoing lack of governmental leadership on this issue.

Many of these factors may reduce the requirements for patients to receive bariatric surgery and lead to a healthier patient population. A combined approach for patients—including pharmacotherapy with surgery—may reduce the need for revisional surgery as well as reducing the burden on surgical services for patients who are amenable to a multi-tiered approach.[37] Opportunities to improve the service include the employment of a full-time health psychologist, funded online education and seminars, improved follow-up protocols, reduced LOS to less than 24 hours in selected patients, and ongoing clinical research and development.

The bariatric service was impacted greatly by COVID-19. During this period of uncertainty and both regional and nation-wide lockdowns, all elective bariatric operations were suspended to allow for the influx of patients with COVID-19. Many patients had their planned operation cancelled completely during this extended period. The impacts of COVID-19 continue, as currently the service is working through a significant backlog of those waiting for surgery. The service is vulnerable to other public health emergencies that may occur in the future. This is because bariatric surgery is elective and is widely considered to be of a lower priority when compared with cancer surgery and other emergency surgery.

Conclusion

This study demonstrates the feasibility and safety of a publicly run bariatric surgical programme in Aotearoa New Zealand. Even within the limitations of a constrained public healthcare system, a persistent increase in the number of patients operated on per year, a decrease in the average LOS, a low mortality rate and an ongoing commitment to improving surgical access to minority ethnic groups emphasise the importance of increased and ongoing public funding for bariatric surgery. Our data suggest ongoing prioritisation of patients with comorbidities, ensuring that surgical care is available to a high-needs population. This is likely to result in healthcare savings long term.

The Waitematā bariatric service endeavours to achieve equity among patients in terms of quality and access to care. Barriers remain throughout each stage of the process, and more research needs to be done to ensure that access is available to all comers. Engaging and retaining highly skilled bariatric and upper gastrointestinal surgeons within the Aotearoa New Zealand public healthcare system is essential to the ongoing delivery of quality care to this high-needs population.

COMPETING INTERESTS

There are none to disclose.

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REFERENCES

1. Barton B, Love T. Economic impact of excess weight in Aotearoa [Internet]. Auckland, New Zealand: Hāpai Te Hauora, Sapere; 2021 Sep [cited 2024 May 19]. Available from: https://hapai.co.nz/sites/default/files/Economic-Impact-of-Excess-Weight-in-NZ-15-Nov-2021.pdf
2. Swinburn B, Ashton T, Gillespie J, et al. Health care costs of obesity in New Zealand. Int J Obes Relat Metab Disord. 1997 Oct;21(10):891-6. doi: 10.1038/sj.ijo.0800486.
3. Lal A, Moodie M, Ashton T, Siahpush M, Swinburn B. Health care and lost productivity costs of overweight and obesity in New Zealand. Aust N Z J Public Health. 2012 Dec;36(6):550-6. doi: 10.1111/j.1753-6405.2012.00931.x.
4. Wilson R, Abbott JH. The projected burden of knee osteoarthritis in New Zealand: healthcare expenditure and total joint replacement provision. N Z Med J. 2019 Oct 4;132(1503):53-65.
5. Tarride JE, Breau R, Sharma AM, et al. The Effect of Bariatric Surgery on Mobility, Health-Related Quality of Life, Healthcare Resource Utilization, and Employment Status. Obes Surg. 2017 Feb;27(2):349-356. doi: 10.1007/s11695-016-2298-6. Erratum in: Obes Surg. 2017 Apr;27(4):1128. doi: 10.1007/s11695-017-2598-5.
6. Sjöström L, Narbro K, Sjöström CD, et al; Swedish Obese Subjects Study. Effects of bariatric surgery on mortality in Swedish obese subjects. N Engl J Med. 2007 Aug 23;357(8):741-52. doi: 10.1056/NEJMoa066254.
7. Welbourn R, le Roux CW, Owen-Smith A, et al. Why the NHS should do more bariatric surgery; how much should we do? BMJ. 2016 May 11;353:i1472. doi: 10.1136/bmj.i1472.
8. NIH conference. Gastrointestinal surgery for severe obesity. Consensus Development Conference Panel. Ann Intern Med. 1991;115(12):956-61.
9. Ministry of Health – Manatū Hauora. Obesity statistics [Internet]. [cited 2023 May 16]. Available from: https://www.health.govt.nz/nz-health-statistics/health-statistics-and-data-sets/obesity-statistics
10. Murphy R, Ghafel M, Beban G, et al. Variation in public-funded bariatric surgery intervention rate by New Zealand region. Intern Med J. 2019 Mar;49(3):391-395. doi: 10.1111/imj.14226.
11. Old OJ, Egan RJ, Norton SA, Morgan JD. Ethnic minorities have equal access to bariatric surgery in the UK and Ireland. Obes Surg. 2013 May;23(5):727-9. doi: 10.1007/s11695-013-0904-4.
12. Australian & New Zealand Metabolic and Obesity Surgery Society, Collaborative Public Bariatric Surgery Taskforce. Public Bariatric Surgery: A National Framework [Internet]. [cited 2023 Dec 1]. Available from: https://anzmoss.com.au/wp-content/uploads/Public-Bariatric-Surgery-Framework_full-report.pdf
13. Atlantis E, Kormas N, Samaras K, et al. Clinical Obesity Services in Public Hospitals in Australia: a position statement based on expert consensus. Clin Obes. 2018 Jun;8(3):203-210. doi: 10.1111/cob.12249.
14. Murphy R, Plank LD, Clarke MG, et al. Effect of Banded Roux-en-Y Gastric Bypass Versus Sleeve Gastrectomy on Diabetes Remission at 5 Years Among Patients With Obesity and Type 2 Diabetes: A Blinded Randomized Clinical Trial. Diabetes Care. 2022 Jul 7;45(7):1503-1511. doi: 10.2337/dc21-2498.
15. Pullman JS, Plank LD, Nisbet S, et al. Seven-Year Results of a Randomized Trial Comparing Banded Roux-en-Y Gastric Bypass to Sleeve Gastrectomy for Type 2 Diabetes and Weight Loss. Obes Surg. 2023 Jul;33(7):1989-1996. doi: 10.1007/s11695-023-06635-x.
16. Burton P, Brown W, Chen R, et al. Outcomes of high-volume bariatric surgery in the public system. ANZ J Surg. 2016 Jul;86(7-8):572-7. doi: 10.1111/ans.13320.
17. Clough A, Hamill D, Jackson S, et al. Outcome of three common bariatric procedures in the public

sector. ANZ J Surg. 2017 Nov;87(11):930-934. doi: 10.1111/ans.13585.

18. Chadwick C, Burton PR, Playfair J, et al. Potential positive effects of bariatric surgery on healthcare resource utilisation. ANZ J Surg. 2021 Nov;91(11):2436-2442. doi: 10.1111/ans.17049.
19. Afdhal NH, Vollmer CM Jr, Ashley SW, et al. Complications of laparoscopic cholecystectomy [Internet]. UpToDate; 2023 Jan 17 [cited 2023 Dec 12]. Available from: https://www.uptodate.com/contents/complications-of-laparoscopic-cholecystectomy#H21
20. Robertson AGN, Wiggins T, Robertson FP, et al. Perioperative mortality in bariatric surgery: meta-analysis. Br J Surg. 2021 Aug 19;108(8):892-897. doi: 10.1093/bjs/znab245.
21. Health Quality & Safety Commission. Perioperative Mortality in New Zealand | Te Mate Whai Muri mai i te Poka ki Aotearoa: Report to the Health Quality & Safety Commission New Zealand | He pūrongo ki a Kupu Taurangi Hauora o Aoteatoa. Wellington, New Zealand: Perioperative Mortality Review Committee; 2019 Dec [cited 2023 Dec 10]. Available from: https://www.hqsc.govt.nz/assets/Our-work/Mortality-review-committee/POMRC/Publications-resources/POMRC8thReport2019_web.pdf
22. Lukas N, Franklin J, Lee CM, et al. The efficacy of bariatric surgery performed in the public sector for obese patients with comorbid conditions. Med J Aust. 2014 Aug 18;201(4):218-22. doi: 10.5694/mja13.00046.
23. Stringer KM, Bryant R, Hopkins GH, et al. Gastric banding at the Royal Brisbane and Women’s Hospital: trials and tribulations of a public service. ANZ J Surg. 2007 Jul;77(7):550-2. doi: 10.1111/j.1445-2197.2007.04149.x.
24. Aly A, Spiro C, Liu DS, et al. Bariatric surgery in a public hospital: a 10-year experience. ANZ J Surg. 2022 Sep;92(9):2129-2136. doi: 10.1111/ans.17768.
25. Chadwick C, Burton PR, Brown D, et al. Bariatric Surgery Efficiency, Safety and Health Outcomes in Government Versus Privately Funded Hospitals. Obes Surg. 2023 Apr;33(4):1160-1169. doi: 10.1007/s11695-023-06489-3.
26. Rahiri JL, Lauti M, Harwood M, et al. Ethnic disparities in rates of publicly funded bariatric surgery in New Zealand (2009-2014). ANZ J Surg. 2018 May;88(5):E366-E369. doi: 10.1111/ans.14220.
27. Taylor T, Wrapson W, Dewes O, et al. Preoperative bariatric surgery programme barriers facing Pacific patients in Auckland, New Zealand as perceived by health sector professionals: a qualitative study. BMJ Open. 2019 Nov 2;9(11):e029525. doi: 10.1136/bmjopen-2019-029525.
28. Bhogal SK, Reddigan JI, Rotstein OD, et al. Inequity to the utilization of bariatric surgery: a systematic review and meta-analysis. Obes Surg. 2015 May;25(5):888-99. doi: 10.1007/s11695-015-1595-9.
29. Bennett EK, Poppe K, Rahiri JL, et al. Variation in publicly funded bariatric surgery in New Zealand by ethnicity: cohort study of 328,739 patients. Surg Obes Relat Dis. 2021 Jul;17(7):1286-1293. doi: 10.1016/j.soard.2021.03.027.
30. Epiha M, Knudsen C, Hammodat H, et al. Monitoring Equity in the Receipt of Publicly Funded Bariatric Surgery at Waitematā District Health Board, Aotearoa (2010-2020). In: Abstract Journal Indigenous Health. ANZ J Surgery. 2002;92(S1);110-112. https://doi.org/10.1111/ans.17616.
31. Talamaivao N, Harris R, Cormack D, et al. Racism and health in Aotearoa New Zealand: a systematic review of quantitative studies. N Z Med J. 2020 Sep 4;133(1521):55-68.
32. Ministry of Health – Manatū Hauora. Assessment of the business case for the management of adult morbid obesity in New Zealand. Wellington, New Zealand: Ministry of Health – Manatū Hauora; 2008.
33. Sharaiha RZ, Shikora S, White KP, et al. Summarizing Consensus Guidelines on Obesity Management: A Joint, Multidisciplinary Venture of the International Federation for the Surgery of Obesity & Metabolic Disorders (IFSO) and World Gastroenterology Organisation (WGO). J Clin Gastroenterol. 2023 Nov-Dec 01;57(10):967-976. doi: 10.1097/MCG.0000000000001916.
34. Health New Zealand – Te Whatu Ora. Official Information Request, reference: HNZ00022694 [Internet]. 2023 Sep 14 [cited 2023 Nov 20]. Available from: https://www.tewhatuora.govt.nz/assets/Publications/OIA-response/Equity-OIA/OIA-HNZ00022694-Response.pdf
35. Jo Moir. Health NZ drops tool that factored in ethnicity for waitlists, despite review findings [Internet]. Radio New Zealand; 2024 Aug 1 [cited 2024 Aug 4]. Available from: https://www.rnz.co.nz/news/political/523825/health-nz-drops-tool-that-factored-in-ethnicity-for-waitlists-despite-review-findings
36. Srikumar G, Schroeder D, McEwan C, MacCormick AD; Bariatric Prioritisation Tool Working Group. Development of the national bariatric prioritization tool in Aotearoa New Zealand. ANZ J Surg. 2023 Dec;93(12):2843-2850. doi: 10.1111/ans.18623.
37. Aly A, Talbot ML, Brown WA. Bariatric surgery: a call for greater access to coordinated surgical and specialist care in the public health system. Med J Aust. 2022 Sep 5;217(5):228-231. doi: 10.5694/mja2.51673.

Promoting digital inclusion for enhanced resident wellbeing: an examination of aged residential care facility websites

Wendy Wrapson, Chiara Gasteiger

ABSTRACT

AIM: Digital inclusion has a positive impact on health and wellbeing through fostering connectivity and access to information. In Aotearoa New Zealand, 4% of older adults live in aged residential care (ARC) facilities and are vulnerable to social isolation. This study explored whether ARC facilities provide opportunities to socially connect online and whether the COVID-19 pandemic affected the provision of these opportunities.

METHOD: Information on technology and internet provision from 558 ARC facilities was extracted from facilities' own or related websites in 2019 and 2021. ARC facilities were categorised according to whether they provided digital devices, internet access and internet-based leisure activities, or made no reference to technology.

RESULTS: In 2019, 392 (70%) of 558 ARC facilities publicised availability of internet-based technologies for residents; however, only 46 (8%) mentioned providing access to computer devices. In 2021 (during the pandemic), there was a small increase to 421 (76%) and 54 (10%) of facilities respectively. Facilities mentioning internet-based leisure activities were 63 (11%) in 2019 and 55 (10%) in 2021. Those not referring to technology had reduced from 166 (30%) in 2019 to 137 (24%) in 2021.

CONCLUSION: Few ARC facilities enabled residents to fully access the digital world, even after periods of isolation due to COVID-19. Aged care providers could be more proactive by providing internet access and digital learning opportunities.

Digital inclusion, defined as *"a world where everyone has equitable opportunities to participate using digital technologies"*,[1] is now recognised as crucial for enhancing the wellbeing and quality of life of older individuals. Research underscores its positive impact on both physical and psychological wellbeing,[2,3] as well as on cognitive function.[4] However, there is also a wealth of literature documenting how digital technologies can enrich social interactions, reduce loneliness and offer better access to information.[5]

With information and communication technologies providing avenues for social connectivity, especially when face-to-face interactions are limited, older adults are increasingly joining the online community. Accordingly, approximately 84% of those aged 65+ in Aotearoa New Zealand use the internet.[6] Despite this, older people remain at risk of being digitally excluded.

Residents of aged residential care (ARC) facilities, in particular, face challenges in maintaining social connections, often relying solely on visits from family and friends. Residents who have access to digital devices, however, can use virtual interactions to supplement personal visits.[7] Accurate statistics on digital technology use by ARC facility residents are difficult to source because surveys, including those investigating internet use by older people, frequently limit participant recruitment to those living in the wider community.[8,9] Overseas research has found that individuals aged 65–84 living in ARC facilities are less likely to use the internet compared to adults of that age group living in the community.[10] This issue is of particular concern in Aotearoa New Zealand, given our steadily aging population. In 2020, Aotearoa New Zealand had a population of approximately 790,000 older adults (65 years and older), of which approximately 4.4% lived in aged residential care.[11] However, it has been estimated that by 2028 the population will grow to reach 1 million older adults.[12] Given these projections, it becomes imperative to prioritise social connectivity and engagement for older adults to optimise health and wellbeing.

Facilitating digital connection is a relatively cost-effective method of combating social isolation while also improving the quality of life of older adults.[13–15] In addition to providing opportunities for social interactions,[16] the internet offers users the opportunity to interact with government services and to have access to health and financial information. Online access to information can be particularly important for those with mobility issues.[17] Nevertheless, pre-COVID research found that ARC facilities frequently do not provide a technology-friendly environment for residents and that opportunities for internet-based communication are often enabled by family members.[7]

During 2020/2021, there were several periods of national or regional “lockdowns” in Aotearoa New Zealand where social activities were severely restricted to prevent the spread of COVID-19.[18] During these periods ARC facilities did not allow outside visitors, and residents, at times, were confined to their rooms. On these occasions residents’ only social contact was with staff of the facility and with friends and relatives outside the facility using telecommunication technologies. Many ARC facilities sought innovative solutions to ensure at least some form of social contact could be provided. Despite this, reports of detrimental effects of social isolation in care settings were common.[19] While the pandemic accelerated technology use in various sectors, including mental health[20] and education,[21] its specific influence on technology uptake within ARC facilities remains uncertain.

In Aotearoa New Zealand, ARC facilities are required to be certified and are audited regularly; audit reports are published on the Ministry of Health’s (MoH) website. However, ARCs are not required to provide access to communication technologies or promote their use. In 2019, prior to the onset of the COVID-19 pandemic and as a preliminary step towards a broader investigation into the digital inclusion of older individuals, we conducted an audit of national ARC facilities’ websites and other electronic resources. Our objective was to identify any publicly available evidence demonstrating the promotion of digital inclusion within these facilities. Subsequently, in 2021 we replicated the audit to examine whether the visiting restrictions imposed due to COVID-19 had influenced the provision of digital technology for residents.

The current study aimed to address the following research questions: 1) to what extent do ARC facilities promote digital inclusion through the provision of access to digital technologies and learning opportunities, and 2) how did the initial 18 months of the COVID-19 pandemic impact the promotion of digital inclusion within these facilities? By investigating these questions, we sought to shed light on the evolving landscape of digital accessibility for older adults residing in ARC facilities.

Method

The first audit was undertaken between June and September 2019, prior to COVID-19 entering Aotearoa New Zealand in February 2020. It was then repeated between June and the beginning of August 2021, when Aotearoa New Zealand was experiencing low levels of COVID-19 transmission. This study was granted exemption from ethics approval by the Auckland University of Technology Ethics Committee on the basis that publicly available data were used.

In Aotearoa New Zealand there are four levels of ARC: rest homes and independent living facilities (care for mild to moderate dependence), hospital-level care (long-term nursing care for medical problems or disabilities), and dementia units and psycho-geriatric units (high level of specialist nursing care and monitoring). The MoH has a downloadable database of certified rest home providers in a Microsoft Excel spreadsheet format. This database was used to create the list of ARC facilities for the current study. A new Excel spreadsheet was then created, which included the name of the facility, the number of beds and the levels of care provided. Data collected on resident access to technology were added to this spreadsheet. Facilities with ≤20 beds were excluded as the focus of the audit was on larger facilities where resources to provide access to digital technologies may be more readily available. Facilities providing only dementia-level care were also excluded.

Three websites for each facility were examined in 2019 to gather evidence about access to digital communication technologies (Table 1): 1) the ARC facility’s own website, 2) its entry on Eldernet (a directory of ARC facilities in Aotearoa New Zealand), and 3) the most recent audit from the MoH available online.

ARC facility websites

Many facilities have their own website advertising the levels of care provided. Websites typically have a home page, and separate pages dedicated to the types of accommodation available, the specific features of the ARC, such as amenities (e.g., physiotherapists, podiatrists, hairdressers), and the social activities offered, together with a contact details page.

Eldernet

Eldernet[22] is a privately run service that provides a directory of ARC providers. ARC facility listings are in a consistent structured format and include the levels of care available, the number of beds and the details of amenities provided.

MoH ARC facility audits

Residential care facilities must be certified as providing "*safe and reasonable levels of service for consumers*" and are regularly audited to ensure these standards are met. The MoH's database of ARC facilities provides details on the levels of care provided and the number of beds, and copies of recent audit reports.

Information available on more than one site (for example, the number of beds at a facility) was taken from the ARC facility website if one existed, and then from the Eldernet website and/or the MoH audit if further clarification was required. Where an ARC facility did not have its own website, information was gathered from Eldernet and the MoH database alone.

Data collection

The facility's own website and their entry on Eldernet were individually and systematically searched by one of the authors (CG, in both 2019 and 2021) using four search terms: "internet," "wifi", "computer" and "email." These terms were devised from preliminary searches of websites and were pilot tested to ensure they would accurately identify efforts to promote digital inclusion. The extracted information was inserted into the Excel spreadsheet devised for the current study and included in separate columns: i) provision of technology for residents to use, such as computers or other devices (yes/no), ii) internet (Wi-Fi) access for residents (yes/no), and iii) details of activities involving digital technologies (e.g., classes teaching residents on computer use or the internet). There was an additional column for each of the first two categories in which specific wording relating to the provision of these amenities was recorded. Table 2 outlines the criteria for receiving a positive response to each of these categories.

Table 1: Sources of information used for audit of internet-based communication promotion by aged residential care facilities.

Information source	Information gained from source
Aged residential care facility website	Primary source of information on the facility and amenities available to residents.
Eldernet	Additional source of information on the amenities available to residents, or used as a primary source when an aged residential care facility did not have its own website.
Ministry of Health's listing/audit report	Used to confirm information on levels of care provided and number of beds when there was a lack of clarity from the above two sources.

Table 2: Criteria for categorisation of technology availability.

