

University of Auckland and Waitematā DHB Research Symposium 2021

Oral Presentation Programme

Mon 12th April – Fri 16th April 2021



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University of Auckland and Waitematā DHB Research Symposium 2021

Oral Presentation Programme

Mon 12th April – Fri 16th April 2021

Day 1 – Monday 12th April 2021

Feature Presentation

- Prof Martin Connolly Retirement Villages and their Residents: Village characteristics, residents' health profile and trajectories, and a multidisciplinary intervention aiming to reduce adverse outcomes.
- Mrs Eva Juhasz Breast Cancer Management in Women Over the Age of 80: A Service Evaluation and Proposal of Guidelines.

Lightning Presentation

- Dr Jocelyne Benatar Hui - partnership in practice in familial hypercholesterolemia
- Assoc Prof Robyn Whittaker & Dr Rosie Dobson mPR: Feasibility of a mHealth Pulmonary Rehabilitation programme
- Prof Phillippa Poole Workforce intentions of recent NZ medical graduates from the MSOD project

Day 2 – Tuesday 13th April 2021

Feature Presentation

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- Dr Natalie Gauld Feasibility of hepatitis C screening in community pharmacy: uptake, frequency of positives and pharmacists' views

Lightning Presentation

- Assoc Prof Wayne Miles Extended Release Oral Ketamine for Treatment Resistant Depression; preliminary findings
- Dr Phyu Sin Aye Increased risk of EGFR mutation-positive lung cancer in Māori and Pacifica in New Zealand revealed by analysis of population-based incidence rates
- Oriana Munevar Aquite Risk of bleeding with anticoagulants in patients with liver cirrhosis

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Lightning Presentation

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Retirement Villages and their Residents: Village characteristics, residents' health profile and trajectories, and a multidisciplinary intervention aiming to reduce adverse outcomes.

Authors: Professor Martin Connolly, Dr Joanna B Broad, Dr Katherine Bloomfield, Dr Michal Boyd, Dr Zhenqiang Wu, Annie Tatton, Cheryl Calvert, Joanna Hikaka, Dr Dale Bramley, Ann-Marie Higgins, Dr Kathy Peri

Background/Aims

NZ retirement villages house 14% of people aged 75+ years. Little is known of resident demographics, health or needs. We describe villages and their residents' demographics, socio-behavioural, health status/needs, and prospective healthcare trajectories, plus results of a randomised controlled trial (RCT) aiming to reduce adverse outcomes.

Methods

Cross-sectional study of village (n=33) residents who completed a survey and validated health needs assessment. Cohort followed over 2.5 years. A vulnerable (pre-defined/validated criteria) sub-group (n=412) participated in an RCT multidisciplinary intervention aiming to reduce adverse outcomes (1.5 years follow-up). NZ Health and Disability Ethics Committee approved. Written, informed consent from participants.

Results

Survey comprised 578 people; median age: 82 years; 27% men; 61% lived alone; 97% self-identified as NZ European/European. Downsizing/ less maintenance (77%), less stress (63%) and perceived improved healthcare access (61%) were commonest reasons for entry. 34% received home supports, 10% personal cares. Hypertension, heart disease, arthritis and pain were reported by over 40%, loneliness by 37%. Many had unmet health needs. After 2.5years follow-up 53% had acute hospitalizations; 65(11%) moved to long-term care (LTC); 51(9%) died. Factors statistically associated with these outcomes (covariate-adjusted) *included*: falls risk; comorbidities; not leaving village in two-weeks prior; functional needs; cardiorespiratory conditions; acute hospitalization in year prior; and age. Presence of on-site clinic was associated with 38% lower risk of acute hospitalization. RCT found no difference in acute hospitalizations, LTC transitions or mortality vs. usual care. Two-thirds of villages were part of corporate entities. 73% had resident alarms in units/apartments. Over half had on-site health clinics.

Discussion/Conclusions

Morbidity and adverse outcomes are common in residents. An MDT intervention did not improve outcomes. Service providers and village operators could co-design/test service initiatives (e.g., on-site clinics) to improve residents' health.

Acknowledgements

National Science Challenge - Ageing Well (MBIE) and the Waitematā District Health Board.

Breast Cancer Management in Women Over the Age of 80: A Service Evaluation and Proposal of Guidelines.

Authors: Mrs Eva Jhaaz, Dr Kai Sheng Saw, Mr Hamish Neave, Mrs Marilyn Bellingham

Affiliations: Waitematā DHB Breast Service, Department of Surgery

Introduction: Breast cancer in the elderly is projected to become an increasing health burden due to increased incidence with age, increased life expectancy, and an aging population. Elderly patients represent a complex challenge of balancing treatment against comorbidities and life expectancy. Treatment may be suboptimal as there are no specific guidelines for the elderly.

Aims: Our primary aim was to assess the current management of invasive breast cancer in the elderly in our institution and to evaluate our management against available literature to see if improvements can be made. A secondary aim was to develop guidelines for management of these patients. As part of this several co-morbidity tools were reviewed.

Methods: We evaluated our prospectively kept database and extracted data for all patients with invasive breast cancer over the age of 80 from 1st January 2010 to 31st December 2016. The data was analysed and deaths were evaluated. A literature review was undertaken to assess current accepted management and outcomes. Guidelines were then developed for use in our breast clinics.

Results: Out of 207 patients, 117 (56.5%) underwent surgery. Surgical intervention rates decreased with increasing age. Surgical mortality was 0%. The majority of surgical patients were stage I and II (66.6%) and there was a high mastectomy rate (64.1%). Overall survival (OS) and breast cancer specific survival (BCSS) were higher in the surgical group. We found our axillary surgery rate (98.3%) and radiotherapy rate (37.6%) were higher than reported by others. Of the 90 (43.5%) non-surgical patients, 12.2% had metastatic disease and 11.1% were deemed unfit for surgery. The main reason for not having surgery was the patient declining surgery (43.3%). There were more oestrogen receptor positive patients in the non-surgical group (90% vs. 77.8%), 72.2% of non-surgical patients were node negative on clinical and radiological exam.

