Stroke or Stroke Mimic?

Rate of Diagnostic Error: Telestroke vs In-person Assessments

INTRODUCTION & AIMS

Introduction: Telehealth is increasingly being used in acute neurological assessments, particular in the diagnosis of stroke (1). At Wellington Regional Hospital (WRH), acute telestroke assessments have been provided since 2016, including out-of-hours to WRH. Telestroke has increased the access of patients to expert assessment and to reperfusion therapies (2). The WRH out-of-hours service runs from 4pm to 8am and for telestroke, is staffed by a team of senior medical officers trained in neurology. Since mid-2017, the FAST-track system has been used to alert the acute stroke team to FAST-positive patients attending for assessment in the ED. However, stroke mimics are reported to account for 20% - 50% of FAST-positive presentations to an ED (3).

Aims: Our primary aim is to assess the diagnostic accuracy of telestroke assessments compared to in-person assessments, considering that diagnostic error is frequently reported in the order of 10% (4). Our secondary objectives are to describe the prevalence of stroke mimic diagnoses and subsequent clinical features, as well as the impact of telestroke assessment on rate of thrombolysis.

METHODS & HYPOTHESIS

Audit Design: Retrospective clinical audit of CCDHB telestroke service; quantify rate of stroke mimics and diagnostic accuracy (in-person vs telestroke).

Participants: Gather acute neurology presentations to WRH via FAST-TRACK alert system between October 2020 and September 2021 (12 months).

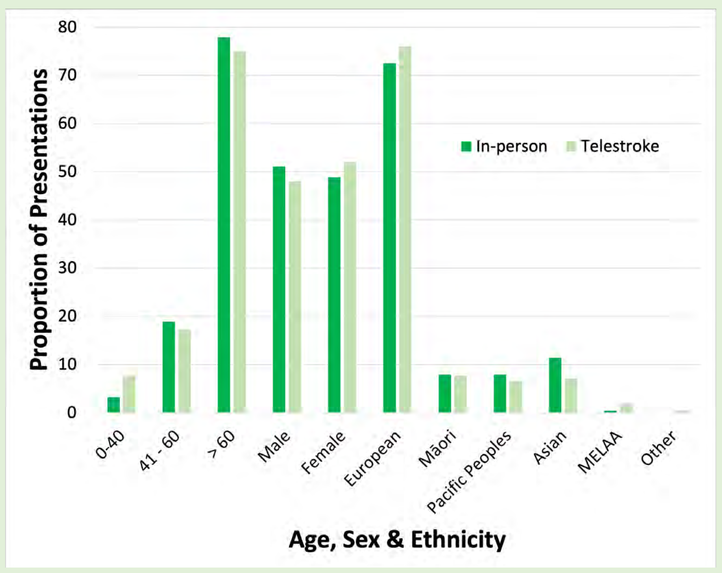
Data Collection: Create data dictionary and collect data from electronic case records (FAST-TRACK documents, ED notes, discharge summaries, radiology notes).

Data analysis: Categorise participant characteristics; analyse diagnoses (stroke vs stroke mimic groups) and diagnostic accuracy.

Hypothesis: We hypothesise no difference in rate of diagnostic error between in-person and telestroke assessment groups.

RESULTS

CHARACTERISTICS

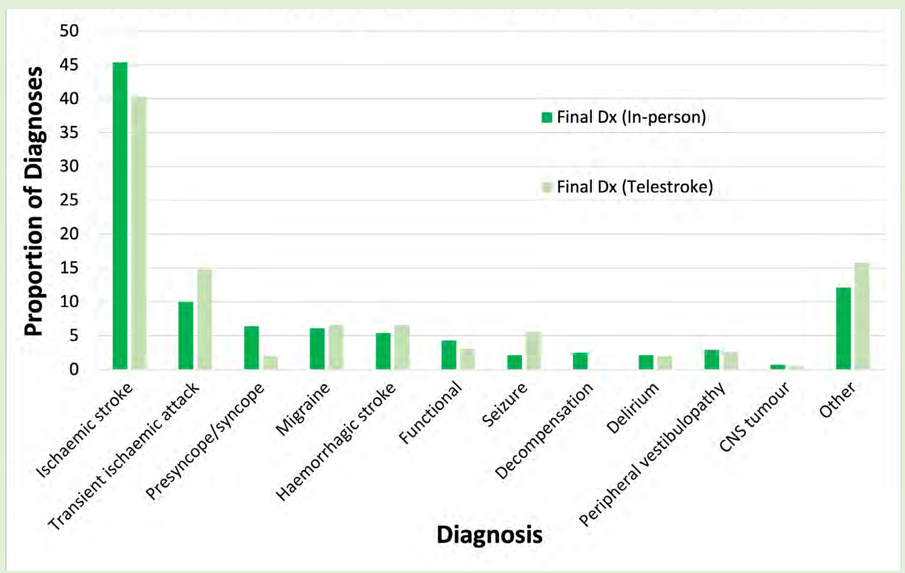


General: 476 individuals presented via the FAST-TRACK alert system, Oct 2020 & Sept 2021.