Type of technology availability promoted	Criteria for receiving a "yes" response
Technology hardware	Provision of devices for residents to use; either for in-room use or available in common areas.
Internet access for residents	Access to use of the internet, either at the facility's cost or the resident's cost. Installation could be at the resident's cost.
Activities involving internet-based technologies	Group or individual activities organised for residents, e.g., classes on learning how to use devices/the internet.

Analyses

ARC facilities' promotion of internet-based technology for resident use was categorised into groups. Facilities in Group 1 were those that provided access to hardware, such as desktop computers or tablets for residents to use. Facilities that provided Wi-Fi but did not mention the availability of devices were assigned to Group 2, and those that mentioned activities, without any mention of devices or Wi-Fi availability, were placed in Group 3. Group 4 ARC facilities were those that did not mention technology at all. Facilities were assigned to one group only.

In our analysis we used a broad interpretation of what counted as promotion of technology/internet use. For example, in the few instances where multiple levels of care were provided by one facility and there was mention of technology availability in only one part of the complex, we counted that as a mention of technology use for the whole complex. Ambiguous entries were discussed by the authors until a consensus was reached regarding appropriate categorisation. The number of facilities in each group is reported as frequencies below (Table 3).

Results

Characteristics of facilities

A total of 644 ARC facilities were identified from the 2019 MoH database. Of those, 32 were excluded due to exclusively providing care for residents with dementia and 10 were no longer providing any services (see Figure 1). An additional 38 were removed as they did not meet our inclusion criteria of providing care for more than 20 residents. The screening of the remaining 564 facilities was repeated in 2021 to determine to what extent the promotion of technology use appeared to have changed in the approximately 18 months since COVID-19 arrived in Aotearoa New Zealand. Of these, six were no longer providing services in 2021, resulting in the screening of 558 facilities.

Figure 1: Aged residential care facilities included in 2019 and 2021.

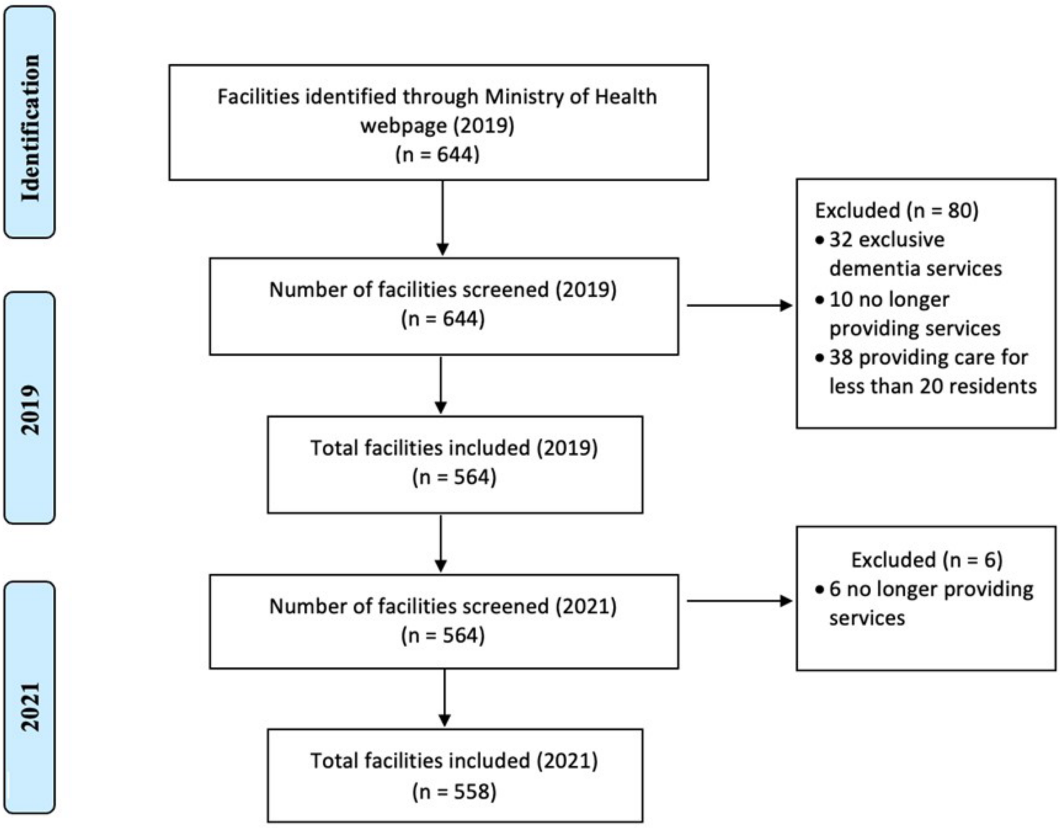

Table 3: Categorisation of facilities according to technology availability.

Category	Number of facilities=558	
	2019 N (%)	2021 N (%)
1. Devices for resident use	46 (8)	54 (10)
2. Wi-Fi access for residents	283 (51)	312 (56)
3. Activities involving internet-based technologies	63 (11)	55 (10)
4. No mention of internet-based technology use	166 (30)	137 (24)

The number of beds in each facility in 2019 ranged from 21 to 236 (21–40 beds: 144 facilities; 41–60 beds: 172 facilities; 61–100 beds: 173 facilities; and 101+ beds: 69 facilities). Most facilities offered multiple levels of care, with the vast majority (96%) offering rest home care, 65% of the total offering hospital-level care and 29% offering dementia care.

In 2019, 392 (70%) of the 558 ARC facilities included in the study made reference to the availability of internet-based technologies either on their own website or on Eldernet (Table 3). Of these, 46 (8%) mentioned access to computer devices (Group 1). Access was commonly described in the amenities section of websites with reference to a "computer room" or "internet café," although there was occasional reference to specific devices, such as: "*We have a wifi secure Ipad for resident use to keep in touch with overseas family and friends.*" Approximately half (283; 51%) of the 558 ARC facilities noted they provided Wi-Fi access (Group 2), although this was commonly offered at an additional charge and, in some cases, was only available "upon request." In a few instances, the resident or their family had to arrange the Wi-Fi connection themselves. A further 63 (11%) of the ARC facilities mentioned computer-based activities (Group 3), but without specifically referring to computer hardware or Wi-Fi availability. The wording used by this group of facilities was typically: "*Interests and activities: Email, internet*," which made it difficult to determine exactly what was being offered. However, other facilities clearly provided staff-assisted access; for example, "*Email and mail from and to family and friends is assisted and encouraged*." Finally, 166 (30%) of ARC facilities made no mention of internet-based technologies or related activities (Group 4).

As seen in Table 3, by 2021 the availability of internet-based technologies appeared to be moving in the right direction, albeit slowly. Ten percent of facilities now promoted the availability of digital communication devices, compared to 8% in 2019. Likewise, internet connectedness was now more widely promoted (56% mentioned Wi-Fi, up from 51%). These increases appeared to come from both Groups 3 (activities involving internet-based technologies) and 4 (no mention of technology use), where there was a reduction in the number of facilities in these groups.

Discussion

Given the growing reliance on digital platforms for older adults' social connectivity and access to information, there is a need for ARC facilities to foster digital inclusion among residents. Although overseas studies have found pandemic-related increases in technology use,[23] it was disappointing that, even with the frequent lockdowns and periods of isolation due to COVID-19 in Aotearoa New Zealand, progress in promoting the availability of internet-based technologies seems extraordinarily slow. This suggests a concerning lack of recognition among many aged care operators regarding the importance of providing residents with access to digital technologies as an essential amenity. These findings echo prior research indicating that residents of ARC facilities are often marginalised from the advantages afforded by internet-based technologies.[7] While there are initiatives aimed at addressing digital exclusion in Aotearoa New Zealand,[24] many of these are directed to those living in the community, or are small regionally based programmes.[25]

With loneliness and social isolation contributing to poor physical and psychosocial outcomes for older adults,[26–29] it seems that digital inclusion is one area where ARC operators could focus their attention. Access to digital technologies is frequently listed by ARC facilities under “special features” or “interests and activities,” suggesting this is viewed as an additional, non-essential benefit. Globally, however, attention is being given to the importance of access to digital technologies in ARC facilities. In the United States, the state of California has recently enacted a bill requiring care facilities, including those for older adults, to provide at least one internet access device with video-conferencing capability for the sole use of residents.[30]

Family members are often involved in the decision as to which ARC facility to choose when a relative can no longer live independently. Understandably, the main priority is that the older person is well cared for physically.[7] While there is recognition that digital technologies can supplement face-to-face interactions, and that social interactions are important for residents’ wellbeing, there can be an assumption that the older person may find it too challenging to learn how to use a device. Older people themselves may consider digital technologies to be “too difficult” to learn.[7] It is possible, therefore, that ARC facilities are simply responding to what they perceive to be a lack of demand from residents and families, resulting in the call for digital inclusion of older people going unheeded in aged care. Nevertheless, it is important that older people, regardless of their residential context, should be empowered, with appropriate opportunities and support, to engage with others online should they so choose.

Strengths and limitations

A strength of conducting a review of website information relating to ARC promotion of technology use is that we were able to conduct a review of all ARC facilities. Alternative methods, such as a survey of ARC facilities, would have only provided insights into those facilities that responded. Nevertheless, the study has limitations that should be acknowledged.

Our study used online reporting as a proxy for the actual provision of technology. As some care facilities do not have their own web page, or may not regularly update their entry on Eldernet, the data collected may not reflect the current situation for each facility. Inconsistent reporting across web pages may also limit our findings. Where aged care operators have multiple ARC facilities with one website covering all their facilities, available technology is sometimes reported under a general statement. In these cases it was not always clear whether technology use was supported by each facility managed by that operator. The focus of the current study was on larger ARC facilities, but we note that including smaller facilities with ≤20 beds is unlikely to have had a significant impact on findings as these represented only 6% of the eligible facilities in 2019. We also acknowledge that the quality and extent of digital inclusion efforts by ARC facilities were not able to be determined with the current research design. Finally, the study did not explore how access to the internet and internet-based activities varied by the size of the facility and the level of care offered. Further research in this area is needed.

Conclusions

This paper provides a snapshot of the promotion of technology use for older people living in residential care at two time points. Only minimal advances appear to have been made by ARC facilities in supporting the digital inclusion of residents during that timeframe. An investigation into to what extent formal digital inclusion policies exist in aged care is warranted.

COMPETING INTERESTS

The authors have no conflicts of interest to disclose.

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REFERENCES

1. Department of Internal Affairs Te Tari Taiwhenua. The Digital Inclusion Blueprint | Te Mahere mō te Whakaurunga Matihiko [Internet]. Department of Internal Affairs; 2019 [cited 2024 Jan 24]. Available from: https://www.digital.govt.nz/dmsdocument/113-digital-inclusion-blueprint-te-mahere-mo-te-whakaurunga-matihiko
2. Cotten SR, Ford G, Ford S, Hale TM. Internet use and depression among older adults. Comput Hum Behav. 2012;28(2):496-499. doi:10.1016/j.chb.2011.10.021.
3. Sims T, Reed AE, Carr DC. Information and Communication Technology Use is Related to Higher Well-Being Among the Oldest-Old. J Gerontol B Psychol Sci Soc Sci. 2017;72(5):761-770. doi: 10.1093/geronb/gbw130.
4. Tun PA, Lachman ME. The association between computer use and cognition across adulthood: use it so you won't lose it? Psychol Aging. 2010;25(3):560-568. doi: 10.1037/a0019543.
5. Döring N, Conde M, Brandenburg K, et al. Can Communication Technologies Reduce Loneliness and social Isolation in Older People? A Scoping Review of Reviews. Int J Environ Res Public Health. 2022;19(18):11310. doi: 10.3390/ijerph191811310.
6. Andrade AD, Hedges M, Pacheco G, Turcu A. The World Internet Project New Zealand 2021 [Internet]. Auckland, New Zealand: New Zealand Work Research Institute; 2021 [cited 2024 Feb 2]. Available from: https://tinyurl.com/4kfyvr45
7. Wrapson W, Wrapson J. Social connectedness of older people in residential aged care communities: The use of internet-based technologies [Internet]. 2018 [cited 2024 Jan 31]. Available from: https://internetnz.nz/sites/default/files/The_social_connectedness_of_older_people_in_residential_aged_care_communities.pdf
8. Hunsaker A, Hargittai E. A review of Internet use among older adults. New Media Soc. 2018;20(10):3937-3954. doi:10.1177/1461444818787348.
9. Wagner M, Kuppler M, Rietz C, Kaspar R. Non-response in surveys of very old people. Eur J Ageing. 2018;16(2):249-258. doi:10.1007/s10433-018-0488-x.
10. Seifert A, Doh M, Wahl HW. They Also Do It: Internet Use by Older Adults Living in Residential Care Facilities. Educ Gerontol. 2017;43(9):451-461. doi:10.1080/03601277.2017.1326224.
11. Dale CM, St John S. Long term in-home and residential care for our ageing population [Internet]. Economic Policy Centre; 2022 [cited 2024 Feb 7]. Available from: https://www.auckland.ac.nz/assets/business/our-research/docs/economic-policy-centre/pensions-and-intergenerational-equity/PIE%20Briefing%202022-1.pdf
12. Stats NZ | Tatauranga Aotearoa. One million people aged 65+ by 2028 [Internet]. 2022 [cited 2024 Feb 2]. Available from: https://www.stats.govt.nz/news/one-million-people-aged-65-by-2028#
13. Sen K, Prybutok G, Prybutok V. The use of digital technology for social wellbeing reduces social isolation in older adults: A systematic review. SSM Popul Health. 2022;17:101020. doi:10.1016/j.ssmph.2021.101020.
14. Cotten SR, Ford G, Ford S, Hale TM. Internet Use and Depression Among Retired Older Adults in the United States: A Longitudinal Analysis. J Gerontol B Psychol Sci Soc Sci. Sep 2014;69(5):763-71. doi:10.1093/geronb/gbu018.
15. Yang H, Chen H, Pan T, et al. Studies on the Digital Inclusion Among Older Adults and the Quality of Life-A Nanjing Example in China. Front Public Health. 2022;10:811959. doi:10.3389/fpubh.2022.811959.
16. Cotten SR, Anderson WA, McCullough BM. Impact of internet use on loneliness and contact with others among older adults: cross-sectional analysis. J Med Internet Res. 2013;15(2):e39. doi:10.2196/jmir.2306.
17. Hargittai E, Dobransky K. Old Dogs, New Clicks: Digital Inequality in Skills and Uses Among Older Adults. Can J Commun. 2017;42(2):195-212. doi:10.22230/cjc.2017v42n2a3176.
18. Kvalsvig A, Wilson N, Chan L, et al. Mass masking: an alternative to a second lockdown in Aotearoa. N Z

Med J. 2020;133(1517):8-13.

19. Healy J, Richtel M, Baker M. Nursing Homes Becoming Islands of Isolation Amid ‘Shocking’ Mortality Rate [Internet]. The New York Times; 2020 Mar 10 [cited 2023 Dec 14]. Available from: https://www.nytimes.com/2020/03/10/us/coronavirus-nursing-homes-washington-seattle.html
20. Mahoney AEJ, Elders A, Li I, et al. A tale of two countries: Increased uptake of digital mental health services during the COVID-19 pandemic in Australia and New Zealand. Internet Interv. 2021;25:100439. doi:10.1016/j.invent.2021.100439.
21. Joseph D, Trinick R. ‘Staying apart yet keeping together’: Challenges and Opportunities of Teaching During COVID-19 Across the Tasman. N Z J Educ Stud. 2021;56(2):209-226. doi:10.1007/s40841-021-00211-6.
22. Eldernet [Internet]. [cited 2024 Jan 31]. Available from: https://www.eldernet.co.nz
23. Schwaninger I, Carros F, Weiss A, et al. Video connecting families and social robots: from ideas to practices putting technology to work. Univers Access Inf Soc. 2022:1-13. doi: 10.1007/s10209-022-00901-y.
24. Citizens Advice Bureaux New Zealand. Face to Face with Digital Exclusion: A CAB Spotlight Report into the Impacts of Digital Public Services on Inclusion and Wellbeing [Internet]. 2020 [cited 2023 Dec 14]. Available from: https://www.cab.org.nz/assets/Documents/Face-to-Face-with-Digital-Exclusion-/9c5f26012e/Face-to-face-with-Digital-Exclusion.pdf
25. Digital Inclusion Alliance Aotearoa. Programmes [Internet]. [cited 2024 Feb 2]. Available from: https://digitalinclusionalliance.nz/programmes
26. Kojima G, Taniguchi Y, Aoyama R, Tanabe M. Associations between loneliness and physical frailty in community-dwelling older adults: A systematic review and meta-analysis. Ageing Res Rev. 2022;81:101705. doi: 10.1016/j.arr.2022.101705.
27. Wright-St Clair VA, Neville S, Forsyth V, et al. Integrative review of older adult loneliness and social isolation in Aotearoa/New Zealand. Australas J Ageing. 2017;36(2):114-123. doi: 10.1111/ajag.12379.
28. Zhang Y, Hu W, Feng Z. Social isolation and health outcomes among older people in China. BMC Geriatr. 2021;21(1):721. doi: 10.1186/s12877-021-02681-1.
29. Barnes TL, Ahuja M, MacLeod S, et al. Loneliness, Social Isolation, and All-Cause Mortality in a Large Sample of Older Adults. J Aging Health. 2022;34(6-8):883-892. doi: 10.1177/08982643221074857.
30. *Assembly Bill No 665 2021* (California) AB-665 Care facilities: internet access, Chapter 469.

Acute and persistent post-operative pain following mastectomy: a descriptive study in a tertiary hospital cohort

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ABSTRACT

AIMS: Post-mastectomy pain syndrome (PMPS) can have significant negative effects on patients' quality of life after mastectomy. The estimated prevalence of PMPS varies widely and there is little data from a New Zealand population. This limits clinicians' ability to meaningfully describe and discuss pain-related complications of mastectomy peri-operatively.

METHOD: We designed a single-centre, retrospective study to describe acute post-operative analgesic requirements after mastectomy, to describe the prevalence of PMPS at least 1 year after surgery and to identify associated risk factors for this complication.

RESULTS: One hundred and thirty mastectomy patients met inclusion criteria and 59 were willing and able to participate in 12-month follow-up. Acute post-operative pain was generally well managed with modest doses of oral analgesics. Sixty-six percent (n=39) of women reported some form of persistent pain symptoms post-mastectomy; this was associated with younger age, axillary surgery and chemotherapy. Only 5% of patients (n=3) met consensus criteria for PMPS, which limited identification of risk factors for this more severe complication.

CONCLUSION: Despite PMPS occurring infrequently, post-operative pain of a less severe nature after mastectomy occurs commonly. Clinicians should remain vigilant to possible risk factors for this post-operative complication and counsel patients appropriately.

Breast cancer is the most common cancer affecting women in New Zealand,[1] and the third most common cancer overall on a population basis. Last published data, in 2012, showed patients from the Canterbury Region made up 14.5% of new breast cancer registrations in New Zealand.[2] Surgical treatment is the most common first intervention for these patients, and mastectomy is the most common surgical procedure performed.[2] Survival in female breast cancer in New Zealand is improving; 5-year survival in 1998/1999 was 79% compared with 89% for the same metric in 2016/2017.[3]

Persistent post-surgical pain following mastectomy is a well-described post-operative complication that can have significant negative effects on quality of life and function after mastectomy.[4] Pain in the ipsilateral chest wall, arm, flank or axilla, often with neuropathic features, are typical complaints, and occur with variable frequency.[5] Symptoms range from moderate to severe, and literature suggests, once present, they are likely to persist.[5] The quoted prevalence of this condition in the literature ranges between 20 and 74%;[4–17] such wide variance makes it difficult to understand the true burden of the condition in a particular population.

The variable rates seen are likely to be in part due to lack of a universally accepted definition for post-mastectomy pain syndrome (PMPS).[18] An attempt at a consensus definition of PMPS based on common elements across the existing literature was published in 2016.[18] PMPS was defined as: pain that occurs after any breast surgery; is of at least moderate severity; possesses neuropathic qualities; is located in the ipsilateral breast/chest wall, axilla and/or arm; lasts at least 6 months (although acknowledges that, practically, 3 months is an adequate duration for research); occurs at least 50% of the time; and may be exacerbated by movements of the shoulder girdle.[18] This definition now presents consistent criteria for diagnosing PMPS, allowing research and audit in different populations.