Conclusion: Breast cancer management of the elderly in our institution is documented with long term outcomes. Our results confirm that surgery is safe and should be considered for all breast cancer patients over 80, particularly those in the 80-84 age group unless they are not fit for surgery or have a limited life expectancy. Our review has suggested that we could increase our surgical intervention rate and decrease our mastectomy rate to improve our outcomes and improve quality of life. We have proposed a set of guidelines and a flow diagram to be used at our breast clinics.

Hui: a partnership in practice in familial hypercholesterolemia

Authors: Jocelyn Benatar, Tara Elville, Helen Wihongi, the Whānau

Affiliations: He Kamaka Waiora, Tino Rangahau, Maori health research centre of excellence

Background: Familial hypercholesterolemia (FH) is the most common dominant genetic disorder however there is no national screening program in New Zealand and current approaches may not take into account the needs of indigenous Māori. A LDLR:c.2312-3C>A splicing mutation was found in an Māori male with premature heart disease with a history of a large extended family (whānau) blighted by premature death. This was described in another relative 15 years ago and family members were tested for academic reasons. No cascade screening and treatment was initiated.

Methods: A traditional meeting (Hui) was held with the extended family to ensure all were informed, appropriately screened and treated. This included acknowledgement of how the health service had let this whānau down.

Results: We created a closed social media page for the whānau that includes a family tree (for those who consent), prepopulated letters with the proband for local doctors, consent and blood test forms. Information is constantly updated by the family and liaising health professional.

Conclusion: Current approaches to FH are dependent on index patients presenting for cascade screening and do not incorporate the needs and views of the extended whānau. Establishing a partnership and giving back control of health information is crucial to ensure equity and improve health outcomes. This approach has increased screening and treatment of whānau across geography and generations.

Acknowledgements:

Denise Staple - Rural Practice Nurse.

Nicola Reid and Dr Andrew Laurie - Cardiovascular Prevention & Lipid Disorders, Canterbury District Health Board.

MPR: Feasibility of a mHealth Pulmonary Rehabilitation programme

Authors: Assoc Prof Robyn Whittaker, Dr Rosie Dobson, Ms Sarah Candy, Prof Denise Taylor, Dr Julie Reeve, Prof Jim Warren, Dr Kelly Burrowes, Dr Danielle Lottridge, Dr Jeff Garrett, Ms Taria Tane, Ms Trina Robertson, Ms Tamzin Brott, Ms Gayl Humphrey, Prof Merryn Tawhai, Ms Sabaoon Raza Khan, Mr Feiyu Hu, Ms Renee Young, Ms Laura Quilter, Ms Tirita Aumata-Heke

Affiliations:

Institute for Innovation and Improvement, Pulmonary Rehabilitation service, Waitematā DHB
National Institute for Health Innovation, Auckland BioEngineering Institute, Dept of Computer Science, University of Auckland School of Clinical Sciences, Health and Rehabilitation Research Institute, Auckland University of Technology
Pulmonary Rehabilitation Service, Counties Manukau DHB

Background:

Pulmonary rehabilitation (PR) has been proven effective in improving quality of life of those with chronic respiratory disorders (such as COPD). However only a small proportion (approximately 2% at Waitematā DHB) of eligible people attend or complete group-based in-person PR. Barriers to attendance include transport, time, cost and physical limitations of people with COPD. We hypothesize that PR could be delivered remotely in the home for those unable to attend.

Aims: To determine the feasibility and acceptability of a mobile phone delivered PR program for people with COPD in Waitematā and Counties-Manukau DHBs.

Methods: mPR was developed with a broad multi-disciplinary team, and involved formative research including people with COPD and their whānau, and clinicians. The programme delivers topics covered in existing PR sessions including prescribing and prompting regular exercise. mPR has a core text message program plus an app that includes an action plan, exercise videos, lung visualisation, education, symptom score questionnaire and 1-minute sit-to-stand test. A 9-week non-randomized pilot study was conducted. Participants were 26 adults with COPD plus four whānau members, who were offered participation at first assessment or during group PR sessions. Outcomes included satisfaction, engagement with the program, and perceived impacts.

Results: Eight people (31%) opted for text messages only, and 18 (70%) chose text messages plus the app. Only three people ended the program early. Of those that completed follow up interviews (n=20), all (100%) reported that they would recommend the program to other people with chronic respiratory conditions, 17 (85%) reported that the program had helped them to learn about their condition, and 19 (95%) reported the program made them feel more supported.

Discussion: The mPR program was appreciated by people with COPD and their whānau. Their feedback plus further testing with Waitematā COPD patients has informed the next version of mPR, which is now being tested for effectiveness.

Conclusion: It is feasible and acceptable to provide a PR programme via mobile phones.

Acknowledgements:

Funded by the MedTech Centre of Research Excellence (CoRE)

Workforce intentions of recent NZ medical graduates from the MSOD project

Authors: Professor Phillippa Poole, Dr Charlotte J W Connell (Te Āti Haunui-a-Pāpārangī), Ms Antonia Verstappen

Affiliations: University of Auckland - School of Medicine

Background: The Medical Schools Outcomes Database and Longitudinal Tracking Project (MSOD) has invited medical students and graduates in Australia and NZ to complete surveys on career intentions to explore how student background or attributes interact with curriculum or early postgraduate learning experiences on career choice and location.

Aims: To describe contemporary NZ medical graduate career choices;
To explore factors associated with a career intention in Waitematā.

Methods: Data were anonymised before analysis. Summary statistics were collated and crosstabs performed.