Age: Patients >60 years of age accounted for 77.9% assessed in-person and 75% assessed via telestroke. Few assessed were aged <40 years.

Sex & Ethnicity: Similar proportions of males, females, and ethnic groups were assessed in-person and via telestroke.

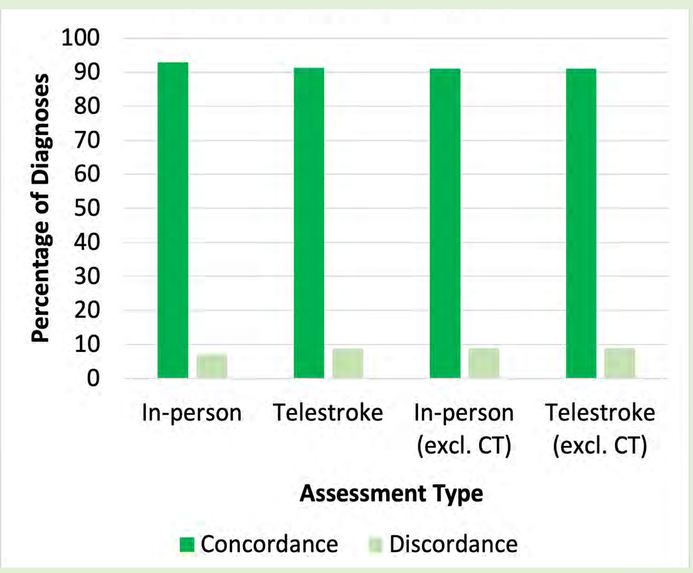
STROKE or STROKE MIMIC



Stroke vs stroke mimics: Stroke (S) includes ischaemic stroke & transient ischaemic attack; stroke mimics (SM) include all other categories. The proportion of stroke and stroke mimic final diagnoses were similar for in-person (S: 55.4%, SM: 44.6%) and telestroke (S: 55.1%, SM: 44.8%) assessments.

Stroke mimics: Common stroke mimics were presyncope / syncope, migraine, functional, and seizure. Other mimics include mononeuropathies, demyelination, infection, etc.

ACCURACY



Concordance: Defined as same diagnosis (stroke or stroke mimic) for initial and final diagnosis. We calculated concordance before and after excluding initial abnormal radiology results.

Diagnostic Accuracy: After excluding abnormal NCCT and CTP imaging, rate of diagnostic error increased for both in-person (7.1% to 9%) & telestroke (8.7% to 9%) but remained <10%.

CONCLUSION & FUTURE DIRECTION

Conclusions: Baseline characteristics were similar between in-person and telestroke; rate of diagnostic error (discordance) was near equal between in-person and telestroke groups at <10%; and rate of stroke mimic was ~45% (most common: presyncope/syncope & migraine).

Thrombolysis rates: Collect time of onset of symptoms to time of NCCT scan to calculate rate of thrombolysis for in-person and telestroke assessments; examine whether any patients who met the criteria for thrombolysis did not receive it and why.

Analyse additional data: Analyse clinical features (NIHSS, vascular risk factors), radiological features (NCCT, CTP, CTA findings), and ancillary testing (EEG, EMG, vascular imaging).

Increase participants: Increase audit size by up to three additional years of participants.

Examine stroke mimics: Analyse stroke mimic presentations, explore the 'Other' group.

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Acknowledgements:

Student: Alexander Calder, University of Otago Wellington
Supervisor: Dr Martin Punter, Department of Neurology, CCDHB
Funding: Department of Neurology, CCDHB

By “childhood”, **ex-preterm** guinea pigs begin to show signs of **altered control** of blood flow in the **microvasculature**

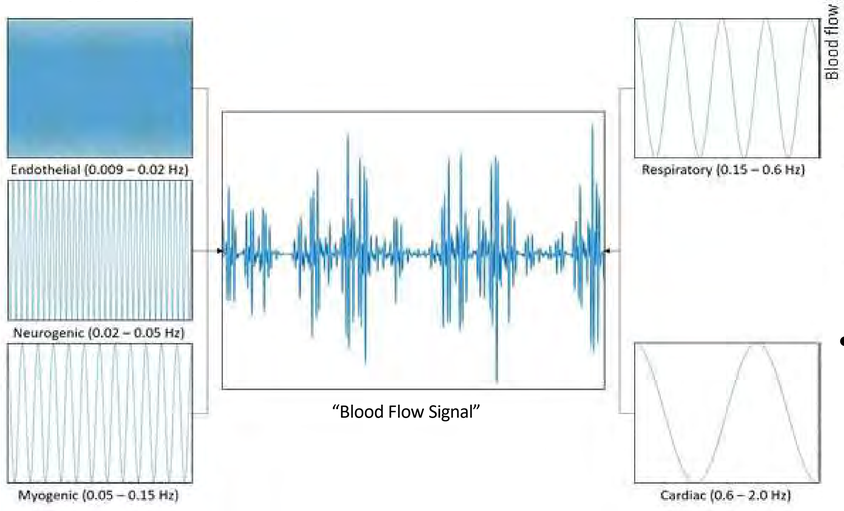
Microvascular Control Following Preterm Birth