The incidence and severity of persistent pain post-mastectomy is somewhat surprising to many clinicians given the usual in-hospital course for these patients; the procedure appears well tolerated, is typically managed with oral analgesia post-operatively and is associated with a relatively short length of stay.[19] The cause of PMPS is not precisely known, but is almost certainly multifactorial.[20] Many risk factors have been identified, including younger age, non-European ethnicity, pre-operative depression, anxiety or catastrophising, radiation therapy, axillary surgery and the presence of pre-operative pain.[4–17,20] Many of these factors appear significantly associated in some studies but are not reproduced in others. There are also reported associations with severe acute pre-operative pain, but studies often rely on recall of acute pain, which can be unreliable.[4,12,17]

Peri-operative decision making about surgical and anaesthetic techniques, as well as appropriate counselling of patients, requires local data to quantify the risk of the development of PMPS in a given population. In the New Zealand population data, examining PMPS is sparse; there is one publication only that has studied its prevalence, which was published after our study was commenced[20] and did not examine a possible correlation between acute pain after mastectomy and the development of PMPS. This is important, as acute pain may be modifiable through surgical and anaesthetic techniques that could alter the long-term outcome for the patient.[4]

The aims of this study were:

1. To estimate the prevalence of PMPS for a cohort of mastectomy patients in Canterbury.
2. To describe post-operative analgesic requirements for the same cohort.
3. To explore risk factors for development of persistent post-surgical pain, including possible association with severity of acute post-operative pain.

Method

We designed a single-centre, retrospective, cross-sectional observational study, to include all women who had undergone mastectomy in Christchurch, New Zealand, administered by Canterbury District Health Board (CDHB) between August 2017 and August 2018, and met the inclusion criteria of the study. This allowed for at least 1 year between mastectomy and recruitment for the study.

Ethics approval was obtained for both the questionnaire-based component (New Zealand Health and Disabilities Ethics Committee reference 19/CEN/180, locality approval from CDHB Research Office and Te Komiti Whakarite) and for audit of peri-operative analgesia (CDHB Research Office and Te Komiti Whakarite).

Eligible patients included any patient over 18 years of age who underwent mastectomy without immediate reconstruction during the study period, including patients who had sentinel lymph node biopsy (SLNB) or axillary node dissection. Patients were identified using clinical coding data. Patients were excluded if unable to give informed consent to participate; unable to speak English and interpreter unavailable; and those with cancer recurrence, development of new primary

Figure 1: Flowchart of patient inclusion process.

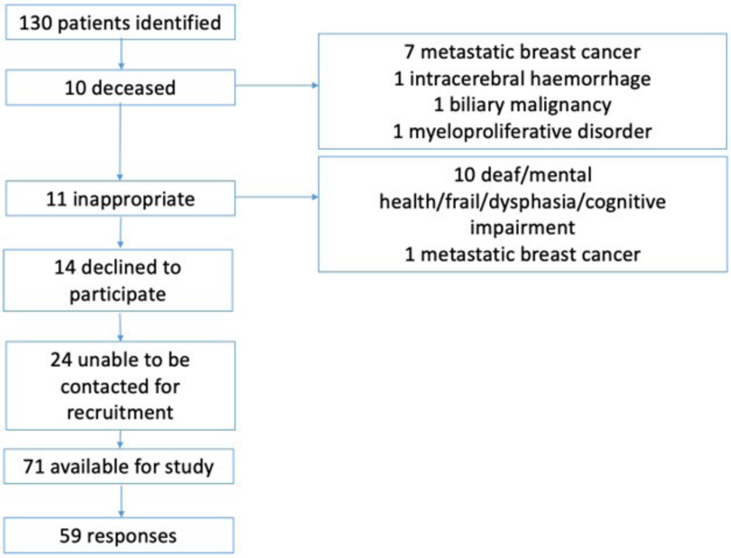

Table 1: Demographic data of patients who underwent telephone questionnaire.

Patients	N=59
Age (years, median)	65
Tumour size (median)	33mm
Regional anaesthesia* and general anaesthesia	10 (17%)
Adjuvant radiation	7 (12%)
Axillary surgery	17 (29%)
Time since mastectomy (median)	26 months
BMI (median)	27.3

*Paravertebral block (4), erector spinae block (3), PECS I block (1), PECS I/II block (1).

Table 2: Comparison of patients with PMPS, those with any persistent symptoms and those with no symptoms.

	PMPS	Any symptoms	No symptoms
Number	3 (5%)	36 (61%)	20 (34%)
Age (median)	53	59	73
Tumour size (median)	60mm	38mm	21.1mm
Regional anaesthesia and general anaesthesia	0	7 (19%)	3 (15%)
BMI (median)	27.3	27	28.3
Adjuvant radiation	1 (33%)	6 (17%)	0
Axillary surgery	1 (33%)	14 (39%)	2 (10%)

cancer or metastatic disease.

Eligible patients were phoned by CDHB breast clinic nurses or study investigators to discuss involvement in the study and consent, and then a written consent form was posted to be signed. Patients who accepted the invitation to participate were allocated a study number, and then underwent a telephone-administered questionnaire based on the proposed consensus definition of PMPS (Appendix 1).[18]

Our primary outcome is to describe the prevalence of PMPS at least 1-year post-mastectomy in Christchurch. PMPS is defined as:

- pain that occurs after breast surgery
- is located in the ipsilateral breast/chest wall, axilla and/or arm
- is present at least 3 months after breast surgery
- is of at least moderate severity
- occurs at least 50% of the time
- possesses neuropathic qualities.[18]

Individual medical records were reviewed for demographic data, surgical and anaesthetic details, and the presence of possible risk factors for persistent post-surgical pain (age, body mass index [BMI], axillary surgery, radiation or chemotherapy, pre-existing persistent pain or opioid use and severity of acute post-operative pain after mastectomy). Acute pain data were obtained by retrospective chart review and expressed as use of strong (morphine/oxycodone/fentanyl), weak (codeine/tramadol) or no opioids, and the amount used in morphine equivalents.

Descriptive data about ongoing symptoms were also sought to aid better understanding of the range of symptoms in these patients.

Descriptive statistics were used to calculate the prevalence of PMPS. The associations between the putative predictors and post-surgical pain were tested using logistic regression models and are summarised using odds ratios (OR) and 95% confidence intervals (CI). When the observed frequencies were small, e.g., for PMPS, Fisher's exact tests were used. A two-tailed p-value <0.05 was used to indicate statistical significance.

Results

Of 71 eligible patients, 59 responded to the telephone questionnaire, giving a response rate of 83% (Figure 1).

Of 59 patients who participated in the telephone questionnaire, three (5%) met criteria for PMPS.

Thirty-six patients described persistent symptoms that did not meet the definition of PMPS at the time of questionnaire administration (61% of total). The demographic data of these patients are presented in Table 2.

Post-mastectomy pain syndrome

The description of each of the patients with PMPS is presented below (Table 3). No significant associations between the presence of PMPS and predictive risk factors (Table 4) were found, likely due to small numbers. ORs were unable to be reported for this outcome, similarly due to small numbers.

Any ongoing symptoms

Persistent symptoms of any type were reported by 66% of patients (39 patients). This included the three patients who met criteria for PMPS. Of

Table 3: Characteristics of patients who developed PMPS.

	PMPS 1	PMPS 2	PMPS 3
Age (years)	68	52	53
Anaesthesia	General anaesthesia	General anaesthesia	General anaesthesia
Tumour location	Upper outer	Upper outer	Upper outer
Tumour size	10mm	60mm	60mm
Axillary surgery	SLNB	SLNB	Axillary dissection
BMI (kg/m^2)	27.3	29.3	22
Ethnicity	Other European	Other European	Māori

Table 4: Risk factors associated with the presence of PMPS. Data presented as number of patients. European group including NZ European and other European. Non-European group including Māori, Pacific peoples and other.

Risk factors		Did not meet PMPS criteria	Met PMPS criteria	*P-value*
Age	<65y	27	2	
	65y+	29	1	*0.53*
Ethnicity	European	51	2	*N/S*
	Non-European	5	1	
BMI	<30	38	3	
	30+	18	0	*0.55*

Table 4 (continued): Risk factors associated with the presence of PMPS. Data presented as number of patients. European group including NZ European and other European. Non-European group including Māori, Pacific peoples and other.

Axillary surgery	No	40	2	
	Yes	16	1	*0.86*
Adjuvant radiation	No	50	2	
	Yes	6	1	*0.24*
Chemotherapy	No	41	1	
	Yes	15	2	*0.14*
Pre-existing pain or opioid use	No	47	2	
	Yes	8	1	*0.38*
Regional anaesthesia used with general anaesthesia	No	46	3	
	Yes	10	0	*0.42*
Strongest opioid required as inpatient	Nil	15	0	
	Weak	14	0	
	Strong	27	3	*0.22*
Requiring >40mg morphine equivalent	No	53	2	
	Yes	3	2	*0.193*

these, 59% (23 patients) reported a severity of 3 or greater out of 10, and 25% reported severity of 6 or greater out of 10. Thirty-nine percent reported daily symptoms. Seventy-two percent reported neuropathic features such as shooting pain, electric shocks, numbness, tingling or burning. The remainder of patients described their persistent symptoms as either sharp, dull, aching or cramping. Thirteen percent (five patients) reported these symptoms interfering with their daily life.

In patients with any ongoing symptoms, significant associations were seen in groups of younger age (OR for age >65 0.3, 95% CI 0.02–0.94, p=0.035), who underwent axillary surgery (OR 5.6, 95% CI 1.14–27.7, p=0.02), chemotherapy (OR 5.6, 95% CI 1.14–27.7, p=0.02) and adjuvant radiation therapy (OR not calculated, p=0.044) (Table 5). No significant association was observed either with pre-operative chronic pain or opioid use, or regional anaesthesia. Intraoperative local anaesthetic infiltration, and timing of this (pre- or post-incision) was inconsistently documented and not able to be included for analysis. Ethnicity data showed a trend towards an increased risk of ongoing symptoms in the non-European group compared to European as previously shown in the literature,[20] but this was not significant. When comparing Māori, NZ European and other groups, this remained non-significant. A non-statistically significant trend towards greater use of strong opioids in the groups with PMPS and persistent post-operative symptoms was observed.

Impact on daily life

Four patients continued to require analgesia for their symptoms. Paracetamol was the single analgesic used in most. One patient who fulfilled criteria for PMPS required multiple analgesic modalities, including paracetamol, non-steroidal anti-inflammatory, gabapentin, amitriptyline, acupuncture, deep tissue massage and review in a chronic pain management clinic.

Five patients stated that their persistent symptoms impacted their daily life, one of whom met the definition for PMPS. All five had spoken to a medical practitioner.

Table 5: Risk factors associated with the presence of any ongoing symptoms. Data presented as number of patients. Odds ratios presented with 95% confidence intervals. European group including NZ European and other European. Non-European group including Māori, Pacific peoples and other.

Risk factors		No ongoing symptoms	Ongoing symptoms	OR (95% CI)	*P-value*
Age	<65y	6	23		
	65y+	14	16	0.3 (0.09–0.94)	*0.035*
Ethnicity	European	19	34		
	Non-European	1	5	2.79 (0.30–25.7)	*0.65*
BMI	<30	12	29		
	30+	8	10	0.5 (0.16–1.63)	*0.26*
Axillary surgery	No	18	24		
	Yes	2	15	5.6 (1.1–27.7)	*0.02*
Adjuvant radiation	No	20	32		
	Yes	0	7	N/A	*0.04*
Chemotherapy	No	18	24		
	Yes	2	15	5.6 (1.1–27.7)	*0.02*
Pre-existing pain or opioid use	No	14	35		
	Yes	5	4	0.32 (0.08–1.37)	*0.11*
Regional anaesthesia used with general anaesthesia	No	17	32		
	Yes	3	7	1.24 (0.28–5.42)	*0.78*
Strongest opioid required during admission	Nil	6	9		
	Weak	6	8		
	Strong	8	22	N/A	*0.48*
Requiring >40mg morphine equivalent while inpatient	No	18	37		
	Yes	2	2	N/A	*0.598*

Table 6: Strongest post-operative inpatient analgesic requirement.

Type of analgesia required	Number of patients, (%)
Simple analgesia only (paracetamol/NSAIDs)	15 (25%)
Weak opioids (tramadol/codeine)	15 (25%)
Oral strong opioids (morphine/oxycodone)	25 (43%)
PCA opioids	4 (7%)

Table 7: Total amount of strong opioids required while inpatient, expressed as oral morphine equivalents.

Amount of opioid	Number of patients (% of total patient group)
<20mg	12 (20%)
20–40mg	13 (22%)
>40mg	4 (7%)

Analgesic requirement in the immediate post-operative period

Acute post-operative analgesic requirements were examined for all patients and included for analysis in the 59 study participants (Table 6). In 50% of patients only weak opioids or simple analgesia was required as an inpatient. Of those who did require strong opioids, total amounts used were generally modest (Table 7).

Discussion

This study is the first to describe the prevalence of persistent post-operative pain in mastectomy patients in Canterbury, New Zealand, and only the second to describe the same in a New Zealand population. It also describes the acute post-operative analgesic requirement of the same cohort and provides descriptive information to characterise risk factors for development of PMPS, assisting us to better inform our patients regarding their post-operative course.

The prevalence of PMPS in this study was only 5%. This is extraordinarily low compared to existing literature, including elsewhere in New Zealand, where it is estimated that 15–25% of patients experience moderate to severe persistent pain after breast cancer treatment.[20] There are several possible reasons for this. Our study was small and only detected three patients with PMPS, which decreases the precision of the calculated prevalence value. However, we believe the definition used for PMPS is robust, clinically significant and appropriate to use for comparison.[18] This indicates that despite some reports of very high rates of persistent post-mastectomy pain, the actual prevalence of pain meeting consensus criteria for PMPS might be much lower.

We found that persistent symptoms of lower severity are common (reported in 61%), but unlikely to limit patients' daily activities (14%). This emphasises the importance of counselling about the risk of post-operative pain, and continuing efforts to determine possible modifiable peri-operative factors.

Factors examined in this study associated with persistent pain symptoms include younger age (<65 years), axillary surgery, adjuvant radiation therapy and chemotherapy. These are consistent with existing literature, particularly younger age, which has frequently been identified as a risk factor.[4,7,9–11] Ethnicity data showed a non-significant trend towards increased risk of ongoing symptoms in non-Europeans, as previously shown,[20] but more descriptive hospital demographic ethnicity data would improve accuracy of ethnicity analysis in future studies to identify groups at highest risk. Local anaesthetic infiltration by the surgical team was inconsistently documented in this cohort but would be an important variable to capture reliably in a prospective study. A non-significant trend towards requiring strong opioids post-operatively was seen in those who developed persistent pain. Further larger studies may be useful to determine if this is a modifiable risk factor.

Strengths of our study include the use of acute pain data, which is not reliant on recall, but on documented inpatient analgesic requirements. While this is a surrogate measure of pain and may be influenced by patient comorbidities, analgesic preferences and nursing practices, it is a pragmatic marker of pain severity. The suggested trend towards higher inpatient analgesic requirement in those with persistent pain could at least allow early identification of these patients for provision of support or treatment and is also a potential modifiable risk factor. More research is required in this area to distinguish between association and causation.

Limitations of our study include its small numbers, retrospective observational nature and lack of a standardised definition for PMPS. Using the above criteria for PMPS, we only identified three positive cases, but a larger group of patients with less severe ongoing symptoms. This confirms the challenges in accurately defining this condition, which is not described well by general definitions of chronic pain. Our patient survey was designed to be descriptive and to identify cases of PMPS based on a specific definition.

Conclusion

Acute post-operative pain after mastectomy in Canterbury appears well controlled with routine peri-operative care, with modest analgesic requirements in the majority of patients. Sixty-six percent of patients had some form of ongoing pain symptoms at least 1 year after mastectomy with identifiable but not modifiable risk factors. Only 5% of patients met consensus criteria for the more severe PMPS. The authors recommend that future study in this area consistently distinguishes patients with persistent pain symptoms from PMPS. Both are clinically relevant but may have different antecedents and therapeutic options. This study provides local data to inform patients about their peri-operative journey and prompts clinicians to remain vigilant in identifying and managing pain symptoms long after surgical recovery.

COMPETING INTERESTS

Nil.

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REFERENCES

1. Ministry of Health – Manatū Hauora. Selected cancers 2015, 2016, 2017 [Internet]. Wellington (NZ): Ministry of Health – Manatū Hauora; 2019 [cited 2019 Jun 8]. Available from: https://www.health.govt.nz/publication/selected-cancers-2015- 2016-2017
2. Davey V, Harris G, Dijkstra B, et al. A review of the Christchurch Hospital Breast Cancer Service in 2012: meeting the new Tumour Standards. N Z Med J. 2014;127(1399):58-73.
3. Te Aho o Te Kahu Cancer Control Agency. He Pūrongo Mate Pukupuku o Aotearoa 2020, The State of Cancer in New Zealand 2020 [Internet]. Wellington (NZ): Te Aho o Te Kahu Cancer Control Agency; 2021 [cited 2023 Feb 4]. Available from: https://teaho.govt.nz/reports/cancer-state
4. Andersen KG, Kehlet H. Persistent pain after breast cancer treatment: a critical review of risk factors and strategies for prevention. J Pain. 2011;12(7):725-46. doi: 10.1016/j.jpain.2010.12.005.
5. Mejdahl MK, Andersen KG, Gärtner R, et al. Persistent pain and sensory disturbances after treatment for breast cancer: six year nationwide follow-up study. BMJ. 2013;346:1865. doi: 10.1136/bmj.f1865.
6. Beyaz SG, Ergönenç JŞ, Ergönenç T et al. Postmastectomy Pain: A Cross-sectional Study of Prevalence, Pain Characteristics, and Effects on Quality of Life. Chin Med J (Engl). 2016;129(1):66-71. doi: 10.4103/0366-6999.172589.
7. Hack TF, Cohen L, Katz J, et al. Physical and psychological morbidity after axillary lymph node dissection for breast cancer. J Clin Oncol. 1999;17(1):143-9. doi: 10.1200/JCO.1999.17.1.143.
8. Wallace MS, Wallace AM, Lee J, Dobke MK. Pain after breast surgery: a survey of 282 women. Pain. 1996;66(2-3):195-205. doi: 10.1016/0304-3959(96)03064-3.
9. Smith WC, Bourne D, Squair J, et al. A retrospective cohort study of post mastectomy pain syndrome. Pain. 1999;83(1):91-5. doi: 10.1016/s0304-3959(99)00076-7.
10. Vilholm OJ, Cold S, Rasmussen L, Sindrup SH. The postmastectomy pain syndrome: an epidemiological study on the prevalence of chronic pain after surgery for breast cancer. Br J Cancer. 2008;99(4):604-10. doi: 10.1038/sj.bjc.6604534.
11. Gärtner R, Jensen MB, Nielsen J, et al. Prevalence of and factors associated with persistent pain following breast cancer surgery. JAMA. 2009;302(18):1985-92. doi: 10.1001/jama.2009.1568.
12. Steyaert A, Forget P, Dubois V, et al. Does the perioperative analgesic/anesthetic regimen influence the prevalence of long-term chronic pain after mastectomy? J Clin Anesth. 2016;33:20-5. doi: 10.1016/j.jclinane.2015.07.010.
13. Li YY, Kong SK. Persistent pain after breast cancer surgery in a Chinese population. Clin J Pain. 2011;27(6):481-5. doi: 10.1097/AJP.0b013e31820e12b1.
14. Meijuan Y, Zhiyou P, Yuwen T, et al. A retrospective study of postmastectomy pain syndrome: incidence, characteristics, risk factors, and influence on quality of life. ScientificWorldJournal. 2013:159732. doi: 10.1155/2013/159732.
15. Alves Nogueira Fabro E, Bergmann A, do Amaral E Silva B, et al. Post-mastectomy pain syndrome: incidence and risks. Breast. 2012;21(3):321-5. doi: 10.1016/j.breast.2012.01.019.
16. Johannsen M, Christensen S, Zachariae R, Jensen AB. Socio-demographic, treatment-related, and health behavioral predictors of persistent pain 15 months and 7-9 years after surgery: a nationwide prospective study of women treated for primary breast cancer. Breast Cancer Res Treat. 2015;152(3):645-58. doi: 10.1007/s10549-015-3497-x.
17. Wang L, Guyatt GH, Kennedy SA, et al. Predictors of persistent pain after breast cancer surgery: a systematic review and meta-analysis of observational studies. CMAJ. 2016;188(14):E352-E361. doi: 10.1503/cmaj.151276.
18. Waltho D, Rockwell G. Post-breast surgery pain

syndrome: establishing a consensus for the definition of post-mastectomy pain syndrome to provide a standardized clinical and research approach - a review of the literature and discussion. Can J Surg. 2016;59(5):342-50. doi: 10.1503/cjs.000716.

19. Breast Cancer Foundation New Zealand. Mastectomy [Internet]. Auckland (NZ): Breast Cancer Foundation NZ; 2024 [cited 2023 Dec 11]. Available from: https://www.breastcancerfoundation.org.nz/breast-cancer/treatment-options/surgery/mastectomy
20. Chiang DLC, Rice DA, Helsby NA, et al. The Prevalence, Impact, and Risk Factors for Persistent Pain After Breast Cancer Surgery in a New Zealand Population. Pain Med. 2019;20(9):1803-1814. doi: 10.1093/pm/pnz049.