Results: For students graduating in the years 2011 to 2019 inclusive, 1786 (78%) responded. Overall, 96% intend to work in NZ with 33% in the Auckland region. 56% are female, 10% Maori, 5% from the Pacific, 59% NZ European and 39% other (more than one response allowed). At graduation, surgery and general practice are the most popular specialty choices (~19% each), with internal medicine next (~12%). 274 (15%) of NZ graduates nominated Waitematā DHB for their internship, with the majority (85%) from the University of Auckland. 190 (77%) were accepted for their PGY1 year at Waitematā, and 223 (90%) intend to work in greater Auckland in the longer term. The characteristics of these graduates will be presented, and compared with the overall cohort, and with the demographics of the Waitematā DHB population.

Discussion: Medical workforce development is a continuum, starting before selection into medical school, influenced by experiences through undergraduate and early postgraduate years, as well as employment practices. Waitematā intending graduates have some demographic differences to NZ medical graduates as a whole.

Conclusion: Understanding factors in career decision making may assist DHBs in designing and shaping an SMO workforce for their communities.

Acknowledgements:

Funding for the project comes from the Health Workforce Directorate of MOH, The University of Auckland and the University of Otago. We are grateful to all students and graduates who complete surveys.

Prof Poole is Head of the School of Medicine and is involved in educational policy development for selection and curricular design.

Using the Talanga method to engage Pasifika elderly and disabled people to explore unmet needs at the nexus of Transport and Health

Authors: Malakai Ofanoa¹, Mythily Meher¹, Siosifa Tupou^{1,2}, Suamalie Naisali¹, Liz Fanueli¹, Julie Spray¹, Shanthi Ameratunga^{1,3}

Affiliations: University of Auckland - School of Population Health¹; Waitematā District Health Board²; Counties Manukau District Health Board³

Background: While transport is a potent determinant of health, Pasifika communities' opportunities to enjoy the benefits of active travel has received little attention in Aotearoa.

Aims: We used the Talanga methodology to redress this concern, engaging with Pasifika people in West Auckland who were differently challenged due to advancing age or chronic health conditions.

Methods: Talanga, a Tongan word for 'interactive talking with a purpose', incorporates principles of faith, humility, trust, reciprocity, and deep respect. Using an equity-focused rights-based framework, the Inclusive Streetscapes project (funded by the Health Research Council) aimed to explore experiences of how transport infrastructure influenced the health and wellbeing of people who are bodily diverse and mobility challenged. Fifteen people from Samoan, Tongan, Tuvaluan, Tokelauan and Kiribati communities in West Auckland participated in qualitative Go-along interviews supplemented by Photovoice.

Results: Drawing on the Talanga approach, research assistants of diverse Pasifika ethnicities engaged with study participants to explore and understand their difficulties and aspirations within exchanges felt to be empowering and non-judgemental. Analyses of qualitative data identified that study participants greatly valued opportunities for active travel and mobility to enjoy social connections and community activities. However, many participants experienced major obstacles navigating their streets and neighbourhood, compounded by inaccessible transport infrastructure, low income, and difficulties with technologies. These features diminished or denied participants' opportunities to be socially engaged, physically active, and enjoy the kind of physical and emotional wellbeing they valued.

Discussion: The Talanga approach provided insights and knowledge regarding transport-related health and wellbeing experiences among older and disabled Pasifika people that have eluded standard consultation processes to date.

Conclusion: Transport inequities identified indicate the need for culturally appropriate approaches that engage with commonly marginalised groups in Eurocentric consultation processes to address disparities in wider determinants of health in the Waitematā District Health Board.

Acknowledgements:

We are grateful to the study participants, research advisory group, all co-investigators of the Inclusive Streetscapes project, and the Health Research Council of New Zealand for funding this project.

Feasibility of hepatitis C screening in community pharmacy: uptake, frequency of positives and pharmacists' views

Authors: Dr John Perry¹, Dr Catherine Jackson, Prof Ed Gane^{2,3}, Dr Natalie Gauld^{3,4}

Affiliations: Waitematā DHB¹ – Gastroenterology; Auckland DHB² - Liver Transplant Unit; University of Auckland³; Natalie Gauld Ltd⁴

Background: Hepatitis C virus (HCV) can be deadly decades after infection, through cirrhosis and liver cancer. Treatment is very effective, but insufficient people are being diagnosed and treated, endangering New Zealand's 2030 HCV elimination goal.

Aims: To ascertain the feasibility and outcomes of point-of-care testing for HCV in people with risk factors screened in community pharmacies in Waitematā DHB.

Methods: Following training, pharmacists from 10 pharmacies provided free point-of-care HCV screening over 7-15 months. If positive, participants received a medical referral and lab test form for RNA testing. RNA test results and treatment were recorded. Pharmacists were surveyed.

Results: Of 192 participants tested, 62% were female, the average age was 52 years, and 74% were European and 15% Māori. Seven tests were positive (3.6%), two of whom were Māori. Two people screening positive were RNA negative, four were RNA positive and were treated by a doctor, and one was RNA positive but remained untreated despite referral and pharmacist follow-up. Three people were previously identified as positive but lost to follow-up. Pharmacists were positive about providing HCV screening. Most pharmacists reported 10-20% of those approached agreed to be tested, and estimated the tests took 15-20 minutes. Some noted time-limitations affected the service. Most pharmacists wanted pharmacy technicians to conduct tests, and 64% supported pharmacists prescribing HCV treatment, primarily to remove barriers to treatment. In-store promotion aided test uptake.

Discussion: To achieve HCV elimination by 2030, diagnosis and treatment need to be accessible. This Waitematā feasibility study has informed development of a pharmacist test and treat programme soon to roll out across the Northern region.

Conclusion: Pharmacy can aid access to testing and awareness of HCV, find people with HCV, and reconnect people lost from the system. Using pharmacy technicians to test and pharmacists prescribing treatments could improve this service.

Acknowledgements:

Waitematā DHB funded this study. The help of pharmacists from 10 pharmacies and 192 participants is gratefully acknowledged.

NG is Vice President of the Pharmaceutical Society of NZ.