A Groenewald[1], R Sixtus[1], W Aziz[2], M Berry[1], R Dyson[1]

[1] Perinatal & Developmental Physiology Group, Department of Paediatrics & Child Health
[2] Wellington Medical Technology Group, Department of Surgery & Anaesthesia
University of Otago, New Zealand

INTRODUCTION

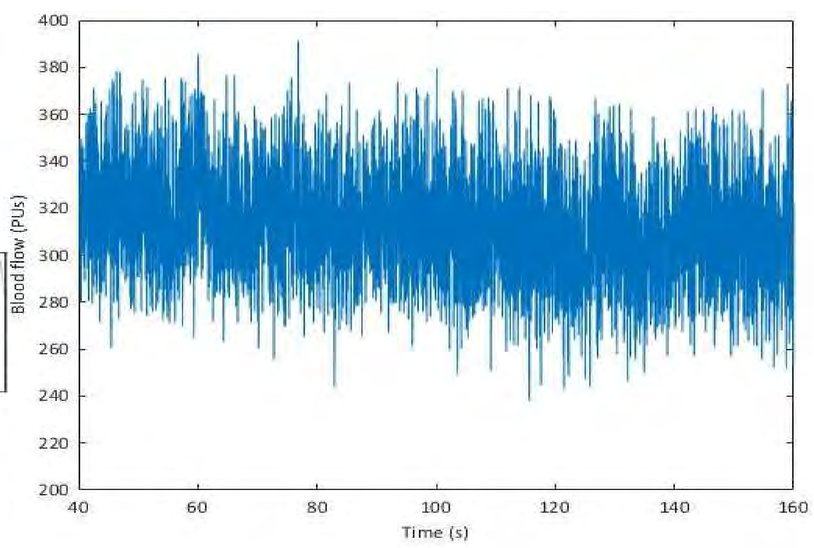
- Preterm birth impairs cardiac and vascular growth, increasing the risk of cardiovascular disease in early adulthood.
- Ex-preterm children have been shown to have altered microvascular blood flow control, although the underlying causes for this are unclear.
- Microvascular control (cardiac, respiratory, myogenic, neurogenic or endothelial factors) can be explored using spectral analysis to examine contribution to (dys)function.



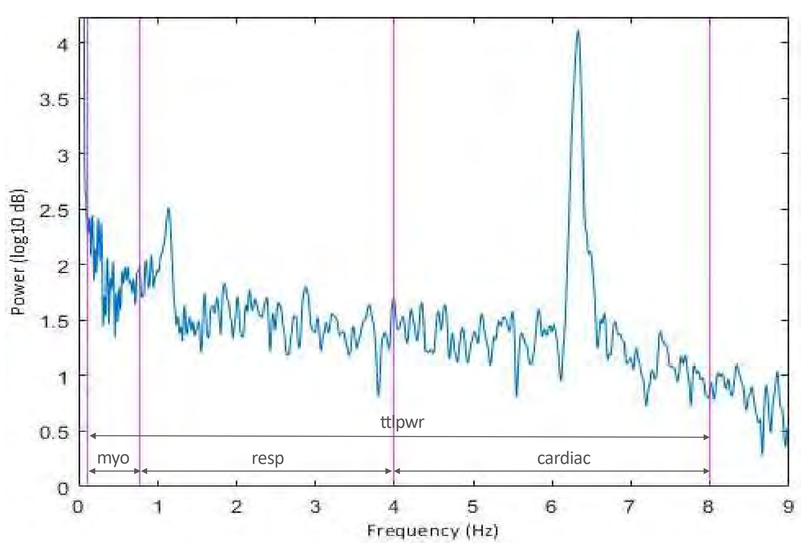
- These control mechanisms cause oscillations in flow measures within specific frequencies.
- An overall blood flow signal is made up of these oscillations, which can be examined using signal processing techniques to identify the 'power' of each control.
- This project aimed to use spectral analysis to assess how microvascular control is altered in a guinea pig model of preterm birth.

METHODS

- Microvascular blood flow signals were analysed in term and preterm guinea pigs at corrected postnatal ages (CPNA) 0, 7, and 40 days
- The signals were captured using laser Doppler flowmetry (Periflux 5000) at distal (ear) and proximal (scapula) sites