Appendices

Appendix 1: Questionnaire.

Please provide the following general information prior to beginning the questionnaire:

- Age:
- Gender: Female/male
- How long ago was your mastectomy?
- Have you had radiation therapy? Yes/No
- Have you had chemotherapy? Yes/No

1. Thank you for participating in the research study: “Prevalence of persistent post-surgical pain after mastectomy in Christchurch, New Zealand”. We are investigating pain after mastectomy surgery that may still be a problem many months after your operation. Most people will experience episodes of discomfort in an area of previous surgery, and this is usually something that settles with time. It has now been longer than 12 months since your operation, do you still experience pain related to the procedure?
   a. Yes—*go to question 3*
   b. No—*go to question 2*

2. If you do not experience pain any longer, how long did it take after your operation to settle?
   a. Days

   –How many (best estimate)?
   –*please go to end of questionnaire*

   b. Weeks

   –How many (best estimate)?
   –*please go to end of questionnaire*

   c. Months

   –How many (best estimate)?
   –*if less than 3 months, please go to end of questionnaire.*
   –*if longer than 3 months, please continue questionnaire to the best of your ability.*

3. How soon after your mastectomy did the pain begin?
   a. Days
   b. Weeks
   c. Months

4. How would you describe the pain? (All that apply)
   a. Sharp
   b. Dull
   c. Aching
   d. Pulling
   e. Numbness
   f. Pins and needles
   g. Burning
   h. Cold
   i. Pain is worsened by touching or brushing the area
   j. Other—specify

5. How often do you feel pain?
   a. Constant pain
   b. Every day
   c. More than half the days per week (i.e., 4 days per week or more)
   d. Weekly
   e. Less than weekly

6. How many hours per day is pain present?
   a. Constant
   b. More than 12 hours per day
   c. Less than 12 hours per day

7. Where do you feel the pain?
   a. Over chest wall on side of mastectomy
   b. Over arm on side of mastectomy
   c. Underarm area/axilla on side of mastectomy
   d. Over the scar
   e. Other—specify

8. Is the pain worse with movement of your arm on that side?
   a. Yes
   b. No

9. How severe is the pain? (0–10)

10. How often do you take pain relief medication for your pain?
    a. Never
    b. Daily
    c. Weekly
    d. Less than weekly

11. What type of pain relief medication do you take for your pain? (All that apply)
    a. Paracetamol
    b. NSAIDs (ibuprofen, diclofenac, naproxen, celecoxib, etc.)

  c. Codeine or tramadol
  d. Morphine or oxycodone
  e. Other

12. Have you seen your GP, oncologist or surgeon about the pain?
  a. Yes
  b. No

13. Did your pain change as a result of your radiation therapy?
  a. Not applicable—I have not had radiation therapy
  b. Yes—the pain started after radiation
  c. Yes—the pain changed after radiation: please describe in what way:
  d. Yes—the pain got worse after radiation
  e. No—the pain stayed the same

14. Did your pain change as a result of your chemotherapy?
  a. Not applicable—I have not had chemotherapy
  b. Yes—the pain started after chemotherapy
  c. Yes—the pain changed after chemotherapy: please describe in what way:
  d. Yes—the pain got worse after chemotherapy
  e. No—the pain stayed the same

15. Does your pain limit you or stop you from doing your usual activities?
  a. Yes—*go to question 15*
  b. No—*go to end of questionnaire*

16. In what way does it limit you?
  a. Please describe (for example: effects on work, sport, daily household activities, other):

Thank you for completing this questionnaire. The information you have provided is valuable for our research and we appreciate your participation. The results will be available at the conclusion of the study and can be posted or emailed to you at that time. If you wish to receive these results, please provide the best method and address of contact.

Email—email address:
Mail—postal address:

Safety and feasibility of same-day discharge for per-oral endoscopic myotomy

Jun Young Kim, Michael Chieng, Rees Cameron, Frank Weilert

ABSTRACT

AIMS: Per-oral endoscopic myotomy (POEM) is a recognised treatment for achalasia, with the accepted approach involving admission for imaging and dietary progression. However, recent publications suggest same-day discharge (SDD) may be possible, which could be time- and cost-saving. We sought to investigate the safety of SDD following POEM.

METHODS: Fifty consecutive POEMs at two referral centres in New Zealand were performed between 2020–2023. All patients were planned for early dietary introduction and were eligible for SDD if symptoms were managed. Analgesia was available in recovery and supplied at discharge. Imaging and endoscopy were performed only if there were clinical concerns. Rates of discharge clearance, discharge, complications and re-admission were analysed.

RESULTS: All 50 POEMs were technically successful. A total of 41/50 (82%) received clearance for SDD. Additionally, 35/50 (70%) achieved discharge and 6/50 (12%) were observed overnight for social reasons, including lack of transport to the referring domicile. Of the patients not cleared for SDD, 7/9 (78%) were discharged within 24 hours, and the others after 48 and 72 hours. Procedural complications were recorded in three patients (6%), with one requiring endoscopic assessment and clipping. There were two re-admissions (4%), both <24-hour hospital stays, and managed medically.

CONCLUSIONS: The majority of patients achieved SDD clearance (82%) and 96% required less than 24 hours hospital stay. Complication and re-admission rates were low overall. We have demonstrated that POEM can be an SDD procedure facilitated by early dietary introduction and liberal analgesia, without the need for routine imaging or endoscopy.

Per-oral endoscopic myotomy (POEM) was pioneered by Inoue et al.[1] in 2010 for the treatment of achalasia. Since its inception, it has rapidly progressed to become the standard of care and an effective, minimally invasive alternative to laparoscopic Heller myotomy (LHM).[2] The procedure involves the creation of an oesophageal submucosal tunnel followed by dissection of the circular muscle bundle extending past the gastro-oesophageal junction (GOJ). This releases the lower oesophageal sphincter, specifically addressing the underlying pathophysiology of failure to relax the GOJ in achalasia.[1,3]

Current literature shows high efficacy of POEM for achalasia, with a meta-analysis by Schlottmann et al.[4] showing improved dysphagia in 93.2% of patients compared to 87.7% following LHM. However, in this analysis, the average length of stay (LOS) was 1 day longer in the POEM group (4.26 vs 3.23 days). Ofosu et al.[5] studied pneumatic dilation (PD) and showed a clinical success rate of 76.9% at 12 months but a significantly shorter mean LOS of 1.9 days. Regardless of intervention, hospital LOS primarily relates to the management of pain and complications, establishment of oral intake and protocolised requirements for imaging. Inoue's original post-POEM protocol involved computed tomography (CT) on the day of the procedure, followed by barium oesophagram on day 1, before dietary initiation.[1] In many centres, protocolised imaging remains the incumbent approach, leading to delayed discharge and increased costs.[2]

In direct contrast, recent studies show that routine oesophagram and hospital admission may be unnecessary. Cloutier et al. demonstrated successful same-day discharge (SDD) in 79.1% of patients following POEM in Canada,[6] and 62.4% by Benias et al.[7] in the United States of America (USA). This has significant implications for overburdened healthcare systems, and yet SDD has not evolved into mainstream practice.[2,8,9] Currently, there are no Australasian data regarding the safety and feasibility of SDD for POEM. Accordingly, we evaluated this across two centres in New Zealand.

Aim

The primary outcome of interest was success rates of planned SDD after POEM.

Complications and re-admission rates were reviewed to determine safety.

Methods

Participants

Consecutive patients referred for POEMs were all prospectively planned for SDD with follow-up in the community. Data were retrospectively reviewed, collected and analysed.

To be included, patients had to have a confirmed diagnosis (time barium swallow or preferably oesophageal manometry) and be fit to receive a general anaesthetic (initially physician assessed with subsequent anaesthetic assessment) to proceed to POEM. Some patients elected to have endoscopic dilatations. Prior treatment was allowed.

Design

All procedures were performed at two tertiary referral centres in New Zealand between 2020 and 2023. Referrals were received from various districts within New Zealand. One interventional endoscopist at each unit performed all procedures. All cases were performed under general anaesthetic with administration of peri-procedural antibiotics.

No routine oesophagrams, imaging or endoscopy were performed without endoscopist-determined clinical indication. Regular analgesia, including opiates, was available in post-anaesthetic recovery.

Post-procedurally, oral intake was established at 1 hour starting with clear oral fluids. If tolerated, this was followed by free oral fluids including nutritional supplements for 5 days. Solid food was re-introduced at 5 days post-procedure as tolerated.

Discharge criteria were 1) no concerning procedural complications as determined by the endoscopist, 2) minimal or no pain with or without oral analgesics, and 3) establishment of oral liquid intake. A prescription for a short duration of oral liquid opiates was supplied on discharge as required.

Procedure

Patient data including age, gender, ethnicity, manometry findings and Eckardt score were collected on Microsoft Excel. The Eckardt score is an internationally validated symptom assessment score[10] and was collected to determine pre-procedure symptomatology. If information was missing, patients were individually contacted to calculate the Eckardt score.

Procedural findings of the length of myotomy, duration of procedure and use of antibiotics were reviewed. Quantitative statistical analysis was performed using Microsoft Excel.

Ethics

A retrospective analysis of the procedures was performed. Institutional ethics waiver was obtained and out of scope review obtained by

Table 1: Patient characteristics.

Number of patients (n)	**50**
Age (years), mean ± SD	50.7±17.5
Gender	
Male (n)	26
Female (n)	24
Ethnicity	
NZ European (n)	39
Māori (n)	6
Pacific peoples (n)	2
Asian (n)	1
Latin American (n)	1
Indian (n)	1

Table 1 (continued): Patient characteristics.

Achalasia subtype (n)	
Type 1	1
Type 2	33
Type 3	2
Achalasia NOS*	9
Pre-POEM Eckardt score, mean ± SD	6.86±2.75
Duration of symptoms	
<1 year (n)	3
1–3 years (n)	16
3–5 years (n)	5
5–10 years (n)	10
>10 years (n)	13
Unknown duration (n)	3
Previous treatments	
Pneumatic dilatation (n)	8
Botox (n)	4
LHM	11
POEM	1

Summary table of patient and disease profile.
Number = N; standard deviation = SD; not otherwise specified = NOS; botulinum toxin injection = botox; laparoscopic Heller's myotomy = LHM.

Table 2: Procedural and peri-procedural factors.

Procedure duration (minutes), mean ± SD	**36.7±15.3**
Myotomy length (cm), mean ± SD	9.08±2.88
Opiate requirement post-procedure in department (n)	16
Script for opiates required on discharge (n)	10
Procedural complications	
Mucosal tear (n)	2
Collection (n)	1

Summary table of procedural characteristics.
Number = N; standard deviation = SD.

Health and Disability Ethics Committees (review reference 2023 OOS 17904).

Results

Patient characteristics

Fifty consecutive POEM procedures were successfully completed in our study. All were performed for achalasia. Patients were referred from diverse regions, across the North and South Islands of New Zealand.

Patient characteristics are documented in Table 1. The mean age was 50.7 years, with 52% males. NZ European and Māori were the most common ethnicities. Type 2 achalasia was the most frequent manometric subtype, accounting for 66% of POEM indications. The mean Eckardt score prior to POEM was 6.86 (SD 2.75). Duration of symptoms varied from less than 1 year to greater than 10 years. Almost half (48%) of the cohort had previous interventions, with the majority being LHM (22%), followed by PD (16%), botulinum toxin (BT) injection (8%) and prior POEM (2%).

The median duration of follow-up was 19 months (interquartile range 9–29.75 months).

Procedural details and adverse events

Procedural details are listed in Table 2. The mean procedure duration was 36.7 minutes (SD 15.3) and the average myotomy length was 9.08cm (SD 2.88). Opiates were required in 16 (32%) patients in the post-procedural phase, and 10 (20%) patients received scripts on discharge.

Adverse events were seen in a total of three patients, with two mucosal tears and one contained collection. Of the patients with mucosal tears, one was identified intra-procedurally and clipped without complications and discharged the same day. The other had pain post-procedurally with evidence of subcutaneous emphysema and therefore had a re-look gastroscopy with endoscopic clipping. There were no further complications from the tear. There were no deaths.

Outcomes

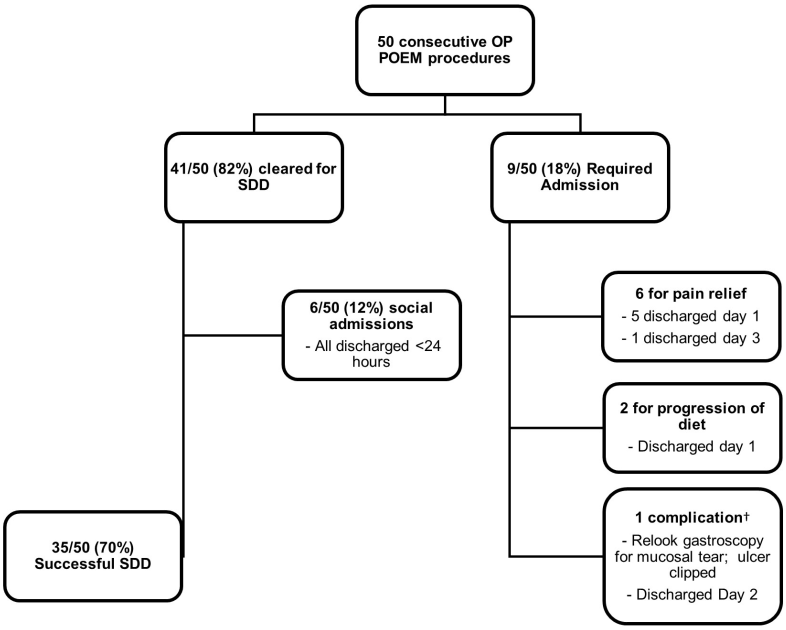
Discharge

A total of 41/50 (82%) patients were cleared for SDD (Figure 1). Of those, SDD was successfully achieved in 35 (70%) patients. Six patients (12%) were admitted due to social reasons alone (one due to lack of transport home, one due to breast-feeding issues and four due to miscommunication with the wards).

Admissions

Nine patients (18%) required hospital admission. The mean LOS for the whole population group, including those discharged the same day, was 0.36 (SD 0.63), or 1.2 days (SD 0.56) for those requiring admission.

Figure 1: Summary of outcomes.



†Two other patients with complications were safely discharged on the same day and did not require admission.

Pain

Six (12%) were admitted for pain management; five of these were discharged within 24 hours. One patient in this group was discharged on day 3. This patient had a repeat gastroscopy to investigate the pain, which was unremarkable. All six patients admitted with pain were female and three were managed with titration of oral analgesia.

Dietary progression

Two patients (4%) were admitted due to failure of dietary progression and were both discharged the next day.

Re-look gastroscopy

One (2%) patient was admitted for a re-look gastroscopy due to a mucosal injury identified during the index procedure. This patient had an oesophageal ulcer that was clipped and was able to be discharged on day 3.

Re-admissions

There were two re-admissions, yielding a re-admission rate of 4%. One of these patients (presented 7 days post-procedure) required CT imaging due to pain, fevers and raised inflammatory markers. This showed a closed collection. This patient was discharged with oral antibiotics after 24 hours of observation. The other presented to the emergency department also 7 days post-procedure with chest pain. This patient had normal laboratory investigations and chest radiograph and discharged the same day without need for CT imaging or endoscopy.

No patients clinically required imaging or oesophagram in the immediate post-procedural phase, and two patients, as mentioned above, required gastroscopy.

Discussion

We have demonstrated that the majority of patients planned for SDD after POEM were able to successfully achieve this with our modified protocol of early feeding and regular, proactive analgesia. This was safe despite the lack of post-procedural imaging, with a low documented rate of immediate complications. The re-admission rate was also low, indicating that delayed complications were uncommon and therapeutic benefits were durable.

Our findings align with international data, albeit with greater SDD success in our cohort, possibly related to practice improvements over time.[6–8] Overall, this adds to accumulating evidence that SDD after POEM is possible and likely to become more commonplace with time.

This is relevant as it is still common practice to routinely admit patients post-POEM. For example, in 2021 Gupta and Sidhu et al.[9] described three tertiary referral centres in Australia wherein all patients were admitted overnight and only discharged once pain-free. The mean admission length was 2.6 days without adverse events and 9.8 days with adverse events. Furthermore, a Canadian study describes routine endoscopy and oesophagram in all patients and a median stay of 1-day post-procedure.[11] Indeed, a meta-analysis of 2,276 patients in 2019 by Tan et al. showed a length of stay between 1 to 6.2 days,[12] and another meta-analysis conducted by Schlottman et al.[4] in 2018 showed a mean stay of 4.26 days in 1,958 patients.

Notably, in 2021 Fujiyoshi et al.[13] published a retrospective analysis of 497 patients who received routine second-look endoscopy 1 day following index procedure. They reported 12 (2.4%) patients in which the second-look endoscopy changed practice, either by intervention during endoscopy or more prolonged fasting and advocated for admission with second-look endoscopy. However, whether this impacted long-term outcome is not reported and is unclear. During our median follow-up of 19 months in our study, only one patient presented with a closed collection, and this was safely managed conservatively. International studies reflect similarly reassuring results. Cloutier et al. reported on 90-day follow-up outcomes with 10 (11% of patients) re-presentations to hospital. None, however, had complications in relation to collections or mediastinitis. Three did have upper gastrointestinal bleeding; however, only one had endoscopic findings of an ulcer, and the others did not have endoscopically relevant complications.[6] Zhang and her colleagues furthermore reported no presentations to hospital during a 21-day median follow-up period on 17 patients total.[8] Indeed, in the initial paper presented by Benias et al.[7] in 2019, no patients who underwent SDD had serious adverse events during an average follow-up period of 10.1 months. Two patients were thought to have collections, although investigations revealed that only one truly did. Nonetheless, these patients were part of the group that did not achieve SDD criteria, and importantly the complications did not affect long-term outcomes. This suggests that re-look endoscopy need not be mandated following per-oral endoscopic myotomy.

Our data challenge the need for such long admissions and support both the safety and feasibility of SDD. None of the 41 patients cleared for SDD underwent routine endoscopy or imaging and only one required re-admission due to a closed collection. This patient was able to be managed conservatively with outpatient antibiotics.

Furthermore, prior studies investigating SDD necessitated the absence of an opiate requirement for SDD, only allowing paracetamol,[6,7] or paracetamol and tramadol.[8] In contrast, we allowed patients to have oral opiates peri-procedurally, and so long as pain was adequately controlled with oral medications, patients were cleared for discharge. Importantly, this did not result in any significant increase in adverse events or re-admissions, and we believe this allowed for increased rates of SDD.

Potential improvements could be made to encourage SDD within our own cohort. Firstly, four patients were admitted because of miscommunication regarding discharge with the wards, an issue that can be readily rectified. Additionally, three of the six patients admitted for pain only required oral analgesics. These patients were discharged within 24 hours of the procedure, suggesting that with more robust reviewing and discharge planning, SDD could have been facilitated.

Protocols necessitating admission, endoscopy and imaging lack strong evidence, and SDD is increasingly recognised. Our data represent 50 consecutive POEM procedures with a high rate of safe SDD, and although it is limited to only two centres in New Zealand, it provides a good sample size of demonstrated effectiveness.

Conclusion

POEM is an effective and safe procedure for achalasia, but protocols have required admission and routine imaging. This is the first study across Australasia reporting high success rates of planned SDD following POEM without routine post-procedural imaging. Adding to international literature around SDD, our data furthermore suggest that oral opiate requirements need not be criteria for admission.

Re-admission rate was low and adverse outcomes were considered mild and managed conservatively. Further data from other institutions will cement this practice change, resulting in cost-saving health systems without sacrificing safety.

COMPETING INTERESTS

The authors have no conflict of interest.