Extended Release Oral Ketamine for Treatment Resistant Depression; preliminary findings

Authors: Assoc Prof Wayne Miles

Affiliations: Waitematā District Health Board

Background: Major depressive disorder ranks high on the indices of disorder ranked functional impairment and socio-economic cost. Currently available treatments produce substantial improvement in around 50 per cent of patients. Ketamine used via intravenous or inter-muscular administration has been shown to be an effective antidepressant in subjects with poorly responding depression. The development of a novel formulation of extended release oral ketamine by Douglas Pharmaceuticals Limited that showed satisfactory tolerability in human volunteers has allowed the investigation of the use of the product in subjects with treatment resistant depression.

Aims: Primary objective is to evaluate efficacy as measured by Montgomery- Asberg Depression Rating Scale (MADRS).

Methods: This presentation will present early phase results of a phase 2 clinical trial which aims to enrol 200 subjects. The trial protocol exposes subjects to the active agent for 5 days (enrichment phase); their response is measured by MADRS score changes 8 days after the first dose. Those with significant change (50% or greater reduction) can then enter a randomised phase where they are allocated one of 4 different doses of investigational drug or placebo for 85 days. Primary outcome measure is change in MADRS score.

The study also investigates tolerability and safety data, the early phase tolerability will be outlined.

Results: The presentation will present the results from the first 100 subjects of the trial. The initial data including MADRS scores will be outlined. The response of those subjects to 5 days of active treatment will be presented.

Data to date on 119 subjects showed a baseline MADRS mean of 31. After 5 days open label ketamine (at study day 8) mean MADRS reduced to 11. Seventy-six % of subjects achieved the goal of 50 % or greater reduction with MADRS score equal to or under 12.

Discussion: Initial impressions are of a dramatic and rapid reduction of depression score in a high percentage of the enrolled subjects.

Conclusion: Should these results continue across the trial and show sustained improvements the new form of oral ketamine should offer a unique alternative for treatment of a burdensome and costly disorder.

Acknowledgements:

This study is sponsored by Douglas Pharmaceuticals Limited. Dr Miles is a contracted Principal Investigator but has received no other financial supports from the company. Data is presented with the company's permission as per investigator agreement. Ethical approval was obtained from New Zealand Health and Disability Ethics Committee. Acknowledgement to the Clinical Research Nurses for the study, Deborah Campbell and Clare Brennan.

Increased risk of *EGFR* mutation-positive lung cancer in Māori and Pacifica in New Zealand revealed by analysis of population-based incidence rates

Authors: Dr. Phyu Sin Aye, Prof. Mark James McKeage, Dr. Sandar Tin Tin, Ms. Prashannata Khwaounjoo, Prof. J Mark Elwood

Affiliations: University of Auckland

Background: In non-squamous Non-Small Cell Lung Cancer (NSCLC), the proportion of cancers which are positive for Epidermal Growth Factor Receptor (*EGFR*) mutations has been studied extensively. However, population-based incidence rates of *EGFR* mutation-positive and *EGFR* mutation-negative non-squamous NSCLC are needed to understand these diseases further and have not been assessed.

Aims: To estimate the population-based incidence rates of *EGFR* mutation-positive and *EGFR* mutation-negative non-squamous NSCLC in New Zealand population groups defined by sex, ethnicity and smoking.

Methods: This study used the data of all non-squamous NSCLC patients diagnosed in northern New Zealand (Northland, Waitematā, Auckland and Counties Manukau) between February 1, 2010 and July 31, 2017 (N=3815), identified from a population-based cancer registry. We calculated age-specific incidence rates, WHO age-standardised rates (ASRs) and rates estimated for complete testing for *EGFR* mutation-positive and *EGFR* mutation-negative groups as a whole and by patient subgroups.

Results: Of the total cohort, 45% were tested for *EGFR* mutations; of which 22.5% were *EGFR* mutation-positive. The annual ASR of *EGFR* mutation-positive NSCLC was 5.05 (95%CI 4.71-5.39) per 100,000 population. ASRs for *EGFR* mutation-positive NSCLC were higher in females than males: standardised incidence ratio (SIR) 1.50 (1.31-1.73); higher in Pacifica, Asians and Māori compared with New Zealand Europeans: SIRs 3.47 (2.48-4.85), 3.35 (2.62-4.28), and 2.02 (1.43-2.87), respectively; and, only slightly increased in ever-smokers compared with never-smokers: SIR 1.25 (1.02-1.53). The ASR of *EGFR* mutation-negative NSCLC was 17.39 (16.75-18.02) per 100,000 population; it was strongly associated with smoking, more common in men than women, and had the highest incidence in Māori, followed by Pacifica, the New Zealand European population, and then is lowest in Asian population. SIRs, corrected for incomplete testing, by sex, ethnicity and smoking, for both diseases, remained similar to those based on tested patients.

Conclusion: The population-based incidence rates revealed that the incidence of *EGFR* mutation-positive NSCLC was significantly higher for Māori and Pacifica compared with New Zealand Europeans.

Acknowledgements:

We acknowledge the Health Research Council of New Zealand for funding this research (funding projects 13-981, 15-087 and 19-450) and the University of Auckland (the UoA Doctoral Scholarship) for funding Phyu Aye's PhD.

Risk of bleeding with anticoagulants in patients with liver cirrhosis

Authors: Oriana Munevar Aquite, Kebede Beyene, Amy Chan, Michael Hays, Henry Wei, Cameron Schauer, Jay Gong

Affiliations: University of Auckland; Waitematā District Health Board - Department of Gastroenterology; Auckland District Health Board - Department of Gastroenterology; Counties-Manukau District Health Board - Department of Gastroenterology

Background: The safety of novel oral anticoagulants (NOACs) such as dabigatran and rivaroxaban are poorly studied in cirrhotic patients due to their exclusion from primary landmark trials. The current standard treatment for thrombotic conditions in patients with cirrhosis is warfarin.

We assessed the rate of bleed in cirrhotic patients taking warfarin compared to those taking NOACs.