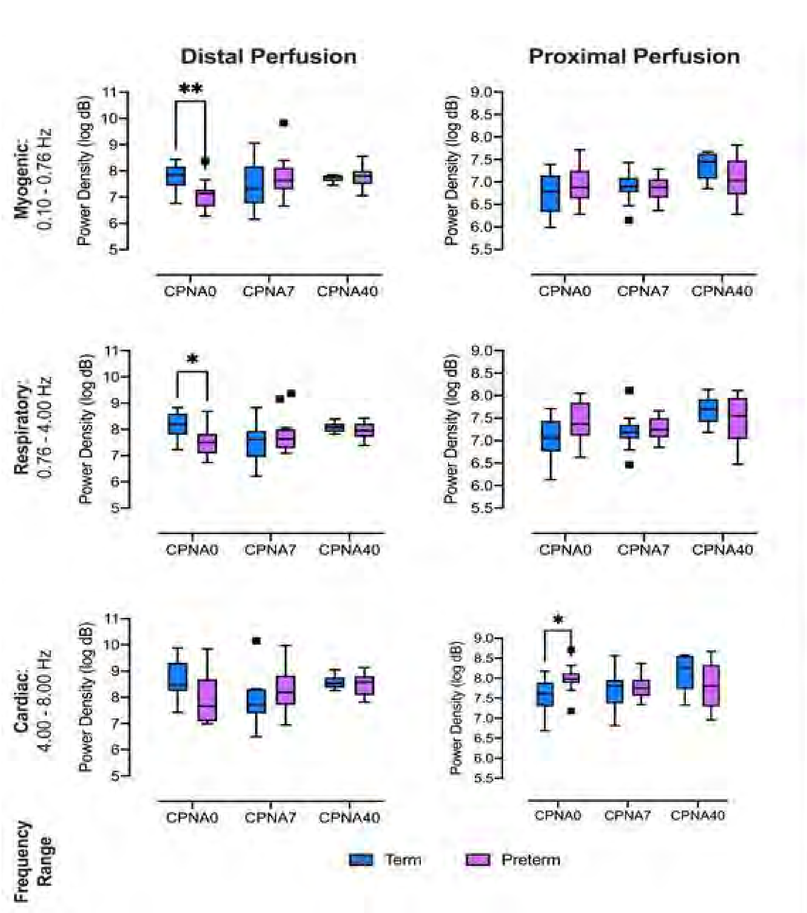


- Power spectral density (PSD) of myogenic, respiratory, and cardiac oscillations was calculated in MATLAB using the fast Fourier transform.



RESULTS

- Preterm animals seem to exhibit an increased proximal power and decreased distal power at CPNA0
- By CPNA7 there seems to be no difference between preterm and term animals, but the groups begin to separate again at CPNA40.



- Using MATLAB, we have shown that the PSD of different microvascular controls can be determined from laser Doppler flow signals in the guinea pig.
- Longer recordings (>15 min) would allow for investigation of slower frequency oscillations (e.g., endothelial NO-dependent and NO-independent factors).

GET IN TOUCH...

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ctpUOW

BACKGROUND

- Service users of adult acute mental health wards long for an available listening ear, yet frequently perceive staff as too busy to talk[1,2].
- Some fulfil this need for connection through social relationships with other service users- "naturally occurring peer support"
- Paucity of research on the topic- only two studies in our literature review explicitly focused on this phenomenon[3,4].
- Important to investigate given the potential to recognise and facilitate these beneficial interactions in care.

AIM

- Aim: to explore the ways in which naturally occurring peer support takes place among service users in adult acute mental health wards

METHOD

- 43 semi-structured interviews undertaken with service users on four wards- part of a larger observational study- 'Design of Acute Mental Health Wards- The New Zealand Experience
- Thematic analysis of these qualitative findings- iterative process with investigator triangulation

KEY FINDINGS

1. Manifestations of peer support fell under three core themes.
2. Naturally occurring peer support had considerable benefits for service users.
3. Service users desired facilitation of peer support- ward design aspects, organised ward activities, staff encouragement.
4. Inadequate support provided by staff- peer support could bridge this gap.

"WE HAVE TO BAND TOGETHER"

NATURALLY OCCURRING PEER SUPPORT ON THE ACUTE MENTAL HEALTH WARD

"So the patients were all sort of counselling each other really"

INFORMAL THERAPEUTIC RELATIONSHIPS

developed due to a range of factors, and service users negotiated these social relationships with thoughtfulness and empathy.

"There was one that tried to kill herself, and I braided her hair like how my Nan used to do it. And so I used to say, "Every braid you will just feel love, and you will feel wanted."

DESIRE TO IMPROVE OTHERS' WARD EXPERIENCE

was displayed through making the effort to welcome people and performing a range of different acts of kindness.

"People like us should not be dehumanized by the system"

A SENSE OF SOLIDARITY

was present among service users, arising from their shared experiences of stigma due to mental illness and their desire to be treated as "normal people."

THEMES

ACKNOWLEDGEMENTS

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AUTHOR: AMY COOPER

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MARSDEN FUND
TE PŪTEA RANGAHAU A MARSDEN

UNIVERSITY of OTĀGO
Te Whare Wānanga o Otāgo
NEW ZEALAND
WELLINGTON

RATE OF COVID VACCINATIONS AMONG HAPU MĀMĀ IN CCDHB

AWHINA MEIKLE, UNIVERSITY OF OTAGO WELLINGTON

BACKGROUND

Research[1] has shown that there is an increased risk of severe outcomes from COVID-19 infection for pregnant women compared to the general population.