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REFERENCES

1. Inoue H, Minami H, Kobayashi Y, et al. Peroral endoscopic myotomy (POEM) for esophageal achalasia. Endoscopy. 2010;42(4):265-71. doi: 10.1055/s-0029-1244080.
2. Jawaid S, Draganov PV, Yang D. Esophageal POEM: the new standard of care. Transl Gastroenterol Hepatol. 2020;5:47. doi: 10.21037/tgh.2019.12.17.
3. Furuzawa-Carballeda J, Torres-Landa S, Valdovinos MÁ, et al. New insights into the pathophysiology of achalasia and implications for future treatment. World J Gastroenterol. 2016;22(35):7892-907. doi: 10.3748/wjg.v22.i35.7892.
4. Schlottmann F, Luckett DJ, Fine J, et al. Laparoscopic Heller Myotomy Versus Peroral Endoscopic Myotomy (POEM) for Achalasia: A Systematic Review and Meta-analysis. Ann Surg. 2018;267(3):451-60. doi: 10.1097/SLA.0000000000002311.
5. Ofosu A, Mohan BP, Ichkhanian Y, et al. Peroral endoscopic myotomy (POEM) vs pneumatic dilation (PD) in treatment of achalasia: A meta-analysis of studies with ≥ 12-month follow-up. Endosc Int Open. 2021;9(7):E1097. doi: 10.1055/a-1483-9406.
6. Cloutier Z, Mann A, Doumouras AG, Hong D. Same-day discharge is safe and feasible following POEM surgery for esophageal motility disorders. Surg Endosc. 2021;35(7):3398-404. doi: 10.1007/s00464-020-07781-4.
7. Benias PC, Korrapati P, Raphael KL, et al. Safety and feasibility of performing peroral endoscopic myotomy as an outpatient procedure with same-day discharge. Gastrointest Endosc. 2019;90(4):570-8. doi: 10.1016/j.gie.2019.04.247.
8. Zhang LY, Bejjani M, Ghandour B, Khashab MA. Rethinking the need for overnight admission after peroral endoscopic myotomy (POEM): a pandemic-driven approach to the future. Endosc Int Open. 2021;9(9):E1381-5. doi: 10.1055/a-1490-9385.
9. Gupta S, Sidhu M, Banh X, et al. A prospective multicentre study of per-oral endoscopic myotomy (POEM) for achalasia in Australia. Med J Aust. 2021;214(4):173-8. doi: 10.5694/mja2.50941.
10. Taft TH, Carlson DA, Triggs J, et al. Evaluating the Reliability and Construct Validity of the Eckardt Symptom Score as a Measure of Achalasia Severity. Neurogastroenterol Motil. 2018;30(6):e13287. doi: 10.1111/nmo.13287.
11. Rai M, Woo M, Bechara R. The Canadian POEM Experience: The First 50 Patients. J Can Assoc Gastroenterol. 2020;4(3):110-4. doi: 10.1093/jcag/gwaa018.
12. Tan S, Zhong C, Ren Y, et al. Efficacy and Safety of Peroral Endoscopic Myotomy in Achalasia Patients with Failed Previous Intervention: A Systematic Review and Meta-Analysis. Gut Liver. 2021;15(2):153-67. doi: 10.5009/gnl19234.
13. Fujiyoshi Y, Inoue H, Abad MRA, et al. Importance of second-look endoscopy after per-oral endoscopic myotomy for safe postoperative management. Dig Endosc. 2021;33(3):364-72. doi: 10.1111/den.13770.

Attempt to engage, yet failure to obtain successful bowel cancer screening: more likely in Māori, Pacific peoples, Asians, men and high-deprivation areas

Chey G Dearing, Louise O'Connor, Georgia C Dearing, Bernard McEntee

ABSTRACT

AIM: In New Zealand, colorectal cancer (CRC) is the second highest cause of cancer death. We sought to characterise a unique population, the individuals who attempt to engage one or multiple times with screening yet fail to ever obtain successful screening.

METHODS: This is a cross-sectional descriptive analysis on data from the New Zealand National Bowel Screening Programme 2012 to 2022.

RESULTS: Over 7,000 individuals (1.26% of all participants) have attempted but failed to be successfully screened in the national bowel screening programme. Males compared with females (OR 1.11, 95% CI 1.06–1.17), Asian (OR 1.65, 95% CI 1.55–1.77), Māori (OR 2.07, 95% CI 1.92–2.24) or Pacific peoples (OR 2.30, 95% CI 2.09–2.52) compared with Europeans had greater odds to attempt but fail to be screened. Māori New Zealand Index of Deprivation (NZDep) quintile five participants (most deprived) had 4.12 (95% CI 3.64–4.67, $p<0.0001$) the odds to attempt but fail to be screened compared with European deprivation quintile one participants (least deprived).

CONCLUSIONS: There are important variations in the failure to successfully receive CRC screening by gender, age, ethnicity, deprivation level and screening year. We suggest drop-off location checking services for all participants are required.

Colorectal cancer (CRC) is the third most commonly diagnosed cancer globally and is ranked as the world's second leading cause of cancer death.[1] A global 80% increase in new CRC cases is expected over the next two decades.[2,3] In New Zealand, CRC is consistently the second highest cause of cancer death for both genders.[4] New Zealand survival outcomes are poor when compared to other nations.[1,5] One reason for New Zealand's high mortality rate is delayed diagnosis, with 24% of all new CRC cases being metastatic compared with 19% in Australia and 17% in the United Kingdom (UK).[6]

The New Zealand national Census in 2018 recorded that 70.2% identify as European, followed by Māori (16.5%), Asian (15.1%), Pacific peoples (8.1%) and other ethnicities (2.7%). Māori are the Indigenous people of New Zealand, while Pacific peoples refers to the people of 40 different Pacific ethnic groups living in New Zealand. Māori and Pacific peoples encounter many barriers to healthcare in New Zealand.[7,8] The Asian ethnic group is often excluded from inequality discussion and is perceived to outperform or be similar to Europeans.[9] Specific Māori health equity and diversity initiatives have been implemented to address health inequality, though with questionable effectiveness.[10] Compared with Europeans, Māori and Pacific peoples are diagnosed with CRC at a younger age, at a more advanced stage and experience poorer health outcomes.[5,10]

In 2017, New Zealand's National Bowel Screening Programme (NBSP) began rolling out a staged faecal immunochemical test (FIT) kit CRC screening programme. Eligible residents (aged 60 to 74) are sent a test kit, instructions on how to use it in 11 languages, a consent form and a ReplyPaid envelope for the return of the completed kit. The programme was designed on evidence from a pilot scheme that began in 2012 and subsequent modelling studies.[11] Globally, FIT kits increase screening participation, which leads to improved health outcomes with CRC.[12] However, many factors including ethnicity, gender, language barriers and socio-economic status reduce participation in such screening.[13] In New Zealand, the proportions of Māori and Pacific peoples participating in CRC screening are lower than expected.[14,15]

Targeted interventions to improve Māori and Pacific peoples participation show modest 2–5% increases[16] or even reduced participation.[17] A lack of research examining the pre-diagnostic period for CRC patients in New Zealand[5] highlights a need for greater understanding around screening participation.

One factor that is seldom a focus of research is FIT kits that have been returned but are unable to be processed, which are known as "spoilt kits". Spoilt kits are technical errors, including reasons such as consent forms not being signed or dated, barcodes not being attached to the sample, insufficient sample collected, kits being outside expiry dates and other similar errors. Individuals who return such kits are termed "participants" in NBSP, but because their sample is not processed, they remain unscreened for CRC. NBSP follow up all spoilt kits and send replacement kits. Māori and Pacific participants are contacted by phone by the National Coordination Centre. Thus, participants who initially return a spoilt kit subsequently return a kit that can be processed and are screened for CRC. However, some participants who return a spoilt kit never go on to receive successful screening. These participants, despite being sent one or more replacement kits, do not re-attempt the screening or they send multiple kits that are spoilt. These participants are a unique population in that they have initially engaged with screening and have thus attempted but failed to be screened (ABF). As there is a general lack of research on this unique population, the aim of this current study was to examine the ABF proportions compared to total participation in New Zealand. Additionally, we aimed to examine if gender, age, ethnicity or deprivation were associated factors for ABF. This may allow targeted interventions for those individuals most at risk of ABF and improve the NBSP.

Methods

Our study is a cross-sectional analysis of data held by NBSP. At retrieval, the dataset was identified by NBSP as "Definitive spoilt kit rate all". NBSP describe the data as counting people, not FIT kits. The dataset consisted of data on all adults who were eligible (aged between 60 and 74 years) that were invited and attempted to participate by returning a FIT kit in the NBSP between January 2012 and May 2022.

After examining the data, we defined participants and ABF in NBSP for this study as follows. Participants were individuals who returned a FIT kit for screening, including kits that could be screened and those which were spoilt. ABF were participants who remained unscreened despite having returned a kit. For example, an individual who initially returned a spoilt kit and then subsequently returned a kit that allowed that individual to be successfully screened was not ABF. However, an individual who had returned two spoilt kits and at the time of data retrieval had not returned a third kit would be classified ABF.

Data retrieved were year and month, ethnicity, sex, age group, deprivation level, number of people who were recorded ABF and number of total participants. NBSP information on residents was obtained from the New Zealand National Health Index (NHI) and the National Enrolment Service (NES). Age groups were recorded by NBSP into three categories: 60 to 64, 65 to 69 and 70 to 74 years of age. For deprivation, NBSP records Otago University's New Zealand Index of Deprivation (NZDep)[18] as an indicator of socio-economic deprivation. The NZDep estimates the relative deprivation of an area using census data relating to income, home ownership, employment, qualifications, family structure, housing, access to transport and communications. Quintile one is the least deprived and quintile five is the most deprived.

As the NBSP dataset is only available as frequency tables, this prevented the use of logistic regression. Numbers of participants and ABF were collated in contingency tables for the following categories: gender, NBSP age category, ethnicity, deprivation. The total number of participants and the proportion ABF were compared by year graphically. Identified trends were then examined using Pearson correlation coefficient and linear regression. Pearson correlation coefficient was chosen after the Kolmogorov–Smirnov test confirmed data was a Normal distribution. ABF was compared by gender using Fisher's exact test. Differences between ethnic groups, ages and between deprivation levels were compared using Chi-squared test of independence. Each ethnicity was compared with other ethnicities using Fisher's exact test. This was also repeated for deprivation levels by ethnicity. Odds ratios were generated with Fisher's exact test or Chi-squared test for each contingency table examined. All data were analysed using Prism version 4.0 (GraphPad Version 4.01, San Diego, CA, USA, www.graphpad.com).

Ethical approval was obtained from the Eastern Institute of Technology (EIT) Research Ethics and Approvals Committee (ref EA03110322), Hawke's

Bay. Locality approval was obtained from the Hawke's Bay District Health Board Research Committee (ref 22/04/354). Comment from Health New Zealand – Te Whatu Ora, National Screening Unit for publication was obtained on 17 July 2023.

Results

Between January 2012 and May 2022, NBSP recorded a total of 569,665 participants. Of these, 7,176 (1.26%) were recorded as ABF. The ABF proportions decreased by year (r=-0.98, p=0.0178) from 2012 to 2016. However, ABF proportions increased by year (r=0.90, p=0.0148) from 2016 to 2021 (Figure 1).

Males were more likely (p<0.0001) to ABF compared with females (odds ratio 1.11, 95% CI 1.06 to 1.17) (Table 1).

ABF proportions differed by ethnicity (χ2=715.7, p<0.0001). Asian, Māori and Pacific ethnicities were all more likely to be ABF compared with Europeans (Table 2). Māori (χ2=21.66, p<0.0001)

Figure 1: All participants and ABF by year.

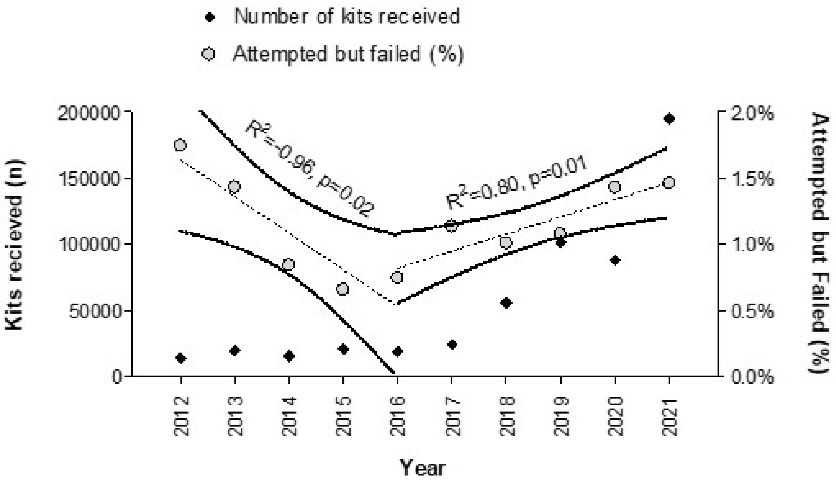


Table 1: Participation and ABF by gender.

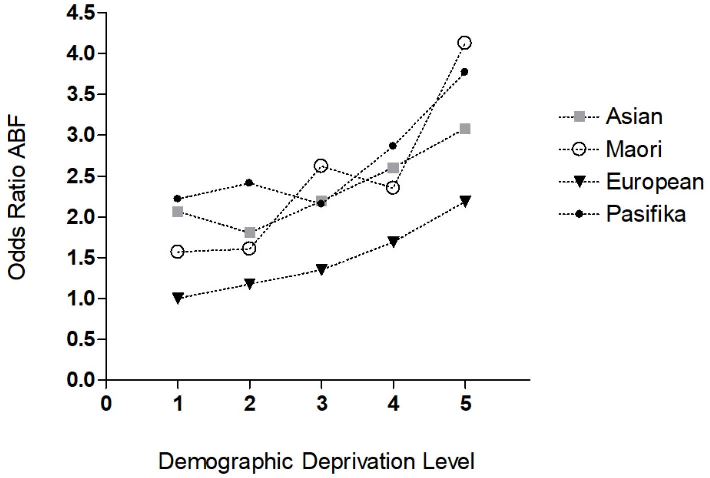
	Female	Male	Other	Total
Participants	298,334	271,314	17	569,665
ABF (n)	3,567	3,608	1	7,176
ABF (%)	1.20	1.33	-	1.26

Table 2: Participation and ABF by ethnicity.

	Asian	Māori	European	Pacific peoples
Participants	60,367	33,199	455,313	20,786
ABF (n)	1,066	735	4,865	510
ABF (%)	1.77	2.21	1.07	2.45
Odds ratio*	1.65	2.07	-	2.30
95% CI	1.55–1.77	1.92–2.24	-	2.09–2.52
P-value	P<0.0001	P<0.0001	-	P<0.0001

*Odds are calculated for each ethnicity compared with European.

Figure 2: ABF by deprivation level and ethnicity.



and Pacific peoples (χ2=36.46, p<0.0001) were more likely to be ABF compared with Asian ethnicities. Pacific peoples were not (χ2=3.01, p=0.0829) more likely to be ABF when compared with Māori.

Deprivation level had the most significant associations with odds to be classified ABF (Figure 2). Māori deprivation level five (most deprived) had 4.12 (95% CI 3.64 to 4.67, p<0.0001) the odds for being recorded as ABF compared with European deprivation level one (least deprived). At every level of deprivation, European ethnicity had lower ABF proportions compared with Asian, Māori and Pacific ethnicities. For Europeans, a change from deprivation level one to level two was significant (odds ratio 1.176, 95% CI 1.08 to 1.28, p=0.0002).

Younger (ages 60 to 64) compared with older (ages 65 to 69) and oldest (ages 70 to 74) had higher ABF proportions (χ2=151.2, p<0.0001). This same trend was statistically significant for European ethnicity (χ2=107.7, p<0.0001), but did not reach significance for Asian (χ2=5.393, p=0.0674), Māori (χ2=5.850, p=0.0537) or Pacific peoples (χ2=0.08104, p=0.9603).

Discussion

The aim of this study was to examine ABF proportions compared to total participation in New Zealand CRC screening. Additionally, we aimed to examine if gender, age, ethnicity and deprivation were associated with ABF. We suggest that as CRC screening is being rolled out across New Zealand ABF proportions are increasing, which is a concerning trend. Māori and Pacific peoples have greater odds to be classified ABF, and to a lesser extent Asian ethnicities, when compared with Europeans. Even accounting for deprivation, which generated the largest significant differences in the odds to ABF, Māori, Pacific peoples and Asian ethnicities have greater odds to ABF compared with Europeans. Men and younger individuals are disproportionally ABF when compared with female and older individuals. Targeted interventions for participants most at risk of ABF in the NBSP are required in New Zealand to achieve health equity.

We identified that the proportion of participants classified as ABF initially decreased (p=0.0178) per year from 2012 to 2016. As NBSP only began rolling out a staged FIT kit screening scheme in 2017, this initial trend was on data from the pilot scheme that began in one New Zealand location only. We speculate that the pilot scheme was successful at identifying and correcting the ABF problem. However, we have identified a concerning new trend. While the NBSP scheme has steeply increased the number of total participants (a four-fold increase in participants between 2017 and 2021), the proportion of these participants who are classified ABF is also increasing by year (r=0.90, p=0.0148). We suggest that greater efforts in reducing ABF proportions are required in New Zealand.

Asian, Māori and Pacific ethnicity participants all (p<0.0001) had greater odds to ABF compared with Europeans, demonstrating a health inequity. When controlling for deprivation, Europeans experienced lower odds for ABF compared with Asian, Māori and Pacific ethnicities. Recently, deprivation was also noted as a large factor in spoilt kits in a UK location.[19] Ethnicity patterns of deprivation have remained virtually unchanged for 30 years in New Zealand and are a key determinant of health inequity.[20] That ethnicity and deprivation have strong associations with ABF proportions in CRC screening is concerning. Māori and Pacific peoples are diagnosed with CRC at a younger age, at a more advanced stage and experience poorer CRC health outcomes.[5,10] There is a clear need to make NBSP screening work for Māori and Pacific peoples, yet the evidence here suggests it has clearly been suboptimal to date.

Younger (ages 60 to 64) compared with older (ages 65 to 69) and oldest (ages 70 to 74) ages had higher ABF proportions. Although the age inequity was not significant for Māori and Pacific peoples, the lower relative numbers of ABF may have limited this analysis. A recent meta-analysis[21] of 69 studies on FIT kit participation rates reported younger participants were less likely to participate in CRC screening. We suggest younger participants are also more likely to ABF. Males are more likely ($p<0.001$) to ABF compared with females. Men have been found to be at higher risk of returning spoilt kits, generally, in the Hawke's Bay Region of New Zealand.[15] A recent meta-analysis[12] on the efficacy of mailed FIT kits highlighted the low uptake in rural men. Men exhibit a general reluctance to engage in health promotion activities such as screening.[22] A New Zealand study aiming to identify knowledge and attitudes to CRC screening[23] highlighted several New Zealand male perceptions that are likely to influence screening. These include a perceived marginalisation of men's health, health perceived as a feminine matter and a stereotypical male "macho image". The same factors may explain the gender bias in ABF. Not only are men less likely to take part in CRC screening generally, our findings suggest men are also less likely to be successful if they attempt to participate.

We provided the results of this study to the NBSP for comment. NBSP made clear they regarded the ABF population as a failure of the NBSP and not of the individuals who are classified ABF. As of 2023, the NBSP state they have introduced new initiatives designed to make completing the test clearer to reduce spoilt kit rates. These include a new design rolled out for the test kit, national media and primary campaigns and offering the test instructions in different languages on the NBSP website. While these are encouraging new initiatives, we note that previously it was found that Māori, Pacific peoples and males were more likely to complete the FIT kit if they had a drop-off checking location such as community pharmacies, community laboratories or primary healthcare providers.[24] Considering Māori, Pacific peoples, Asian ethnicities, Europeans experiencing high deprivation, men and younger age groups all experience higher odds to ABF, we suggest drop-off checking locations for all participants should be considered by NBSP. A drop-off checking service may reduce spoilt kit rates because of consent forms not being signed or dated, or barcodes not being attached to the sample, which could be immediately corrected by the participant under guidance. Additionally, the opportunity to explain in person from a local provider why the kit is spoilt may facilitate future bowel cancer screening participation. It may be possible to introduce culturally appropriate checking services even in rural settings, for example a Māori-run checking service at a local community centre.

There are several limitations from our findings. Firstly, our findings are based on secondary data collected by NBSP, meaning we cannot control its quality nor the potential for bias. Also, NBSP themselves use NHI and NES data, which has its own limitations.[25,26] We are unable to control for the effect of COVID-19 on New Zealand bowel cancer screening and spoilt kits.[27] NBSP was electively suspended for 3 months because the COVID-19 pandemic hit postal services, and transit delay caused the rate of spoiled kits to exceed 10%. The database examined does not allow a detailed analysis of the factors associated with a kit return and thus does not allow more specific corrective measures to be proposed. For example, establishing how a rural location influences ABF was not possible. While we have been able to identify who is at risk of ABF, we do not know why. We sought to compare these results to those found in other countries engaging in similar programmes. However, while general spoilt kit rates are commonly reported, the ABF population has not been a focus of any previous research to our knowledge. Also, the definition of spoilt kits is not interchangeable. In the UK for example, technical failures are considered separately from spoilt kits.[28] Further research is required in New Zealand and globally in this area.