Methods: This was a retrospective cohort study in adult patients admitted with liver disease to three district health boards in Auckland from 2008 to 2020. Patients were included if they had a confirmed diagnosis of liver cirrhosis and had received warfarin or NOAC therapy during the study period. Data collected included demographic data, biochemistry data, medication history and past medical history. The primary outcome measured was incidence of any bleeding event that resulted in a hospital admission. We calculated crude incidence as the number of any bleeding events divided by 100 person-years of follow-up.

Results: Initially, 4518 patients admitted with liver disease were identified; after applying our inclusion and exclusion criteria, the final cohort included 103 patients. The median (IQR) follow-up time was 505 days (128 to 1152). Overall, 52 patients took warfarin, 45 took dabigatran, and 6 took rivaroxaban. The incidence rate of bleeds for patients taking warfarin was 16.2 per 100 person-years (95% CI 10.2-25.8) compared to 11.9 per 100 person-years (95% CI 6.4-22.2) for patients taking NOAC. The IRR comparing NOACs to warfarin was 0.735 (95% CI 0.303 – 1.679), suggesting that patients taking NOAC may have less risk of bleeding than patients taking warfarin, but this difference was not statistically significant.

Conclusion: Our study found no statistically significant difference in the bleeding rate in cirrhotic patients treated with warfarin and those treated with NOACs. Our results suggest NOACs may be as safe to use as warfarin in patients with cirrhosis.

Acknowledgements:

New Zealand Pharmacy Education and Research Foundation (NZPERF)

Māori perspectives on a potential lung cancer screening programme.

Authors: Prof Sue Crengle, Dr Karen Bartholomew, Dr Rob McNeill, Ms Aroha Haggie, Mr Shayne Wijohn, Ms Sharon McCook, Dr Erena Wikaire, Dr Kate Parker, Ms Anna Maxwell

Affiliations: Waitematā DHB and Auckland DH - Health Outcomes, Planning, Funding and Outcomes Waitematā DHB and Auckland DHB

Background:

Lung cancer is a significant health issue for Māori and has been found to be the greatest contributor to the absolute inequity in mortality for Māori compared to NZ European/Other. Internationally, lung cancer screening trials have demonstrated a 20-26% reduction in lung cancer mortality. A pilot lung cancer screening trial at Waitematā DHB and Auckland DHB is planned as an intervention to accelerate Māori health gain through early detection and treatment.

Aims:

To understand the attitudes and beliefs of Māori toward a lung cancer screening programme.

Methods:

Māori aged 50-80 years who were current or former regular smokers were recruited to complete a survey using convenience and snowball sampling from various locations in Auckland and Northland. Whānau support people were also recruited to complete a similar survey in both regions. Results were analysed using descriptive statistics, plus Chi-squared and z-tests for comparing groups.

Results:

388 (306 ADHB/WDHB; 82 Northland) current/former smokers and 134 whānau support people completed the survey. 91% (+8% maybe) said they would attend a screening programme. A large number of gender, age group, educational level and smoking status differences were found for questions about factors that might influence attendance. Gender and smoking status were significant factors for questions relating to things that would make participants more comfortable with including smoking cessation help in a screening programme. Following Tikanga in the taking and storage of blood was a significantly greater issue for those with tertiary education. There were also gender and education level differences in who they would prefer to receive information about a screening programme from.

Discussion:

The results are encouraging in terms of the high proportion of the sample who would be willing to attend a screening programme. There were, however, numerous factors identified that may create enablers or barriers to actual attendance.

Conclusion:

These results have played an important role in designing a lung cancer screening programme which intentionally focuses on Māori first. The findings have been incorporated into the pilot study, including specific elements to address identified barriers.

Acknowledgements:

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Primary healthcare intervention to improve outcomes for at-risk older people: Kare Project

Authors: Associate Professor Michal Boyd, Dr Tom Robinson, Dr Diana North, Martin Dawe.

Affiliations: Waitematā DHB Planning, Funding, and Outcomes, Department of Older Peoples Health, Comprehensive PHO, Procure PHO

Background: It is estimated that the number of people aged 75 and older will increase by 77% from 2014 to 2026 and up to a quarter of people over 85 years old are frail. This requires proactive model to address the multiple and complex problems faced by older people.

Aim: The Kare Project aims to reduce hospital admissions and residential aged care admission for older people with multi-morbidity and/or frailty through comprehensive assessment, care coordination and proactive follow up by the primary healthcare team.

Methods: Nine general practices participated in the pilot project, and 1,091 patients were recruited between 2015-17. Kare participants had a comprehensive geriatric assessment by a practice nurse. Then goals and a care plan were developed with the older person, the practice nurse and GP, and followed by six monthly proactive visits. Secondary care gerontology nurse specialists supported the GP practice team. Kare patients were matched with a comparison group drawn from non-Kare practices using propensity score matching. The primary outcomes were acute hospitalisation and residential aged care admission 12 months after the initial assessment.

Results: Aged-residential care placement (Odds ratio (OR) 0.66, 95% confidence interval (CI) =0.48-0.91) and mortality (OR 0.66, 95% CI=0.49-0.88) were significantly lower over the first year in Kare patients compared with matched controls. There was no difference in acute hospitalisation (+0.06 admissions per year, 95% CI = -0.01, 0.13). Support service use (allied health and community support) was increased, and emergency department use decreased.

Discussion: The Kare programme delivered improved health outcomes across several measures for patients but did not decrease acute hospitalisation. The positive outcomes are the result of primary care practice changes that improved quality of care.

Conclusion: This model of primary healthcare enables general practices to sustainably and effectively manage the needs of the rapidly expanding ageing population.

Acknowledgements:

Waitematā DHB developed and funded this project.

Introducing smart phone applications into care for Inflammatory Bowel Disease (IBD) patients at WDHB.