The COVID-19 Pfizer vaccine has been recommended for pregnant people in Aotearoa since June 2021[2]. People birthing in November 2021 were therefore eligible for vaccination while pregnant.

Despite recommendations, pregnant people may have lower rates of COVID vaccination than the general population[2].

AIM

This study aimed to assess vaccination rates during pregnancy in Wellington and contributors to vaccination status.

METHODS

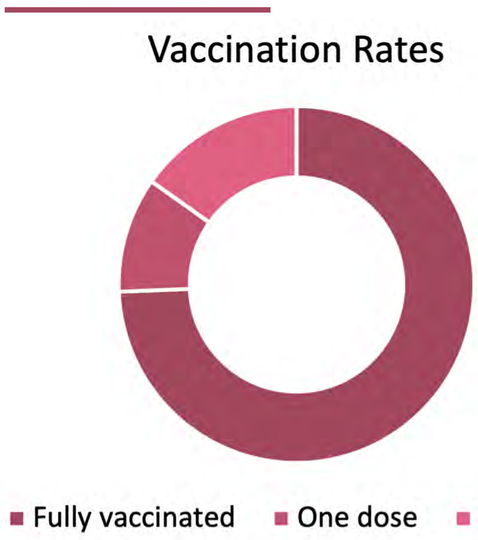
For three weeks from November 2021, people birthing at Wellington Hospital were surveyed regarding their vaccination status and reasons for this.

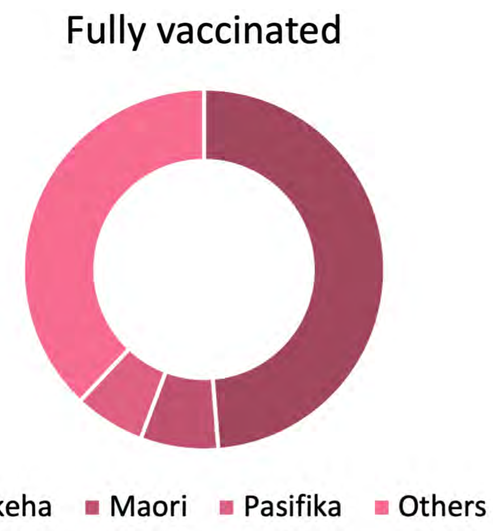
Exclusion criteria included people who were not willing to disclose their vaccine status and those under the age of 18.

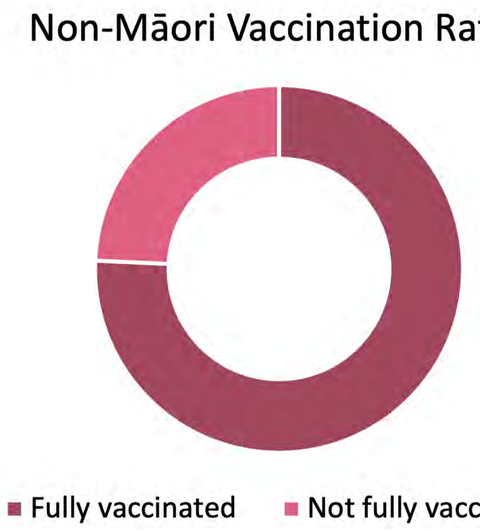
Data was collected through direct verbal communication with participants.

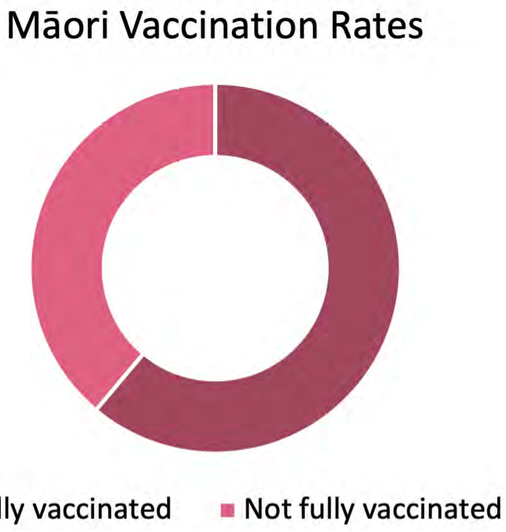
Relevant demographic data including age, ethnicity and parity was also collected.

RESULTS









191 of 206 eligible people (92.7%) consented to participate. Main motivators for vaccination were to transfer antibodies to their baby and protection against COVID-19. In contrast, unvaccinated participants' reasons were vaccine safety and delaying until post-natal. Both groups expressed concerns regarding changing official advice without well communicated reasons for the change.

Māori participants were less likely to be vaccinated (11/18; 61.1%) than non-Māori (131/173; 75.7%) (p=0.06).

CONCLUSION

Pregnant people were less likely to be vaccinated than the general population; the milestone of 90% of eligible people being vaccinated was achieved in Wellington in November 2021. Ethnicity inequities in the population rollout are reflected in our data. Both vaccinated and unvaccinated participants' decisions were influenced by wanting the best for their baby.