In conclusion, we have described a unique population that have attempted but failed to be screened in a national bowel cancer screening programme. As CRC screening is being rolled out across New Zealand the proportions of ABF are increasing, a concerning trend that needs addressing. Māori, Pacific peoples and Asian ethnicities, men and younger individuals are disproportionally experiencing ABF in New Zealand. We suggest drop-off location checking services for all participants are required across New Zealand.

COMPETING INTERESTS

CD: received no payments but research is part of contract in employment by Eastern Institute of Technolog. EIT also provided ethical approval.
BM: received locality approval from Te Whatu Ora Te Matau a Māui, Hawke's Bay and has a service contract with the National Bowel Screening Programme.

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REFERENCES

1. Sung H, Ferlay J, Siegel RL, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2021;71(3):209-49. doi: 10.3322/caac.21660.
2. Ferlay J, Soerjomataram I, Dikshit R, et al. Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. Int J Cancer. 2015;136(5):E359-E86. doi: 10.1002/ijc.29210.
3. Xi Y, Xu P. Global colorectal cancer burden in 2020 and projections to 2040. Transl Oncol. 2021;14(10):101174. doi: 10.1016/j.tranon.2021.101174.
4. Health New Zealand – Te Whatu Ora. Historical cancer data [Internet]. Wellington (NZ): Health New Zealand – Te Whatu Ora; 2022 [cited 2023 Feb 10]. Available from: https://www.tewhatuora.govt.nz/our-health-system/data-and-statistics/historical-cancer/
5. Firth M, Blackmore T, Chepulis L, et al. Why does New Zealand have such poor outcomes from colorectal cancer?: the importance of the pre-diagnostic period. J Prim Health Care. 2021;13(1):15-26. doi: 10.1071/HC20049.
6. Windner Z, Crengle S, de Graaf B, et al. New Zealanders' experiences and pathways to a diagnosis of bowel cancer: a cross-sectional descriptive study of a younger cohort. N Z Med J. 2018;131(1483):30-9.
7. Chin MH, King PT, Jones RG, et al. Lessons for achieving health equity comparing Aotearoa/New Zealand and the United States. Health Policy. 2018;122(8):837-53. doi: 10.1016/j.healthpol.2018.05.001.
8. Marriott L, Sim D. Indicators of inequality for Māori and Pacific people. J N Z Stud. 2015;20:24-50.
9. Marriott L, Alinaghi N. Closing the gaps: an update on indicators of inequality for Māori and Pacific people. J N Z Stud. 2021;32:2-39. doi: 10.26686/jnzs.iNS32.6863.
10. Came H, O'Sullivan D, McCreanor T. Introducing critical Tiriti policy analysis through a retrospective review of the New Zealand Primary Health Care Strategy. Ethnicities. 2020;20(3):434-56. doi: 10.1177/1468796819896466.
11. McLeod M, Harris R, Paine SJ, et al. Bowel cancer screening age range for Māori: what is all the fuss about? N Z Med J. 2021;134(1535):71-7.
12. Issaka RB, Avila P, Whitaker E, et al. Population health interventions to improve colorectal cancer screening by fecal immunochemical tests: a systematic review. Prev Med. 2019;118:113-21. doi: 10.1016/j.ypmed.2018.10.021.
13. Wools A, Dapper EA, de Leeuw JR. Colorectal cancer screening participation: a systematic review. Eur J Public Health. 2016;26(1):158-68. doi: 10.1093/eurpub/ckv148.
14. Parry S. Guidance for best practice management in the National Bowel Screening Programme. Wellington (NZ): Ministry of Health; 2018 [cited 2023 Feb 18]. Available from: https://www.health.govt.nz/system/files/documents/publications/guidance-bast-practice-management-nbsp-nov18.pdf
15. O'Connor L, Braithwaite-Flores A, Jagroop-Dearing A, Dearing CG. Bowel screening in New Zealand: are men and Pacific peoples being left behind? Kōtuitui. 2022;17(3):422-7. doi: 10.1080/1177083X.2021.2007960.
16. Sandiford P, Buckley A, Holdsworth D, et al. Reducing ethnic inequalities in bowel screening participation in New Zealand: A randomised controlled trial of telephone follow-up for non-

respondents. J Med Screen. 2019;26(3):139-46. doi: 10.1177/0969141318815719.

17. Bartholomew K, Zhou L, Crengle S, et al. A targeted promotional DVD fails to improve Māori and Pacific participation rates in the New Zealand bowel screening pilot: results from a pseudo-randomised controlled trial. BMC Public Health. 2019;19(1):1-9. doi: 10.1186/s12889-019-7582-7.
18. Salmond CE, Crampton P. Development of New Zealand's deprivation index (NZDep) and its uptake as a national policy tool. Can J Public Health. 2012;103(8 Suppl 2):S7-S11.
19. Cripps P, Scott K, Sekhar H, et al. Faecal immunochemical testing in symptomatic lower gastrointestinal triage: cohort study of patient acceptability and impact of social deprivation. Br J Surg. 2023;110(4):511-512. doi: 10.1093/bjs/znad036.
20. Loring B, Paine SJ, Robson B, Reid P. Analysis of deprivation distribution in New Zealand by ethnicity, 1991-2013. N Z Med J. 2022;135(1565):31-40.
21. Ding H, Lin J, Xu Z, et al. A Global Evaluation of the Performance Indicators of Colorectal Cancer Screening with Fecal Immunochemical Tests and Colonoscopy: A Systematic Review and Meta-Analysis. Cancers. 2022;14(4):1073. doi: 10.3390/cancers14041073.
22. Teo CH, Ng CJ, Booth A, White A. Barriers and facilitators to health screening in men: a systematic review. Soc Sci Med. 2016;165:168-76. doi: 10.1016/j.socscimed.2016.07.023.
23. Thompson L, Reeder T, Abel G. I can't get my husband to go and have a colonoscopy: Gender and screening for colorectal cancer. Health (London). 2012;16(3):235-49. doi: 10.1177/1363459311403948.
24. Sandiford P, Buckley A, Robinson T, et al. A community laboratory drop-off option for bowel screening test kits increases participation rates: results from an interrupted time series analysis. J Public Health (Oxf). 2018;40(2):e133-e40. doi: 10.1093/pubmed/fdx043.
25. Norris P, Horsburgh S, Padukkage P, et al. Coverage and accuracy of ethnicity data on three Asian ethnic groups in New Zealand. Aust N Z J Public Health. 2010;34(3):258-61. doi: 10.1111/j.1753-6405.2010.00523.x.
26. Lepa T, Norris P, Horsburgh S, Taungapeau F. Accuracy of National Health Index numbers for Pacific people in NZ. Aust N Z J Public Health. 2013;37(2):189-90. doi: 10.1111/1753-6405.12041.
27. Chiu HM, Su CW, Hsu WF, et al. Mitigating the impact of COVID-19 on colorectal cancer screening: Organized service screening perspectives from the Asia-Pacific region. Prev Med. 2021;151:106622. doi: 10.1016/j.ypmed.2021.106622.
28. Hirst Y, Stoffel S, Baio G, et al. Uptake of the English Bowel (Colorectal) Cancer Screening Programme: an update 5 years after the full roll-out. Eur J Cancer. 2018;103:267-73. doi: 10.1016/j.ejca.2018.07.135.

Māori experiences and perspectives of hospital treatment in the context of acute care

Misty Edmonds, Stephanie Shankar, Te Inuwai Elia, Carlos FC Campos, Mataroria Lyndon, Jennifer M Weller

ABSTRACT

AIM: Through exploring Māori experiences when presenting acutely to hospital, we aimed to identify specific aspects of culturally safe care that we could incorporate into healthcare professionals' training and hospital processes.

METHODS: Using Kaupapa Māori approaches, we undertook semi-structured interviews and thematic analysis to collect and analyse data from diverse groups of Māori participants.

RESULTS: We interviewed 17 participants, with 16 follow-up interviews. We found a lack of trust, and perceptions of unequal treatment for Māori. Our participants highlighted the following key needs: the importance of whanaungatanga in building trusting relationships with patients and whānau; creating safe spaces for patients and whānau; improved staff cultural safety; exploring individual patient and whānau needs, avoiding assumptions about cultural requirements or stereotypical characteristics; upholding the mana of all patients with respectful interactions; and empowering Māori as partners in their care.

CONCLUSION: By sharing their personal experiences, participants have highlighted specific aspects of their interactions with hospital staff and the healthcare system that could and should be improved. These insights can guide our efforts to enhance cultural safety for Māori patients and whānau through targeted staff training and structural changes.

The health system of Aotearoa New Zealand continues to deliver inequitable outcomes for Māori across a range of settings, notably in in-hospital care.[1] The quality of the in-hospital experiences of Māori patients and whānau is one determinant of equity. Care must be clinically competent but must also be culturally safe.[2,3] Cultural safety extends beyond cultural awareness and cultural sensitivity. Culturally safe care requires us to recognise and respect patients' cultural identities, and emphasises critical consciousness, asking health professionals to reflect on their own cultural assumptions and biases.[4]

Research has highlighted the impacts of culturally unsafe care on Māori patients. In two separate studies, Harris and colleagues[5,6] reported how negative experiences of racism across a range of healthcare settings can lead to mistrust in health professionals and ultimately poorer health outcomes. Delayed or avoided care, cultural misunderstandings, lack of representation in the healthcare system and explicit biases towards Māori patients have been identified.[7–9] The legacy of colonisation and subsequent systemic biases continue to influence Māori health, and addressing this requires an intentional approach from healthcare institutions and health professionals.[2]

The Medical Council of New Zealand has recognised culturally safe care as a pathway to address long-standing inequities, and has made it a priority in the training of health professionals.[10] Embedding cultural safety in organisations and at the point of care provides opportunities for systemic changes, further shaping staff training programmes.[2] Training should encourage health professionals to evaluate and challenge their personal and institutional biases, redress power imbalances and commit to transformative action.[10,11]

The overarching aim for this study is to provide meaningful information to inform culturally safe training programmes for health professionals who work in hospital acute care settings. The goal is to provide culturally safe care and more equitable healthcare experiences for Māori in Aotearoa New Zealand. Our focus is to understand the experiences and perspectives of Māori patients and whānau on the care they receive when presenting to a hospital for urgent clinical care, and to use this as a starting point for the design of staff training interventions.

Our specific research questions are:

1. How do Māori experience healthcare in the context of clinical emergencies?
2. What are the perspectives of Māori concerning culturally safe care for Māori patients and their whānau in this context?

Methods

Ethics

This study was approved by the Auckland Health Research Ethics Committee (AH25184). All participants read the information sheet and signed a consent form.

Study design

Our research team comprised Māori and non-Māori researchers. Together, we undertook a qualitative interview-based study, embedding Kaupapa Māori (KM) approaches[12] and following Te Tiriti o Waitangi principles[13] at every stage. Te Ao Māori and Māori world views guided our methodology for Māori-led research, and for engagement with Māori participants.

Recruitment

Whakawhanaungatanga and KM principles of ata (building respectful relationships) and kaupapa informed the recruitment process. An important first step in approaching our participants was identifying the kaupapa (shared vision/goal) and how that was to be translated for Māori. All interactions with participants were by the Māori researchers, from the initial contact through to follow-up interviews. Recruitment was limited to participants in Tamaki Makaurau Auckland.

We approached potential participants with whom we had established trusted relationships or connections through various community and professional networks using word-of-mouth, emails, texts and written notices. We sought Māori participants representing four different rōpū (groups) in the community: Group A, kaiako (educators); Group B, rangatahi (Māori youth) and wāhine Māori (women); Group C, kaumātua (elderly) support and carers; and Group D, gang (including gang-affiliated) and under-accessed community members. For those interested in participating we then established a time and place of their choosing for the kōrero (discussion or dialogue).

Information about the study and the process of informed consent was determined by the participants and influenced by factors including level of health literacy, capacity to attend in person, access to email, personal circumstances and wider whānau engagement. Manaakitanga, the process of sharing and hosting, created a collaborative pathway for a reciprocal relationship of knowledge flow between researcher and participant. The Māori interviewers used te reo (Māori language), tikanga (Māori protocols) and whanaungatanga (Māori customary engagement rituals) to facilitate the process.

Interview questions

The semi-structured interview focussed on participants' experiences of acute hospital care. We started with a critical incident approach, asking about specific experiences, either positive or negative, and what could improve the experience for others. We explored perceptions of current processes in acute care hospital settings and how Māori needs or wishes fitted in with these processes.

Data collection

Participants were offered the choice of interview format, which could be online or in-person, individually or in a group. They were also offered the choice of audio- or video-recording the interview, or note-taking by the interviewer. Where participants requested note-taking, these notes were comprehensive, and read back to participants at multiple points during the interview for clarification and to confirm the interviewer's understanding of what was said.

Data analysis

Recorded interviews were transcribed verbatim by two researchers. The combined transcripts and the written interview notes from all individuals and groups were de-identified and together formed the data for analysis.

The data were analysed iteratively, and recruitment continued until there was sufficient information to represent the views of Māori brought by the participants, with a cross-section of the diverse social groups.

Through the KM lens we used inductive thematic analysis as described by Braun and Clarke.[14] One Māori researcher (ME) first read all the data and generated initial codes and themes, which were reviewed by the other Māori researchers. Coding was iterative, comparing new and initial codes and themes against the data. Initial themes were modified over the course of re-reading the data and refined in line with the KM lens. Preliminary coding and themes were presented to the whole research team for discussion. We then refined the themes and the sub-themes within Te Tiriti o Waitangi principles.

Follow-up meetings with participants

As we were accountable to the Māori participants, in order to uphold tino rangatiratanga (self-determination) we needed to ensure the participants' stories were accurately reported and our interpretation and themes accurately reflected their views. Therefore, participants were invited to a follow-up meeting where their information and our interpretation were presented back to them for confirmation.

Researcher positionality statement

ME and SS identify as wāhine Māori with strong whānau intergenerational relationships. ME is a registered nurse and SS is a midwife. Both work within KM-driven spaces combining a scientific background and clinical practice within Western health systems with an Indigenous epistemology that supports Māori ways of knowing. ME is CEO of Iwi United Engaged Ltd. (IUE), an incorporated company committed to advancing Māori health and wellbeing through the development of culturally informed and relevant research. TIE has been involved in all aspects of Te Kōhanga Reo: from māmā awhi (peer support worker), kaiako (teacher) through to kaiwhakahaere (manager). JMW is an NZ European academic with a clinical background in anaesthesia. CC is a Brazilian general practitioner and academic working in the Waikato community. ML is a Māori doctor, academic and advocate for hauora Māori and equity.

Results

We interviewed the 17 participants individually or in groups (Table 1) between March and May 2023. All but one participant (in Group D: rōpū)

Table 1: Participant demographics.

Participants	Age range	Number	Interview format
Group A: kaiako	35–50	3	Group of 3
Group B: rangatahi/wāhine	18–24	9	Individual
Group C: kaumātua/kaitiaki	50+	2	Group of 2
Group D: gang/under-accessed	18–40	3	Group of 3

Table 2: Themes and sub-themes from interview data.

Theme	Sub-theme
Manaakitanga/whanaungatanga	The lack of whanaungatanga in service interactions for patients. Improvements through whanaungatanga. Ngā takiwā puaroa: improving accessibility for Māori whānau.
Issues in cultural safety	Lack of staff cultural safety. The double-edged sword of being Māori and assumed needs for cultural support.
Tino rangatiratanga	Upholding mana: mana to enhance practice. Empowerment through effective communication.
Positive experiences to build on	

participated in the follow-up interview. Interviews were audio-recorded for two individuals and for others written notes were taken, as requested by participants.

The participants lived in the South Auckland suburbs of Ōtara, Manurewa and Papakura, and a small group lived in East Auckland. Several participants did not have a fixed abode.

Participant interviewees were allocated codes (e.g., Ha), which we used for direct quotations.

Interview duration was 45–60 minutes for individuals and up to 2 hours for groups. For Group D (gang and under-accessed community members) the researcher met the participants twice to complete the interview process due to the dynamics and day-to-day realities of this rōpū.

Thematic analysis

We developed four main themes and seven sub-themes, shown in Table 2.

Theme 1: manaakitanga me whanaungatanga

The lack of whanaungatanga in service interactions for patients

A lack of empathy and relationship-building was a pressing matter and a cause of distress for most participants when describing their experiences with the healthcare system. Participants described staff delaying assistance when requested by whānau members or patients, or not going beyond the bare minimum.

> "*When I was pregnant, I ended up in ED [emergency department] … they [took] me over to the maternity ward to check baby. We were left in the room, no blanket, minimal check in, and it just felt very uncaring.*" (Ha)

The apparent absence of staff, and the consequent lack of patient reassurance, was a cause for anxiety, as participants felt they had been forgotten or "*fallen off the list*." Many were unhappy with the communication from staff to patients and their whānau, feeling that doctors and nurses were minimising their issues.

> "*The response I got was that I was just an anxious young mum.*" (Aa)

> "*[My] son ended up in ED for… self-harming. Felt like [the] doctor wasn't understanding my concerns as a mother and just kept pushing for me to take him home and it would be all good.*" (Ha)

Participants reported belligerent treatment from individual staff members. One described the nurses as "*snooty*" and another commented that the "*nurses were very professionally kind, but doctors were dicks*." Participants reported disheartening interactions with staff, which dissuaded them from seeking further help in the Western healthcare system. One participant described how she sought Rongoā Māori, traditional Māori healing and medicinal practices, to help with problems that the Aotearoa New Zealand healthcare system was not addressing.

> "*I don't like the hospital or health system. I usually just fix myself up unless it's surgery… I don't feel like I'm taken seriously [and] I feel shy when I can't answer their complicated questions and I have no knowledge of the system… [I] keep getting the feeling of 'just another waste of time'.*" (Ke)

When asked where they would see Māori needs or wishes fit within the processes of clinical settings, one participant responded:

> "*I think the processes should start in the beginning and run all the way through for Māori to be able to trust the healthcare system. 'Cos we don't trust—I don't trust—the healthcare system.*" (Ee)

Improvements through whanaungatanga

Long waiting times was one of the most talked about issues in the ED setting. Participants would often cite this as an opportunity for better communication and whanaungatanga from hospital staff. They suggested staff check in on the patients, keep them informed of how long their wait was likely to be and offer refreshments to those in the waiting room as well. Further, staff could take the initiative to establish whakawhanaungatanga with patients.

> "*Staff should also initiate the offer for support—[it] is even bigger than responding to a request for support.*" (Ho)

However, participants said staff would walk in, complete their task and walk out, with no attempt to build rapport with patients.

Participants emphasised the importance of a positive patient–provider relationship, reflective of the values within Te Ao Māori. They considered this relationship an important aspect of wairua (spiritual wellbeing) within the healthcare system, to ensure that, as one participant put it, the *"patient–clinician relationship is culturally competent and culturally safe."* Participants suggested the environment would feel more welcoming and caring if staff tried to build that relationship—for example, if staff properly introduced themselves, or if the same few nurses were assigned to a patient to increase familiarity.

Participants also recognised the extreme demands that staff were under, which could perpetuate negative interactions between staff and patients. They felt that while more staff were required to support patients' needs, staff could potentially benefit from whakawhanaungatanga with other staff members to ease their burden, and doing so would create better conditions for everyone.

Ngā takiwā puaroa: improving accessibility for Māori whānau

Our participants talked about the importance of spaces within the hospital. While there were designated whānau rooms, participants talked of the need for appropriate spaces beyond these designated rooms. Participants provided their views about these different spaces in the following examples. The whānau room of an ED was often too small to accommodate the whānau of multiple patients, and patient rooms had insufficient space for whānau to visit. The ED waiting room should allow for more confidentiality and privacy when discussing health issues. If the police could keep their "patients" (i.e., recently arrested and unwell people) in separate areas it would avoid other patients' feelings of being in a dangerous situation. Participants also wanted clean hospital rooms for whānau and patients. One described mould in their room, and blood on their sheets and on the floor from a previous patient.

One participant described her experience of hospital admission for a miscarriage and offered examples of what sacred spaces for shared grieving could be like, spaces that acknowledged the spiritual aspects of illness and loss.

> "*For Māori, as wāhine Māori, having an area for women for this experience of a miscarriage, there is strength in being in a familiar place with other women, not around [random] dementia patients or a non-gynae space, where general public are experiencing the very personal, wāhine-specific trauma, and observing what's happening, when they aren't necessarily welcome to that experience. This looks at options, and providing this option is important for all wāhine, Māori and non-Māori.*" (Oo)

> "*There should be a whānau room for the conversation with everyone over the death. This is a critical kōrero within the whānau and requires a space which honours the death of a loved one in the whānau. Open spaces and shared rooms are not appropriate for this process.*" (Oo)

Another participant talked of the concept of an ārai, or veil at the door, which staff would cross when entering a patient's room.