Authors: Natasha Mitchell², Nideen Visiesio¹, Dr Zoe Raos¹, Dr Russell Walmsley^{1,2}

Affiliations: Waitematā DHB¹ - Department of Gastroenterology; University of Auckland²

Introduction:

- IBD is a chronic, relapsing disease requiring on going monitoring and access to specialist care.
- Large geographic catchment of Waitematā DHB means that smart apps will allow reporting/monitoring at distance.
- IBDSmart (Otago University / Gut Health Network) is a phone application for patients to self-report flares and monitor disease using validated scoring systems of Harvey Bradshaw Index (HBI) and Simple Clinical Colitis Activity Index (SCCAI). IBDSmart has been shown to be non-inferior to standard care and reduce face-to-face appointments.
- Treatment for IBD is increasingly orientated towards Quality of Life (QoL). IBD-Disk[®] provides a validated visual representation of QoL.

Aims:

1. Develop standard procedure documents, education brochures and email templates
2. Assess patient & clinician usability / accessibility.
3. Assess accuracy of clinician vs patient HBI & SCCAI.

Methods: IBD patients attending WDHB gastroenterology clinics were recruited over the phone, emailed brochures and asked to do IBDSmart / IBD-Disk[®] surveys 1-2 weeks before appointment. Clinician provided with HBI/SCCAI at appointment and reminded to discuss IBD-Disk[®]. Feedback was collected using 5-point scoring of 5 affirmative statements.

Results: 84 participants recruited., 45 used IBDSmart, 10 used IBD-Disk[®]. 11 clinicians were involved.

1. Technical issues: IBDSmart link expired @ 48hours, IBD-Disk[®] not work in Android Operating Systems 9.0-11.0.
2. % Completely Agreed or Agreed with Statement;

	Patient	Clinician
IBDSmart	79-95%	50-91%
IBD Disk	68-92%	87-90%

3. Correlation between clinician and patient scores moderate;(R 2 for HBI 0.52, for SCCAI 0.49). Participants scored their HBI/SCCAI higher than clinicians on extraintestinal manifestations and abdominal self-examination.

Conclusions:

- Both applications are highly usable and accepted by patients and clinicians.
- Correlation of scores could be improved by better pre-use education and app. design.
- Addition of patient treatment plans could help with involvement of primary care.
- Technological issues need addressing, but apps can be introduced now.

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Patient participation and preparation within general medicine clinic

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Background: Patients attending General Medicine Outpatient Clinics (GM OPCs) at hospital face multiple healthcare demands in an environment that has evolved with the clinician at its centre. The ideas, knowledge and understanding that patients bring to their clinic appointments is not well studied in the New Zealand setting.

Aims: To assess how hospitals prepare patients for their OP appointments and encourage people to actively participate in their own care.

Methods: A prospective survey of 50 patients attending follow up GM OPCs was performed at two centres. Participants' understanding of the purpose of their appointment, and knowledge of their prescription medications was explored using a nine-item questionnaire. Patient-directed hospital communication was then analysed to assess the quality and quantity of written information supplied to patients.

Results: Two-thirds of participants (66%) attending follow up GM OPCs recalled being informed of an appointment at the time of leaving hospital; only half (54%) felt they had been informed of the purpose of these appointments. Patient-directed communication was not completed in half (50%) of the analysed discharge letters. One third (36%) of participants did not have specific questions for their clinic visits.

Discussion: Limited information and support is provided to patients attending follow up GM OPCs and is not tailored to individuals' health literacy. This practice assumes patients have comparable health literacy to clinicians, which may have downstream impacts on the usefulness of the clinic experience. The information that health users bring to clinic may be improved by increasing user engagement and through novel patient-centred solutions.

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Proposed Quality Performance Indicators of sentinel lymph node biopsy for cutaneous melanoma.

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Background: Melanoma is a leading cause of morbidity and mortality in Australia and New Zealand. NZ has the highest melanoma incidence in the world alongside Australia at 54 per 100,000 persons.

Aims: Conduct a retrospective quality audit of sentinel lymph nodal biopsy (SLNB) practices from 2007 – 2019 of a high-volume melanoma surgeon. Primary outcome was false negative rate (FNR). Secondary outcomes were sentinel node (SN) identification and removal rate, and complication rates.

Methods: A database was maintained, containing n= 553 consecutive SLNB's for cutaneous melanoma from 31 August 2007 to 31 August 2019. Patient characteristics and details of the primary lesion, sentinel lymph node biopsy, recurrence, and complications were recorded.

Results: SN's were successfully identified in 444 (99.6%) out of 446 patients with a FNR of 9.1%. Positive SN's were identified in 70 (12.7%) SLNB's. Complications occurred in 76 out of 553 (13.7%) SLNB's.

Discussion: A review of internationally published literature reveals a SN identification rate of 94.4 – 99.5% with a FNR of 4.0 – 37.5%. SLNB is the best staging tool for melanoma and gives potential access to adjuvant systemic treatment if >1mm deposits are found. It is a day-stay procedure with a low complication rate.

Conclusion: SLNB is a safe and reliable procedure utilised for cutaneous melanoma. We propose our data should be used alongside international sentinel node series to establish Quality Performance Indicators (QPI's) to improve melanoma management.

Development of a pharmacist-facilitated medicines review intervention for community-dwelling Māori older adults in Aotearoa New Zealand

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Background: Pharmacist-facilitated medicines reviews improve the quality of prescribing and reduce adverse outcomes in older adults. National policies in Aotearoa New Zealand (NZ) identify the importance of pharmacist-facilitated medicines reviews, which remain underutilized in NZ. Services that do exist may not meet the particular needs of older adults or Māori, and may increase inequities in the quality use of medicines between Māori and non-Māori.

Aims: To develop and test the acceptability and feasibility of a pharmacist-facilitated medicines review intervention for community-dwelling Māori older adults.