Messaging to pregnant people must include the benefits of vaccination during pregnancy for babies. As ongoing COVID boosters are likely, we must ensure that inevitable changes in vaccine policy are accompanied by explanation of reasons for changes.

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Dr Sara Filoche, Senior lecturer, Associate Dean (Research) for University of Otago Wellington, Head of Department for Obstetrics, Gynaecology and Women's Health.
Dr Claire Henry, Research Fellow in Department of Obstetrics, Gynaecology and Women's Health (University of Otago Wellington).

Co-investigator:
Dr Grace Clarricoats, University of Otago Wellington.

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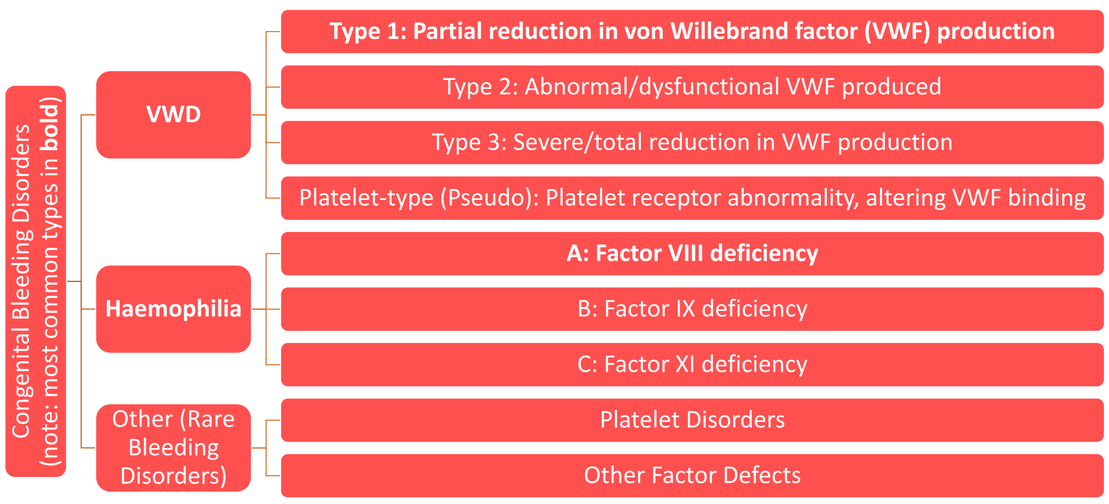
BLEEDING AT BIRTH: AUDIT OF OBSTETRIC OUTCOMES OF WOMEN WITH CONGENITAL BLEEDING DISORDERS IN THE WELLINGTON REGION

Barnard Patel (University of Otago, Wellington); Supervisor – Dr Huib Buyck (Capital and Coast District Health Board)

INTRODUCTION

Congenital bleeding disorders are blood clotting defects present from birth. Although rare overall, the most common are von Willebrand disease (VWD) followed by haemophilia:



Inheritance of VWD is autosomal (typically dominant), affecting both men and women. Haemophilia A and B are X-linked recessive (while C is autosomal), so men with these mutations are hemizygous (hence affected) whereas women are typically 'carriers', albeit not necessarily asymptomatic: women may have reduced factor due to X-inactivation.[1,2] Childbirth poses haemostatic challenges, so congenital bleeding disorders – including haemophilia carriership – may increase bleeding severity. Primary post-partum haemorrhage (PPH) is defined as estimated blood loss (EBL) during delivery of ≥500mL.[3]

AIM: assess maternal and neonatal outcomes, including PPH rates, of women with congenital bleeding disorders in the Wellington region

METHOD

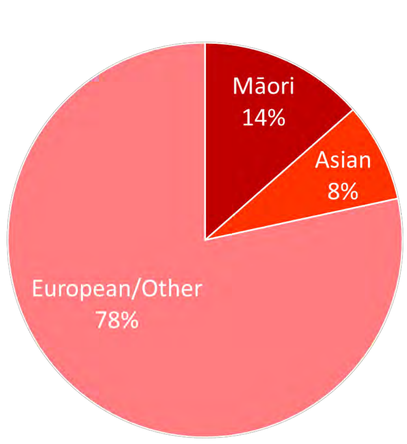
This was a retrospective observational study, auditing obstetric outcomes of women with congenital bleeding disorders in the Wellington region:

- Women with congenital bleeding disorders who progressed through pregnancy to delivery, in the Greater Wellington region (under care of regional Haemophilia service – manages all congenital bleeding disorders), were identified from Haemophilia service clinics in Wellington, Paraparaumu and Masterton, from clinic lists and via obstetric plans prepared prior to delivery
- Deliveries of these women during the 10-year period 2012-2021 (inclusive), occurring across 3 different DHBs (Capital and Coast, Hutt Valley and Wairarapa DHBs – CCDHB, HVDHB and WrDHB, respectively, collectively termed 3DHB), included in audit
- Data obtained through chart review via 3DHB electronic health records, including sociodemographic and clinical characteristics, maternal outcomes (such as EBL – hence primary PPH – and secondary PPH) and neonatal outcomes (such as APGAR scores), as well as anaesthetic, obstetric and haemostatic interventions.
- Information collected to construct a database in Microsoft Excel, also used for initial data analysis and visualisation