> "*I mean going into a patient's room, whanaungatanga is a given! Perhaps all nurses need some of that cultural competency [and] even the doctors. People's feelings matter—patient or whānau.*" (Ka)

The participants articulated the desire for Māori frameworks of health and wellbeing within the healthcare system—more familiar faces, and familiar language, incorporating Te Ao Māori. They proposed that "*the foundation of the healthcare system in Aotearoa should be based upon Kaupapa Māori frameworks*."

Theme 2: issues in cultural safety

Lack of staff cultural safety

A prevalent issue for participants was the lack of cultural safety of healthcare professionals. Aside from the physical components of care, participants wanted staff to consider the "*mental, emotional, social and spiritual*" elements of health. The participants described a disconnect with health professionals, whose approach to health and wellbeing was not perceived as holistic and whānau-centred.

Reflecting on their admission to the ED, one participant noted:

> "*[It] would've been a lot better if they actually incorporated a holistic approach of Te Whare Tapa Whā*

> *framework… I reckon that should be banged within the staff.*” (Ee)

Participants also reported cultural insensitivity and belligerence of younger staff and trainee doctors:

> “*Cultural competency, like some of those young doctors, need a rude awakening. I think cultural competency wouldn't go astray. I know [there's] time and things, but I think it's important.*” (Ko)

> “*Should be part of their training, and if it is already, maybe they need better training, like their bedside manner, right?*” (Ki)

The double-edged sword of being Māori

One participant felt she was being discriminated against and treated as “*just another Māori*” and others felt their problems were minimised because they were Māori. Another participant said that not all Māori patients wanted to be treated differently because they were Māori, and healthcare professionals should recognise that not all Māori were the same. A participant shared their story of admission to hospital with their first presentation of asthma:

> “*The doctors in ED assumed that I was just one of those Māori that don't listen, don't take my asthma medication. It wasn't until I was preparing to get discharged, one of the nurses was asking me if I knew how to use the inhalers. Which I didn't because I had never been diagnosed with asthma previously. She read through the notes and the handover that they received was that I don't use my medication effectively which is how I ended up in ED.*” (Ku)

On the other hand, participants wanted to be given the option of including cultural needs into their treatment plan or not. This was captured in a conversation between two participants:

> “*I guess if cultural needs are what people need, then that's cool and that's great. It's a bit like that kaumātua [Māori elders] thing right, someone ticked the box saying they are Māori and so this kaumātua turned up and then we were like ‘umm, okay’, it was nice to chat and all but like.*” (Ki)

> “*It's also that thing right, like do you need to have that? I mean like for us it was a bit of a hōhā [some annoyance or hassle], but for you maybe, it would have been better. But you had the opposite, you didn't have the option.*” (Ko)

Another participant found the assumption that they would want cultural support distressing when in hospital:

> “*[The] bad side of [the] experience was waking up surrounded by kaumātua and kuia [elderly women]—I thought I had died or was gonna die; I was shocked to have so many unknown Māori around me in a hospital setting. This was a bad experience because no one asked if I wanted cultural support, it was just assumed because my information said ‘Māori'.*” (Oo)

As one participant said about these assumptions, the only way to meet a Māori patient's needs is when “*the patient physically stipulates* [their] *needs or wishes.*”

Theme 3: tino rangatiratanga

This theme was about trust, power sharing, effective communication and empowering patients and their whānau to be active participants in their care.

Upholding mana: mana to enhance practice

Participants often described feeling belittled, not being treated with respect and dignity, or receiving lower-quality care than non-Māori patients. They reported a lack of mana-enhancing relationships—noting the absence of respect, empowerment and upholding of personal dignity. For example, a relative was left to “*sit in their own shit*” for over 35 minutes because the nurses were not fast enough to respond to him needing to use the restroom, and were non-responsive to the participant's request for assistance. Another participant's mātua (parents) both suffered from incontinence. His father's bed mattress was on the floor in the hospital:

> “*He would cry to me that he just wanted to go to the toilet… he was in his early 80s—the lack of dignity by*

> *wetting himself at this age!*" (Ka)

This participant also recalled their interactions with staff members:

> *"You're made to feel dumb, which really deflates someone quite quickly, especially when they are already double-guessing themselves. You're afraid to say too much in the beginning. I was just trying to get answers and* [was] *basically told 'I am the doctor, and this is what I say, and this is what we will do.' So, what can you do but play along?"* (Ka)

Empowerment through effective communication

Participants desired more effective communication from staff to promote understanding of their health needs, processes and management plans. Participants described a fear of not understanding the language, and a lack of effort from doctors and nurses to engage with them in conversations to better understand what was happening with their health, and what needed to be done after their discharge. They suggested that health literacy of Māori patients needed to be strengthened, but staff "*don't try and explain in normal terms*." Participants could attribute this shortcoming to lack of time, or perceive it as racism:

> "*Māori are often swept under the rug. Get them in. Get them out. But if you're from the wealthy side and you're white? Different story. You get treated so well.*" (Ee)

Participants talked of "hinengaro" ("*discussing the process of what the nursing team are doing to ensure that the patient understands*"), which extended to the patient's whānau. Hinengaro also applied to nurses and doctors listening and being receptive to the patients' needs.

Participants called for empowerment of Māori patients and whānau through better communication.

> "*Why I was having to be admitted to hospital, how long I possibly [had] to stay for, why they were taking my bloods as I had no clue*." (Me)

Participants described a desire to be able to make informed decisions about their own or their whānau members' care, which, when lacking, could compromise their own or their relatives' care.

> "*There have been many instances where patients are not fully informed or do not fully understand treatment/diagnosis. To improve this, patient safety should be of importance ensuring that every patient and whānau are informed of critical information regarding treatments instead of just administrating treatments. Also ensuring that patients and whānau are fully informed regarding diagnosis and have effective support, be that from MDTs [multidisciplinary teams] or whānau, to ensure that all aspect of their Te Whare Tapa Whā are being met.*" (Me)

Participants suggested effective communication from healthcare professionals would enable Māori and whānau to understand their health issues and to work as partners in their care.

> "*Empower the whānau coming through the service. Regardless of age, ethnicity, gender—all people deserve to have their mana maintained during their time with you. Work together with the whānau present to come to a solution that addresses the concerns.*" (Aa)

Theme 4: positive experiences from patients

Some participants reported positive hospital experiences, feeling that they were in a safe environment or were being given sufficient information and regular updates by staff about their sick relatives. They provided examples of Māori cultural support integrated into their care through Māori support workers or kaumātua to talk to while in hospital if requested. They also gave examples of Māori cultural practices (e.g. waiata/Māori songs) within the healthcare environment.

> "*[O]ne time we went to Auckland Hospital and… the Māori team did a little sing-song thing in the outside area—you know, where people wander around. They were singing songs, you know, like with mum and dad; they were singing songs from [their] era, and it was something nice and it passed the time nicely… And then the man came and spoke to mum*

and dad about the old days." (Ki)

Discussion

Our study brings the voices of Māori to the fore. Māori values and ways of thinking about health should be normal values in healthcare, but our participants tell a different story. These values were often missing from the experiences reported here. Māori participants highlighted the importance of trusting relationships, of empowerment through communication, of time and spaces and of the role of whānau in the provision of appropriate and culturally safe care. Through sharing their personal experiences, they identified specific elements of their interactions with the hospital system that could be amenable to change through clinical and managerial staff training and reconfiguring existing power structures, practices, spaces and processes. Whole of system change will be needed to address the issues identified here that compromise cultural safety for Māori patients and whānau and the ability of healthcare professionals and patients to build trusting relationships. The five Tiriti o Waitangi principles recommended by the Waitangi Tribunal[13] and referenced by the Ministry of Health[15] assist in viewing our findings through a Māori and equity lens: active protection, tino rangatiratanga, equity, partnership and options.

Active protection

The data speak to a lack of trust, and failure to uphold the principle of active protection. Māori participants perceived that they were not getting the same treatment as non-Māori in health services. They felt that being Māori influenced the quality of care they received, the amount of time staff spent with them explaining their diagnosis and care and the time they were left waiting for help. Participants understood that hospital staff were time-poor and wait times for everyone were long, but they felt that better communication and being able to trust that doctors and nurses cared about them would make this more acceptable. Māori perceptions of unequal treatment will contribute to negative experiences, self-discharge and avoidance of Western healthcare institutions.

Tino rangatiratanga

Central to participants' positive experiences was mana motuhake, acknowledging their separate identity, independence, self-determination and control, such that they felt that they could be Māori in this space, and this linked to feeling safe. One participant described the "veil at the door," acknowledging Māori ways of entering another's space, or in this case, their hospital room. In addition, Māori ways of thinking about space were not acknowledged; for example, the importance of appropriate spaces for wāhine Māori, spaces for grieving and spaces for whānau. This supports the value of involving Māori partners in co-design of hospital buildings or refurbishments.

Equity and options

Whakawhanaungatanga and building rapport were critical in forming trusting relationships between hospital staff, Māori patients and whānau. Within the existing healthcare system there was insufficient time or importance assigned to building trusting relationships. Absence of trust contributed to perceptions of unequal treatment compared to non-Māori across experiences of waiting, being kept informed and time spent by hospital staff providing information and explanations they could understand.

Partnership

Trust could be built through small acts, such as health professionals properly introducing themselves, explaining what they were doing, why they had been called away or may be delayed, and letting patients and whānau know that they matter. Māori patients may be more accepting of waiting or "*the bad stuff that happens*" in hospital if there was time to build a relationship, and if they trusted the hospital staff were looking after them. Participants were concerned about upholding mana, "*working with rather than on*," in a partnership. Not being told or not understanding what is going on leads to loss of agency or mana, a perceived lack of respect and disempowerment as a partner in achieving health goals.

Our findings add to the existing body of research on Māori experiences of healthcare in Aotearoa New Zealand. A recent systematic review of Māori experiences of hospital care identified only seven such studies, each with variable focusses and methods.[16] The review identified many barriers to the care of Māori patients resulting from the design and delivery of services, and interpersonal and institutional racism. Proposed interventions focussed on building cultural safety. The authors of the review called for strategies promoting access to care for

Māori and cultural safety training for the workforce.[16] Our study confirms these findings and adds new empirical data to the small existing body of research. Adhering to the ideals of KM methodologies, we were able to gather authentic experiences of Māori from diverse backgrounds, including from those who are often unheard. The experiences and perspectives offered by our participants provide a practical starting point for incorporating cultural safety into health professionals' training programmes.

Limitations and strengths

Our findings represent rich stories from a small geographical area of Aotearoa New Zealand and may not be the same for other regions. We acknowledge the potential for researcher bias from note-taking rather than recording interviews and have described the steps we took to mitigate this bias. However, a strength of our study was our KM approach, which has, we believe, allowed our Māori participants to speak freely and participate fully in the collection and interpretation of the information in this study. Future research could explore the perceived value by Māori of training interventions or space redesign to incorporate the lessons learnt from our participants.

Conclusion

Māori participants highlighted the importance of time, spaces, trust, cultural safety and understanding the role whānau play in the provision of safe and appropriate in-hospital care. Building positive relationships with staff influenced how safe Māori patients and whānau felt. Culturally safe practices and working in partnership with patients and their whānau were seen as central to achieving the best outcomes. In addressing our aims, this study provides very clear examples for health professionals on appropriate (and inappropriate) ways of engaging with Māori patients and whānau, which could be explicitly included and assessed in staff training programmes. At a structural level, our results support the co-design of healthcare environments and services with and by Māori. Prioritising cultural safety is a key factor in redirecting processes in the acute care setting to build trusting relationships with and improve outcomes for Māori.

COMPETING INTERESTS

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REFERENCES

1. Graham R, Masters-Awatere B. Experiences of Māori of Aotearoa New Zealand's public health system: a systematic review of two decades of published qualitative research. Aust N Z J Public Health. 2020 Jun;44(3):193-200. doi: 10.1111/1753-6405.12971.
2. Curtis E, Jones R, Tipene-Leach D, et al. Why cultural safety rather than cultural competency is required to achieve health equity: a literature review and recommended definition. International journal for equity in health 2019;18(1):1-17. Int J Equity Health. 2019 Nov 14;18(1):174. doi: 10.1186/s12939-019-1082-3.
3. Palmer SC, Gray H, Huria T, et al. Reported Māori consumer experiences of health systems and programs in qualitative research: a systematic review with meta-synthesis. Int J Equity Health. 2019 Oct 28;18(1):163. doi: 10.1186/s12939-019-1057-4.
4. Ramsden IM. Cultural Safety and Nursing Education in Aotearoa and Te Waipounamu [thesis]. Wellington, New Zealand: Victoria University of Wellington; 2002.
5. Harris RB, Stanley J, Cormack DM. Racism and health in New Zealand: Prevalence over time and associations between recent experience of racism and health and wellbeing measures using national survey data. PloS One. 2018;13(5):e0196476. doi: 10.1371/journal.pone.0196476.
6. Harris R, Cormack D, Tobias M, et al. The pervasive effects of racism: experiences of racial discrimination in New Zealand over time and associations with multiple health domains. Soc Sci Med. 2012 Feb;74(3):408-415. doi: 10.1016/j.socscimed.2011.11.004.
7. Ben J, Cormack D, Harris R, et al. Racism and health service utilisation: A systematic review and meta-analysis. PloS One. 2017;12(12):e0189900. doi: 10.1371/journal.pone.0189900.
8. Hamed S, Bradby H, Ahlberg BM, et al. Racism in healthcare: a scoping review. BMC Public Health. 2022;22(1):988. doi: 10.1186/s12889-022-13122-y.
9. Wilson D. The significance of a culturally appropriate health service for Indigenous Māori women. Contemp Nurse. 2008;28(1-2):173-88. doi: 10.5172/conu.673.28.1-2.173.
10. Simmonds S, Carter M, Haggie H, et al. A Cultural Safety Training Plan for Vocational Medicine in Aotearoa [Internet]. Te Ora, Council of Medical Colleges; 2023 [cited 2024 Jul 22]. Available from: https://www.cmc.org.nz/resources/publications
11. Ewen S, Mazel O, Knoche D. Exposing the hidden curriculum influencing medical education on the health of Indigenous people in Australia and New Zealand: the role of the critical reflection tool. Acad Med. 2012;87(2):200-05. doi: 10.1097/ACM.0b013e31823fd777.
12. Smith LT. Decolonizing Methodologies: Research and Indigenous Peoples. 2nd ed. Dunedin, New Zealand: Otago University Press; 2012.
13. Ministry of Health – Manatū Hauora. Te Tiriti o Waitangi [Internet]. 2020 [cited 2024 Mar 13]. Available from: https://www.health.govt.nz/our-work/populations/maori-health/te-tiriti-o-waitangi
14. Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006;3(2):77-101. doi: 10.1191/1478088706qp063oa.
15. Waitangi Tribunal. Hauora: Report on Stage One of the Health Services and Outcomes Kaupapa Inquiry Wai 2575 [Internet]. Wellington, New Zealand: Waitangi Tribunal; 2019 [cited 2024 Jul

24]. Available from: https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_195476216/Hauora%202023%20W.pdf

16. Thomas C, Weller J, Rahiri JL, et al. Māori experiences of hospital care: a qualitative systematic review. AlterNative: An International Journal of Indigenous Peoples. 2022;18(3):455-64. https://doi.org/10.1177/11771801221114385.

Eruptive xanthomas

Sanjana Mathew, Carol Lobo, Sowmya Kaimal, Sujata Raj

A 34-year-old male presented with multiple asymptomatic papules over both the hands, feet, forehead and ears for 10 years. He was a known case of type 2 diabetes mellitus for 9 years and was initially prescribed 500mg of metformin. However, he had been non-compliant with the treatment and had not taken any medications for the past 7 years.

On physical examination, blood pressure was 140/84mm Hg and BMI was 30.07kg/m^2. Cutaneous examination revealed multiple, yellowish, firm monomorphic non-follicular-based papules on the dorsum and palmar aspect of both hands, dorsum of both feet, ears, forehead, elbows and buttocks (Figure 1). Koebnerization was noted. Tendon examination was normal.

Ophthalmological evaluation revealed 6/6 visual acuity in both eyes, with normal colour vision and pupil reactions. Anterior segment examination was normal. Dilated fundus evaluation showed multiple sclerosed vessels and arteriolar whitening suggestive of lipemia retinalis, with no evidence of diabetic retinopathy. Optic disc was normal. Investigations revealed a serum triglyceride level of >68.1mmol/L, serum total cholesterol of 7.29mmol/L, glycated haemoglobin A1C (HbA1c) of 129mmol/mol, fasting glucose of 21.05mmol/L and postprandial glucose of 21.93mmol/L. Liver and thyroid function tests were found to be within normal limits. Serum creatinine was normal (70.72µmol/L). Differential diagnoses of eruptive xanthomas, generalised eruptive histiocytosis and disseminated granuloma annulare were considered. Based on the classical clinical findings and laboratory investigations, a final diagnosis of eruptive xanthomas was made.

In view of hypertriglyceridemia and uncontrolled diabetes mellitus, he was initiated on oral fenofibrate 160mg, a Peroxisome proliferator-activated receptor alpha and gamma (PPAR-α/γ) agonist (Saroglitazar), dual-acting insulin injection and oral hypoglycaemics. Notable decrease in the number of pre-existing lesions and significant reduction in serum triglycerides (9.1mmol/L) and HbA1c (72mmol/mol) were noted a month after treatment.

Discussion

Eruptive xanthomas are localised lipid deposits in the dermis.[1] They present as asymptomatic, multiple, yellowish dome-shaped papules on Achilles and patellar tendons, extensor tendons of the hands and elbows, eyelids, trunk and buttocks. Early lesions may be pruritic and may demonstrate koebnerization. Other clinical presentations of xanthomas include tuberous, tubero-eruptive, tendinous, planar, verruciform and papular forms. Hypertriglyceridemia and diabetes mellitus are major risk factors, with 8.5% of individuals exhibiting triglyceride levels exceeding 20.1mmol/L being prone to developing eruptive xanthomas.[2] The most common inciting medications to cause eruptive xanthomas include systemic estrogens, systemic corticosteroids, systemic retinoids and olanzapine.[3] Our patient was not on any of these medications.

Differentials to be considered for eruptive xanthomas are generalised granuloma annulare (GA), generalised eruptive histiocytosis and xanthoma disseminatum.

Generalised granuloma annulare manifests with widespread skin-coloured to erythematous papules or plaques on the trunk and extremities, with sparing of head, neck, palms and soles.

Xanthoma disseminatum, a form of non-Langerhans cell histiocytosis, is characterised by red-brown papules and plaques in flexures on the trunk or proximal extremities.

Generalised eruptive histiocytosis presents as multiple asymptomatic, skin-coloured to erythematous papules and nodules over the face, trunk and extremities, characterised by histopathological features of nodular aggregates of large histiocytes and absence of giant cells.

Investigations include evaluation for causes of secondary hyperlipidaemia, such as diabetes, thyroid disease, liver disease or renal disease. Although a confirmatory skin biopsy, which is usually performed for a definitive diagnosis, was not obtained in our patient, the classical clinical presentation of our patient in the context of severe hypertriglyceridemia, uncontrolled diabetes mellitus and a positive response to treatment strongly supports the diagnosis of eruptive xanthomas.

Treatment involves controlling the underlying hyperlipidaemia, which results in improvement of the cutaneous lesions, as was seen in our patient. Alternative therapeutic modalities such as laser or cryosurgery can be considered in situations where medical therapy does not suffice.[4]

Eruptive xanthomas indicates the presence of an underlying metabolic disorder like hypertriglyceridemia and diabetes mellitus, and can often be the first warning sign of cardiovascular risk in such patients.[4] Recognition and early treatment remains crucial, as it can prevent progression to pancreatitis or atherosclerotic disease.

Figure 1: a) Yellowish papules on the hands—dorsum; b) lesions on the palmar aspect of hands.

Figure 2: a) Lesions on the dorsum of feet; b) yellowish papules on the helical rim.

COMPETING INTERESTS

Nil.

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https://nzmj.org.nz/journal/vol-137-no-1601/eruptive-xanthomas

REFERENCES

1. Zaremba J, Zaczkiewicz A, Placek W. Eruptive xanthomas. Postepy Dermatol Alergol. 2013;30(6):399-402. doi: 10.5114/pdia.2013.39439.
2. Sandhu S, Al-Sarraf A, Taraboanta C, et al. Incidence of pancreatitis, secondary causes, and treatment of patients referred to a specialty lipid clinic with severe hypertriglyceridemia: a retrospective cohort study. Lipids Health Dis. 2011;10(1):157. doi: 10.1186/1476-511X-10-157.
3. Munoz NR, Agwuegbo CC, Gauhar F. Eruptive Xanthomas Precipitated by Severe Hypertriglyceridemia From Diabetes and Alcohol Use. Cureus. 2023;15(8):e43288. doi: 10.7759/cureus.43288.
4. Singh P, Handler MZ, Schwartz RA. Cryosurgery for Xanthomas. In: Abramovits W, Graham G, Har-Shai Y, Strumia R, editors. Dermatological Cryosurgery and Cryotherapy. London: Springer London; 2016. p. 633-5.
5. Solak B, Kara RO, Acikgoz SB, Kosem M. First and only symptom of undiagnosed diabetes mellitus: eruptive xanthoma. BMJ Case Rep. 2015;2015:bcr2015212160. doi: 10.1136/bcr-2015-212160.