Methods: Kaupapa Māori theory and the UK Medical Research Council's Guidance on the Development and Evaluation of Complex Interventions were used to develop the intervention. Eligibility: >55 years, Māori, taking 4 or more medicines, live in Waitematā District Health Board. Intervention: Medicines knowledge-sharing session (participant and pharmacist) and medicines optimisation session (participant, pharmacist and prescriber). Outcomes included: acceptability, medicines knowledge, medicines appropriateness, quality of life and pharmacist recommendations.

Results: Participants valued the clinical expertise and advocacy provided by the pharmacist during the intervention, and the perceived increase in medicines knowledge, control and autonomy. The intervention was feasible to deliver and it was feasible to use the selected tools to study outcomes.

Discussion: This study is an example of a pro-equity health intervention, informed by Indigenous knowledge and methodology, developed explicitly to address inequities in health outcomes for, and with, Māori. The methods used and outcomes reported have significance for clinicians, pharmacy organisation and policy-makers that work to provide pro-equity health services to (and with) Indigenous populations and other marginalised groups or populations.

Conclusion: The pharmacist-facilitated medicines review intervention for Māori older adults developed by Māori, for Māori, was acceptable to participants and feasible to study.

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Scopolamine: a potential new pharmacotherapy for treating depression?

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Background: Depressive disorders are leading causes of disability, but current pharmacotherapies and psychotherapies typically take several weeks before achieving efficacy. Comparatively, prior studies involving intravenous scopolamine infusions reduced depressive symptomologies compared to saline placebo infusions within days. However, several parameters of scopolamine's antidepressant effect remain unknown, such as the dose-response profile and washout period. Glycopyrronium was chosen as the active placebo as it has antimuscarinic properties similar to scopolamine but is unable to cross the blood-brain barrier.

Aims: To characterise the antidepressant response of scopolamine.

Methods: The present clinical trial recruits depressed individuals and randomises participants to receive single intravenous doses of either scopolamine hydrobromide (4-6µg/kg) or glycopyrronium bromide (4µg/kg). The primary mood outcome measure for detecting depression severity was the Montgomery-Åsberg Depression Rating Scale, which was administered from pre-infusion to 6 weeks post-infusion.

Results: Preliminary results at thirty-seven (of forty) participants show that both scopolamine and glycopyrronium reduce depressive symptomologies within a day of drug administration and maintain such antidepressant effect until approximately 2 weeks post-drug administration. No significant mood difference was detected between the two drugs.

Discussion: The present results raise questions about the magnitude of the placebo response and the potential for antimuscarinic contributions to depressive aetiologies. A large placebo response may have mediated the observed results in prior studies. Alternatively, central and peripheral muscarinic receptors may play an important role in depression.

Conclusion: The present results show scopolamine has no more antidepressant effects than the active placebo glycopyrronium which raises questions about the role of the muscarinic system in depression and the placebo response.

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Rethinking endometriosis care at Waitematā: implementing international best practice to better serve women with chronic pelvic pain.

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Background: Pelvic pain affects one in five women, with endometriosis observed in 71-87% of cases.¹ Yet, endometriosis still remains largely underfunded and under-researched, resulting in a lack of knowledge among healthcare providers.² This has resulted in long, painful and frustrating journeys to diagnosis and treatment for many women with endometriosis.³

Aims: To compare current endometriosis and pelvic pain services within Waitematā DHB against international best guidelines to develop a patient-centred care pathway.

Methods: A retrospective audit of all patients that underwent treatment for endometriosis and/or pelvic pain within Waitematā DHB over two years. Outcomes assessed include examinations done prior to referral and procedure, information on fertility and multifactorial pain provided to patients, number of surgeries per patient and appropriate triaging to specialist surgeons.

Results: 232 patients received treatment for endometriosis and/or pelvic pain between August 2017- September 2019. Of pre-referral assessments 38% of cases had abdominal and 40% had vaginal examinations. Of pre-procedural assessments 47% had abdominal and 72% had vaginal examinations. 59% of patients were informed about fertility impacts and 50% had multifactorial pain discussed. 32% of patients had >2 surgical procedures and of patients identified with severe endometriosis, 71% were referred to a specialist surgeon.

Discussion: Waitematā DHB endometriosis services were found to be incomplete when compared to best practice. Of particular concern was the suboptimal triaging to specialist surgeons to optimise patient outcomes and prevent multiple surgeries. Furthermore, pre-referral and pre-procedure assessments as well as information relayed to patients were insufficient.

Conclusion: The findings of this study enabled the development of a new endometriosis service at Waitematā DHB to improve patient experiences and outcomes. All triaging is now controlled by specialists and all women are seen in the endometriosis clinic for assessment. This new care pathway can provide a framework for improved and standardised national endometriosis care.

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A Qualitative and Quantitative Account of Patient's Experiences of Ketamine and its Antidepressant Properties

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Background: Ketamine has been central to one of the most rapidly growing areas of neuroscientific research into novel treatments for depression. Ketamine is effective in 2/3 people with treatment-resistant depression and the onset of symptom relief occurs rapidly – within 24 hours.

Ketamine is best known for its role in anaesthesia and pain medicine. When administered intravenously at sub-anaesthetic doses ketamine produces marked psychoactive effects including out of body and mystical experiences. Limited research has indicated that the psychedelic properties of ketamine may play a role in its antidepressant effects.

Aim: The main aim was to explore the psychedelic experiences of ketamine when administered as an antidepressant, and whether the experiences are related to the treatment response. We also aimed to explore the impact of the trial on participants perspectives around depression, their life in general, and future treatments.

Methods: In the current study, ketamine (0.44 mg/kg) was administered to 32 volunteers with major depressive disorder in a crossover design, with the active-placebo remifentanyl.

The 11-dimension altered states of consciousness (11D-ASC) questionnaire and individual qualitative interviews were used to capture the acute psychedelic experience. A second qualitative interview took place ≥ 3 weeks post-ketamine to explore the lasting impact. The Montgomery-Asberg Depression Rating Scale (MADRS) was used to measure antidepressant response.