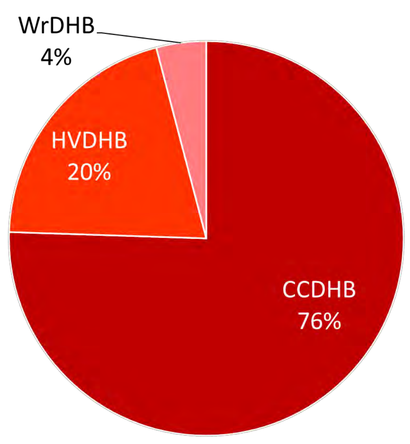
RESULTS

The audit identified 37 women and included 49 deliveries (all singletons), with no maternal or foetal deaths. Sociodemographic and clinical characteristics included:

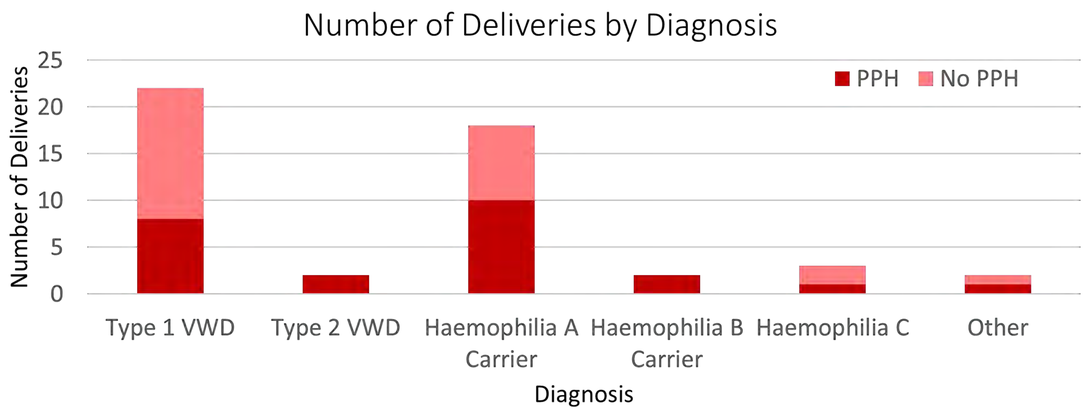
Ethnicity



Delivery Location (DHB)

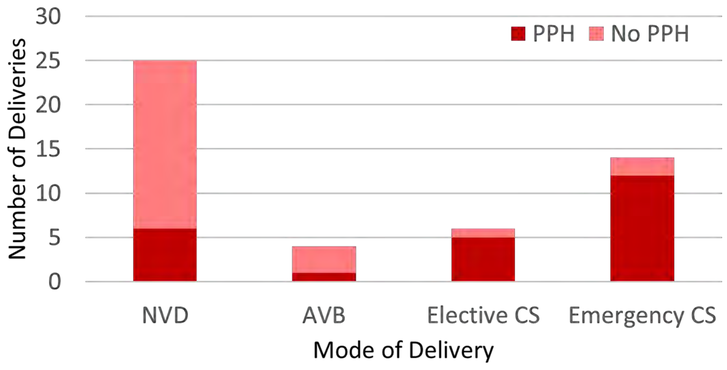


Number of Deliveries by Diagnosis



Two women had platelet disorders (1 delivery each): idiopathic thrombocytopenic purpura (nil PPH) and platelet function disorder (PPH occurred). VWD and haemophilia comprised all other deliveries.

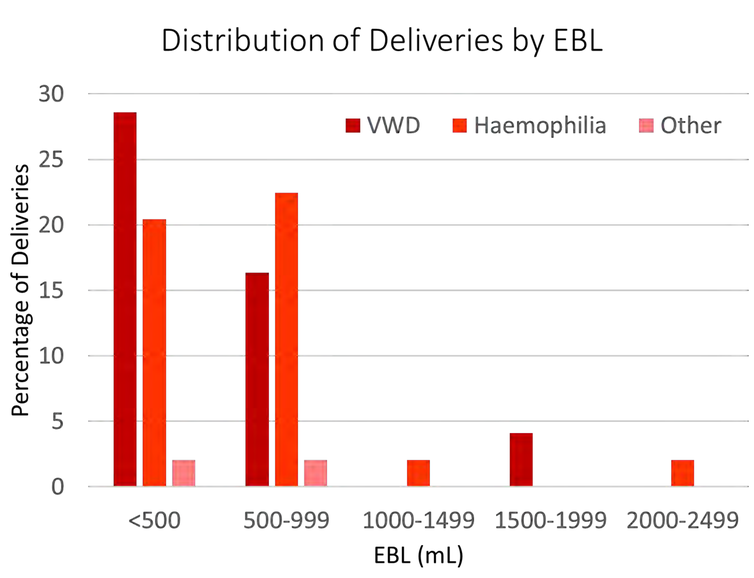
Number of Deliveries by Mode of Delivery



This audit comprised of 51% normal vaginal deliveries (NVD), 8% assisted vaginal births (AVB; refers to use of forceps or ventouse), 12% elective caesarean sections (CS) and 29% emergency CS (6 planned to be CS; 8 planned to be NVD). PPH was strongly patterned by mode of delivery: incidence was 24% (6/25) in NVD, 25% (1/4) in AVB, 83% (5/6) in elective CS and 86% (12/14) in emergency CS.