The case for publicly funding lorlatinib

John C Ashton

Dear Editor, *New Zealand Medical Journal*,

The recent announcement that the third-generation epidermal growth factor receptor (EGFR) inhibitor, osimertinib, will be publicly funded in New Zealand is welcome news for patients and medical professionals alike.[1] By overcoming the EGFR T790M mutation in non-small cell lung cancer (NSCLC) that confers resistance to first- and second-generation EGFR tyrosine kinase inhibitors (TKIs), such as erlotinib and gefitinib, survival times will be significantly increased.

The success of this third-generation EGFR inhibitor in clinical trials over earlier EGFR inhibitors erlotinib and gefitinib is impressive, with data from the FLAURA study indicating a hazard ratio (HR) for progression-free survival (PFS) of 0.45.[2] This, however, is eclipsed by the results for anaplastic lymphoma kinase (ALK) positive lung cancer patients treated by the third-generation ALK inhibitor lorlatinib. Although the Pharmac-funded second-generation ALK inhibitor alectinib has significantly improved median PFS compared with crizotinib, the first-generation ALK inhibitor, data from the CROWN study have shown the superiority of lorlatinib to both earlier drugs (Table 1).[3,4] Like alectinib, lorlatinib can overcome cancer mutations that afford resistance to crizotinib,[5] and has superior efficacy in preventing and treating central nervous system (CNS) metastases.[6]

Lorlatinib both covers a greater range of ALK resistance mutations than alectinib and shows profound CNS penetration and efficacy against CNS metastases.[5] In head-to-head trial, lorlatinib outperforms alectinib, but until recently there has not been a consensus on the use of lorlatinib as a first-line treatment for ALK-positive NSCLC.[7] The main reason for this has been concerns with lorlatinib's CNS effects.[8] But dose reduction has been reported by oncologists to typically lead to amelioration or resolution of lorlatinib's CNS effects, and now data from the CROWN trial have provided strong evidence that the superior efficacy of lorlatinib is retained in patients who have had a dose reduction.[9,10] This could improve

Table 1: Clinical trial outcomes for ALK inhibitors in non-small cell lung cancer.

Therapy	Median PFS (months)	HR for PFS (95% CI)	1-year PFS rate (%)	5-year PFS rate (%)	5-year OS rate (%)	HR for OS (95% CI)	Source
Crizotinib	9.1 (7.4–10.9)	Reference (1)	39	15	35	Reference (1)	3, 10
Alectinib	Not reached (17.7–not evaluable)	0.50 (0.36–0.70)	68	36	57	0.67 (0.50–0.90)	3, 7
Lorlatinib	Not reached (64.3–NR)	0.19 (0.13–0.27)	92	60	70	Not reached (follow-up ongoing)	7, 10

anaplastic lymphoma kinase = ALK; progression-free survival = PFS; hazard ratio = HR; overall survival = OS.

confidence in a starting dose for lorlatinib below that of the current 100mg/day, and thereby moderate concerns with lorlatinib's CNS toxicity. Given that liver toxicity occurs in a significant number of alectinib-treated patients, and that lorlatinib has been shown to be effective for a substantial number of patients with alectinib-resistant cancer, the case for adding lorlatinib to the publicly funded targeted treatments for lung cancer in New Zealand seems clear.

COMPETING INTERESTS

Nil.

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https://nzmj.org.nz/journal/vol-137-no-1601/the-case-for-publicly-funding-lorlatinib

REFERENCES

1. Daniels C. Government's Pharmac funding foreshadowing could have cost New Zealand – The Front Page. The New Zealand Herald [Internet]. 2024 Jun 26 [cited 2024 Jun 28]. Available from: https://www.nzherald.co.nz/nz/governments-pharmac-funding-foreshadowing-could-have-cost-new-zealand-the-front-page/OYSAPHB4IJH6ZGYPAYPD7HUKWE/
2. Soria JC, Ohe Y, Vansteenkiste J, et al. Osimertinib in untreated EGFR-mutated advanced non-small-cell lung cancer. N Engl J Med. 2018;378(2):113-25. doi: 10.1056/NEJMoa1713137.
3. Liu Q, Fu Y, Guo J, et al. Efficacy and survival outcomes of alectinib vs. crizotinib in ALK-positive NSCLC patients with CNS metastases: A retrospective study. Oncol Lett. 2024;27(5):224. doi: 10.3892/ol.2024.14357.
4. Peters S, Camidge DR, Shaw AT, et al. Alectinib versus crizotinib in untreated ALK-positive non-small-cell lung cancer. N Engl J Med. 2017;377(9):829-38. doi: 10.1056/NEJMoa1704795.
5. Lin JJ, Riely GJ, Shaw AT. Targeting ALK: precision medicine takes on drug resistance. Cancer Discov. 2017;7(2):137-55. doi: 10.1158/2159-8290.CD-16-1123.
6. Gainor JF, Sherman CA, Willoughby K, et al. Alectinib salvages CNS relapses in ALK-positive lung cancer patients previously treated with crizotinib and ceritinib. J Thorac Oncol. 2015;10(2):232-6. doi: 10.1097/JTO.0000000000000455.
7. Garcia C, Abrahami D, Polli A, et al. Comparative Efficacy and Safety of Lorlatinib vs. Alectinib and Lorlatinib vs. Brigatinib for AlLK-Positive Advanced/Metastatic NSCLC: Matching-Adjusted Indirect Comparisons. SSRN. Forthcoming 2024.
8. Bauer TM, Felip E, Solomon BJ, et al. Clinical management of adverse events associated with lorlatinib. Oncologist. 2019;24(8):1103-10. doi: 10.1634/theoncologist.2018-0380.
9. Camidge DR. Lorlatinib should not be considered as the preferred first-line option in patients with advanced ALK rearranged NSCLC. J Thorac Oncol. 2021;16(4):528-31. doi: 10.1016/j.jtho.2020.12.022.
10. Solomon BJ, Liu G, Felip E, et al. Lorlatinib Versus Crizotinib in Patients With Advanced ALK-Positive Non-Small Cell Lung Cancer: 5-Year Outcomes From the Phase III CROWN Study. J Clin Oncol. 2024:JCO2400581. doi: 10.1200/JCO.24.00581.

Do parents of children with cancer use religious coping in New Zealand?

Hüseyin Çaksen

In many countries, cancer is the second leading cause of death in children over 1 year of age, exceeded only by accidents. Fortunately, in recent years great progress has been made in the treatment of childhood cancer. Significantly, most patients with cancer can be cured.[1] It is widely accepted that over time in Aotearoa New Zealand the incidence of childhood cancer has remained low and childhood cancer survival rates have improved steadily. The age-standardised incidence rate was 169.1 per million per year, and for all childhood cancers combined, survival at 5 years was 85.6%.[2]

Religion can be defined as human beings' relation to that which they regard as holy, sacred, absolute, spiritual, divine or worthy of especial reverence. It is also commonly regarded as the way people deal with ultimate concerns about their lives and their fate after death.[3] Coping mechanisms are efforts to prevent or diminish threat, harm and loss, or to reduce the distress that is often associated with those experiences.[4] Religious coping is an effort to understand and deal with life stressors in ways related to the sacred, which includes prayer, congregational support, pastoral care and religious faith.[5] Many studies have been published about use of religious coping by parents of children with cancer in the United States and in Western and Middle Eastern countries.[6,7] To the best of our knowledge, based on a literature review, no study has been reported on this subject in New Zealand. We have raised one scenario of possible religious coping in New Zealand for the parents of children with cancer.

In New Zealand, freedom of religion has been protected since the signing of Te Tiriti o Waitangi/the Treaty of Waitangi. Religion encompasses a wide range of groups and beliefs with recent 2018 Census responses including no religion (48.6%), Christianity (37.3%), undeclared (6.7%), Hinduism (2.7%), Islam (1.3%), Buddhism (1.1%), Sikhism (0.9%), Judaism (0.1%) and others (1.3%).[8] These data show that more than half of the population of New Zealand report a religious affiliation. A recent study with immigrant parents in New Zealand found that spiritual values were positively correlated with intrinsic goals (service, health, personal growth and developing close relationships) and that the primary role of life goals and spiritual values is to imbue parenting with a greater sense of purpose and meaning.[9] Mulipola et al.[10] reported that spirituality and religion were core to a Samoan's faith and fostered resilience and healing when facing adverse mental health events with their family members, including relationships between a parent and a child. In a tertiary care hospital, 56% of children were reported to use complementary or alternative medicine, including 12% using spiritual practice (prayer and meditation). In that study, it was noted that 32% of the children had a chronic disease, but no detailed information about their diagnosis was reported.[11] Nejat et al.[12] compared the use of spirituality and religiosity in coping with colorectal cancer in 20 New Zealand and 20 Iranian adult participants. All Iranian patients (100%) and the majority of New Zealand patients (85%) used spirituality and/or religiosity in coping with colorectal cancer.[12]

In conclusion, we would like to emphasise that religious coping has been commonly used in many cultures around the world. We think that, like parents in Western countries and adult cancer patients in New Zealand, many parents of children with cancer in New Zealand may use religious coping. Therefore, we strongly recommend that comprehensive studies should be conducted on religious coping styles of parents of children with cancer, who believe in different religions and none, in New Zealand. Including methodological elements for observations of religious coping, such as parent–child interviews, positive supportive/negative aspects and the potential to make comparisons will increase the value of studies. We believe that these studies will make a helpful contribution to the literature and health professional understanding and practice.

COMPETING INTERESTS

Nil.

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REFERENCES

1. Pan American Health Organization. Childhood and Adolescence Cancer [Internet]. [cited 2024 Feb 21]. Available from: https://www.paho.org/en/topics/childhood-and-adolescence-cancer
2. Pugh G, Bradbeer P, Wood A, et al. Childhood cancer incidence & survival in Aotearoa, New Zealand 2010-2019. Cancer Epidemiol. 2023;86:102433. doi: 10.1016/j.canep.2023.102433.
3. Encyclopaedia Britannica. religion [Internet]. 2023 [cited 2024 Feb 21]. Available from: https://www.britannica.com/topic/religion
4. Carver C. Coping. In: Gellman MD, Turner JR (eds). Encyclopedia of Behavioral Medicine. New York: Springer; 2013. https://doi.org/10.1007/978-1-4419-1005-9_1635.
5. Singh DC, Madan A. Religious Coping in the Process of Counseling/Psychotherapy. Biomed J Sci Tech Res. 2017;1(2):340-7. doi: 10.26717/BJSTR.2017.01.000191.
6. Ochoa-Dominguez CY, Miller KA, Banegas MP, et al. Psychological Impact and Coping Strategies of Hispanic Parents of Children with Cancer: A Qualitative Study. Int J Environ Res Public Health. 2023;20(11):5928. doi: 10.3390/ijerph20115928.
7. Nikfarid L, Rassouli M, Borimnejad L, Alavimajd H. Religious Coping in Iranian Mothers of Children with Cancer: A Qualitative Content Analysis. J Pediatr Oncol Nurs. 2018;35(3):188-98. doi: 10.1177/1043454217748597.
8. Wikipedia. Religion in New Zealand [Internet]. [cited 2024 Feb 21]. Available from: https://en.wikipedia.org/wiki/Religion_in_New_Zealand
9. Zhang KC. Unended Quest: Life Goals, Values, and Immigrant Parents in New Zealand. J Relig Health. 2021;60(1):444-57. doi: 10.1007/s10943-020-01017-4.
10. Mulipola TI, Holroyd E, Vaka S. Using Fa'afaletui to explore Samoan consumers' experience and interpretation of mental health person-centred care in Aotearoa, New Zealand. Int J Ment Health Nurs. 2023;32(2):513-23. doi: 10.1111/inm.13090.
11. Vernon-Roberts A, Denny A, Day AS. Point Prevalence of Complementary or Alternative Medicine Use Among Children Attending a Tertiary Care Hospital. Children (Basel). 2023;10(1):132. doi: 10.3390/children10010132.
12. Nejat N, Whitehead L, Crowe M. The use of spirituality and religiosity in coping with colorectal cancer. Contemp Nurse. 2017;53(1):48-59. doi: 10.1080/10376178.2016.1276401.

Ad hominem; Author information or conflict of interest

Ben Lawrence, Simon Gordon, Elizaveta Rakhmanova, William Park, Johnathan Reynecke, Frank Frizelle

The *Journal* received five emails recently about the recent editorial "Regulation of physician associates in Aotearoa New Zealand mitigates a medical practitioner workforce crisis and leads to stronger, diversified healthcare teams," all expressing concern about an alleged undeclared conflict of interest of the authors. The emails are below:

I read with interest your recent editorial on the regulation of physician associates in Volume 137, No. 1599, DOI: 10.26635/6965.6616. However, I was concerned to note the absence of declared conflicts of interest, particularly given that one of the authors, Shelly Collins, is the current President of the New Zealand Physician Associate Society (NZPAS). According to the NZPAS website, their mission is to "promote the profession and advocate for the regulation of Physician Associates." This editorial, written by their president, appears to be doing just that.

Could you please provide clarification on this matter?

Yours sincerely,

Dr Ben Lawrence

In relation to the recent published editorial about the use of physician associates in New Zealand, it has been drawn to my attention that the 2 authors are the previous and current presidents of NZPAS. However, no conflict of interest is noted in the article. Regardless of the content of the article, I think most would agree that this is a very clear COI.

Many thanks,

Dr Simon Gordon

Kia ora,

I am writing to express my sincere concerns about the Physician Assistant editorial in your July issue.

Both authors have heavy conflicts of interest as current and previous presidents of PA organisations. In my opinion. this should have precluded this article from being published in the first place. It is highly concerning that the COI is not disclosed.

It is disappointing to have this kind of editorial published in NZ Medical Journal when there is a mounting body of data regarding how unsafe non-medical "practitioners" are. As a medical registrar, I see missed diagnoses and mismanagement by NPs and PAs on a daily basis and constantly worry about how expansion of these roles would potentially impact the population of Aotearoa.

PAs/NPs are NOT the answer to the doctor shortage problem. It should be addressed by training, employing and retaining more actual doctors, rather than using undertrained and unsafe replacements.

We urge you to listen to your physician readers and retract the piece.

Regards,

Dr E Rakhmanova

I am writing with concern that the article you have chosen to publish entitled "Regulation of physician associates in Aotearoa New Zealand mitigates a medical practitioner workforce crisis and leads to stronger, diversified healthcare teams" lacks transparency regarding the authors' conflicts of interests.

It is no secret that the New Zealand Physician Assistant Society is lobbying wholeheartedly for regulation of physician assistants in Aotearoa. This article, published by a current and former president of this society, quite clearly intends to advance this narrative. While these roles are clearly listed in the author information, I would argue that these positions undoubtedly introduce a bias into the article that must be explicitly made reference to in the "competing interests" section of this letter—which is currently blank.

I welcome discussion in the literature regarding the role of this profession in Aotearoa. However, it must be done with transparency and reputability. Additionally, I must point out that the decision to publish this letter as an editorial does seem to imply the Journal is in agreement with the authors' *stance, whether intentional or not.*

Regards,

Dr William Park

I am writing to express my concerns regarding the editorial in the subject heading, titled "Regulation of physician associates in Aoteroa New Zealand mitigates a medical practitioner workforce crisis and leads to stronger, diversified healthcare teams".

This editorial has been published and declared to be free of conflict of interest. The primary author, Lisa deWolfe, is the current president of the New Zealand Physician Associate Society. As such, I strongly believe this constitutes a conflict of interest and request this be made abundantly clear in the article itself.

Kind Regards,

Dr Johnathan Reynecke MBChB

Editor's reply

Thank you all for taking the time to email your concerns about the recent *NZMJ* editorial on the regulation of physician associates. Given we have had five "letters to the editor" about this topic it is likely to be of concern to many more.

The COI was well documented by the authors of the editorial and the information that appears to have concerned those who contacted the *Journal* is found in Authors' information (which is directly under COI in the manuscript)—see below. The authors also declared this information on their COI form.

Authors can put information about their roles under Authors' information that might be considered COI or might be considered the "why they know something" about what they are writing on.

If authors choose not to put in the Authors' information slot such information and it is listed on their COI form (in which this was declared), or if the *Journal* know about it from an internet search, then we put it in the COI space. In this case, however, as it is clearly documented in the Authors' information, it would be unnecessary repetition, as stating it under Authors' information declared this interest.

This is what was published at end of the manuscript before the references:

Competing interests

Nil.

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Some journals are now putting the authors' submitted COI form as a "click through" on the webpage of the article as well. As yet, we have not been doing this; however, given the concerns of readers we will see what we can do, as that might increase transparency further.

Frank Frizelle

Editor *NZMJ*

COMPETING INTERESTS

Frank Frizelle is the Editor-in-Chief of the *New Zealand Medical Journal*.

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Gastric Surgery.

A paper read by F. S. Batchelor, F.R.C.S., *at the Annual Conference of the British Medical Association (New Zealand Branch), at Auckland,* 1924.

To begin with, a few words on the diagnosis and principles of treatment of gastric lesions. The majority of cases of duodenal ulcers can be correctly diagnosed by the typical history—certainly not all. Stomach ulcers do not carry such a clear-cut history. X-ray examination is, of course, of great value, but I do not believe that, certainly in Dunedin and probably in New Zealand generally, we have arrived at anything comparable to the exact X-ray diagnosis that is attained in America and England. I know that in the *Mayo* Clinic something over 90 per cent. of cancers and ulcers are correctly diagnosed by the X-ray specialists. I cannot put our results in accurate percentages, but would be surprised if they reached 50 per cent. The reason for this is obvious, and no doubt our X-ray diagnosis is steadily improving.

I cannot say that I have any profound diagnostic faith in chemical analysis of the stomach contents, although the modern fractional tests are a great advance on the single test meal, which was in many cases of little value.

I have nothing to say as to the etiology of these ulcers except to comment on the extreme frequency of the combination of ulcer and oral sepsis. The great majority of these cases either have, or have had, oral sepsis. This condition is extremely common in this country—I doubt if there is a higher incidence in any country in the world. It is obvious that no treatment, either medical or surgical, will reach its greatest value unless all septic foci are eliminated—a point that I am sure is frequently overlooked.

It is reasonable that in their early history innocent ulcers should be given a trial of medical treatment, and there can be no argument that some cases get well, and keep well, on such treatment, but when an ulcer becomes chronic and recurrent and when complications occur, then surgical measures are called for.

Surgical measures are indicated more speedily in gastric than in duodenal lesions because of the liability of the former to malignant changes.

Now, to come to the purely surgical part of the paper, taking first gastric carcinoma:—My experience of these cases has been very disappointing—one rarely gets a case in its early stage, and often not until there is a palpable tumour, by which time all chance of cure has disappeared. I do not see much hope of improvement unless all suspicious cases are explored in their early history, or until we are able to make an exact and early diagnosis by X-ray means and also to educate the public. Practically my only successes have been in cases where the growth was near the pylorus and causing obstruction, necessitating operation in a comparatively early stage.

In these cases a *Bilroth* number one, or more frequently *Bilroth* number two, with removal of the affected gland area are simple and safe operations, and give excellent results in suitable cases. I have at present three cases which show no signs of recurrence at the end of three years. In the more extensive cases I usually do an anterio and, more recently, a posterior *Polya*. By this method one can remove as much of the stomach as necessary—it is an operation of no outstanding difficulty and appears to me to be by far the most satisfactory operation for this class of case.

My immediate mortality has been quite reasonable—my end results in these cases have been very poor—I have not had a large operative experience of carcinoma of the stomach.

Turning now to non-malignant, or presumably non-malignant, ulcers. There is a group of acutely bleeding ulcers, Hale-White's haemostaxis, which is not surgical. These cases usually have no characteristic ulcer history, and are probably due to some toxic infection, sometimes in connection with hepatitis, and are best treated by medical means, particularly stressing removal of septic foci.

In the more common chronic gastric ulcer surgical treatment should always include removal of the ulcer.

I am not a believer in large gastroectomies in all cases of gastric ulcer in the hands of the average surgeon—to which class I belong. I am positively certain that gastro-enterostomy only is a very inadequate procedure in these cases. Small ulcers of the stomach can be excised easily and safely with the knife or cautery, preferably the latter, but it is necessary to perform a gastro-enterostomy after such excisions to maintain proper peristalsis in the stomach.