Results: 70% of participants experienced $\geq 50\%$ reduction in depression symptoms within 24 hours of receiving ketamine. Greater antidepressant response correlated with the 11D-ASC dimensions: spirituality, experience of unity, and insight. The first qualitative interview revealed all participants experienced perceptual changes. The final interview showed evidence of a psychedelic afterglow, and changes to perspective on life, people, and problems, as well as changes to how participants felt about their depression and treatments.

Conclusions: The current study provides preliminary evidence for a role of the psychedelic experience and afterglow in ketamine's antidepressant properties.

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Targeting screening to the Pacific population: an AAA screening pilot for Tongan men

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Background: Along with Māori men, Pacific men in NZ have a higher risk of dying from abdominal aortic aneurysm (AAA). A once-in-a-lifetime abdominal ultrasound of the aorta for men 60-74 years has been shown to reduce mortality from AAA. However, there are uncertainties regarding the prevalence of AAA, suitability of abdominal ultrasound and the optimal screening programme for Pacific men. The encounter allowed additional screening for atrial fibrillation (AF), a risk factor for stroke.

Aims:

To assess the prevalence of AAA and the feasibility, acceptability and potential benefits of AAA/AF screening for Pacific people.

Methods: Focus groups were held with Tongan men to advise on invitation methods and resources. Screening sessions at convenient community locations included an abdominal ultrasound scan, a test for AF, and a range of 'co-benefits' such as blood pressure test and offer of referral for smokers.

Results: Invitations to 227 Tongan men resulted in 150 men completing screening. Seven AAAs (33-41mm, including one previously known) in men aged 63-73 yrs are being followed up along with four new cases of AF. There were no cases of non-visualisation of the aorta at screening.

Discussion: Optimisation of the screening programme for a Tongan population from the outset resulted in a high uptake of the offer of screening and a positive screening experience. The employment of a Tongan lead with established relationships with the Tongan community was also an important factor. Feedback to the screening team suggested such positive experiences can contribute to increased trust in the health system.

Conclusion: While the sample of Tongan men in the pilot was small, the acceptability of screening, high uptake, AAA prevalence and co-benefits indicate that Pacific men may benefit from such a screening programme. Continuation of the DHB AAA research with other Pacific groups will provide further data to inform recommendations regarding a national screening programme.

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Reasons for Failure Following Medial Unicompartmental Knee Arthroplasty (UKA)

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Background: Knee arthroplasty can substantially improve quality of life for patients with debilitating knee osteoarthritis (OA). With combined effects of ageing and increasing obesity, the number of patients needing knee arthroplasty is steadily increasing. For a majority of patients, unicompartmental knee arthroplasty (UKA) is an option instead of total knee arthroplasty (TKA). UKA has advantages over TKA including cost-effectiveness, fewer complications and faster recovery, however UKAs also have higher revision rates. A stronger understanding of revision indications for UKA is needed for improved clinical outcomes.

Aims: We aimed to identify revision indications for medial UKAs, and to examine differences by implant bearing, cement use and time.

Methods: A systematic review was performed by searching MedLine, EMBASE, CINAHL and Cochrane databases between 2000 and 2020. A retrospective audit was conducted using data from the New Zealand Joint Registry combined with electronic patient notes from within Waitematā District Health Board between 2000 and 2017.

Results/Discussion: A total of 24 cohort studies were selected. The most common indications were aseptic loosening (24%) and OA progression (30%). Revision indications differed depending on time from surgery. Rates of failure from wear were higher with fixed-bearing prostheses, whereas rates of bearing dislocations were higher with mobile-bearing prostheses. Cemented components had a high rate of failure due to aseptic loosening, which was reduced with use of uncemented components.

At WDHB, 403 medial UKAs were performed between 2000 and 2017 with a 92.1% survival rate. All revisions in this cohort were for mobile bearing cemented implants, with a majority as a result of osteoarthritis progression in non-replaced compartments (64%).

Conclusion: Indications for revision of medial UKA differ by implant bearing, cement use and over time. Future UKA research should focus on reducing these failure modes, particularly aseptic loosening and wear in non-replaced compartments.

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Attitudes and Practices of Discharge Opioid Prescribing in Junior Doctors of the Auckland Region: A Descriptive Study

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Background: In the first world, opioid abuse has become the foremost health challenge in the 21st century. Despite attempts to reduce opioid prescription, opioids have remained the mainstay of inpatient analgesia, especially after surgery. In New Zealand, prescribing of discharge analgesia is often the responsibility of resident medical officers (RMOs). A recent study of medical schools in Australasia found that pain education is inadequate. Furthermore, there is currently no published literature in New Zealand on RMO prescribing attitudes and practices of analgesia and in particular opioids on discharge.

Aims: To identify junior doctors' current attitudes, influences and prescribing habits when prescribing opioids upon discharge from hospital care.

Methods: An anonymized cross-sectional survey was provided to resident medical officers in the Auckland region at formal teaching sessions. The survey assessed the degree of training received on analgesia and opioid prescription, confidence to prescribe discharge opioids, influences of current prescribing and clinical scenarios to assess prescribing habits.

Results: Ninety-six respondents completed the survey. Overall, most respondents (n=80, 83.3%) stated that they would like more formal education on safe opioid pain medication prescribing. This was reflected in follow-up questioning where only 20 (20.8%) respondents felt they had adequate knowledge and clinical experience in understanding the pharmacokinetics and pharmacodynamics relevant to opioid prescribing. Furthermore, fewer respondents were confident to prescribe opiates independently to pregnant patients (n= 12, 12.5%), patients with renal failure (n= 34, 35.4%), patients at higher risk of respiratory depression (n=19, 19.8%) and elderly patients (n=31, 32.3%).

Conclusion/ Discussion: RMOs describe a lack of confidence in prescribing discharge opioids requiring senior colleague input and to high-risk patients. As RMOs are largely responsible for prescribing opioids on discharge from hospital, these findings highlight a need for increased RMO education on pain and opioid management especially in the light of the global opioid epidemic.

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