KEY FINDING: Incidence of primary PPH was 49% (24/49, 95% CI 35%-63%) overall, including 42% (10/24, 95% CI 22%-61%) in VWD and 57% (13/23, 95% CI 36%-77%) in haemophilia

Distribution of Deliveries by EBL



	VWD	Haemo-philia
Women	17	18
Deliveries	24	23
Maternal Age, median	29	31
Parity, median	1.5	1
Gestational Age (weeks), median	38+6/7	38+4/7
EBL (mL), median (lower-upper quartile)	425 (200-625)	500 (200-650)
Primary PPH, incidence	42%	57%
Severe Primary PPH, incidence	8%	9%
Secondary PPH, incidence	8%	4%

- Incidence of severe primary PPH (EBL ≥1000mL) was 8% (4/49), occurring in 2 deliveries each of type 1 VWD (both EBLs 1500mL) and haemophilia A carriers (EBLs 1200mL and 2000mL).
- Incidence of secondary PPH (excessive vaginal bleeding between 1 day and 6 weeks post-partum) was 6% (3/49), complicating 3 deliveries: type 1 VWD, haemophilia A carrier (both treated via Biostate – contains factor VIII and VWF) and type 2 VWD (due to retained products of conception – surgically evacuated).
- Neonatal outcomes were similar for VWD and haemophilia deliveries: median APGAR scores at 1, 5 and 10 minutes post-partum were 9, 10 and 10, respectively, for both groups. Median birthweight was 3600g for VWD and 3655g for haemophilia.
- Relevant blood tests (VWF and factor levels) were done before and during pregnancy to inform management. Factor VIII levels were available in 76% (32/42) of VWD and haemophilia A deliveries, and ≥50 IU/dL at term in all. VWF tests were done in 75% (18/24) of VWD deliveries, and low at term in 3, all complicated by bleeding: two type 1 (severe primary PPH and secondary PPH) and one type 2 (primary PPH).
- Tranexamic acid was administered in 63% of deliveries, including 75% of VWD (mostly prophylaxis post-partum). All haemophilia C women had prophylaxis (two, baseline level <10 IU/dL, received Hemoleven – factor XI; one, baseline level 47 IU/dL, received fresh frozen plasma). Other haemostatic interventions were desmopressin (3/49), Biostate (4/49), red blood cell transfusion (4/49) and iron infusion (4/49).
- CS was more common for haemophilia (12/23) than VWD (7/24), and hence so too was regional anaesthesia (spinal, epidural or combined) and induction of labour.

CONCLUSION

Incidence of primary PPH in this study was 42% in VWD and 57% in haemophilia, both of which are very similar to rates from other studies internationally (44% and 63%, respectively).[1,2] However, this corresponds to an incidence of 49% for women with congenital bleeding disorders overall, which is considerably higher than for all women in general (incidence of at most 15% according to existing literature), representing a statistically significant difference ($p=2.7x10^{-11}$, which is <0.05), despite intervention via haemostatic prophylaxis/treatment to attain VWF and factor levels/tests in the normal range (≥50 IU/dL) during pregnancy in these women.[3]

This may be due to bleeding disorders impairing the normal physiological rise in factor VIII and VWF in pregnancy (so levels in 'normal' range may be relatively low for pregnancy). Thus, PPH incidence by specific VWF and factor levels should be analysed.[2] Next steps include further analysis of other data collected, such as mode of delivery (given lack of consensus on recommendation for haemophilia carriers): regression may be useful to consider independent effect sizes of diagnosis and mode of delivery on PPH.[4,5] Moreover, collection of local obstetric data for unaffected women may be useful to provide controls for comparison against women with congenital bleeding disorders.

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The metabolic effects of a CREBRF gene variant in NZ women – an assessment of incretins and satiety

KEY OBJECTIVE

To assess the effect of the CREBRF gene variant on incretin release in Māori and Pacific women.

SECONDARY OBJECTIVE

To investigate whether this effect is associated with a concordant difference in experiences of satiety.

Background

A variant of the CREBRF-encoding gene (allele A; p.Arg457Gln) is associated with an increase in BMI but a decrease in the risk for type 2 diabetes and gestational diabetes.(1) This variant is found practically exclusively in people of Polynesian ancestry.(1) The exact function of CREBRF is unknown; in men, it has been found to be associated with an increase in postprandial insulin release.(2)

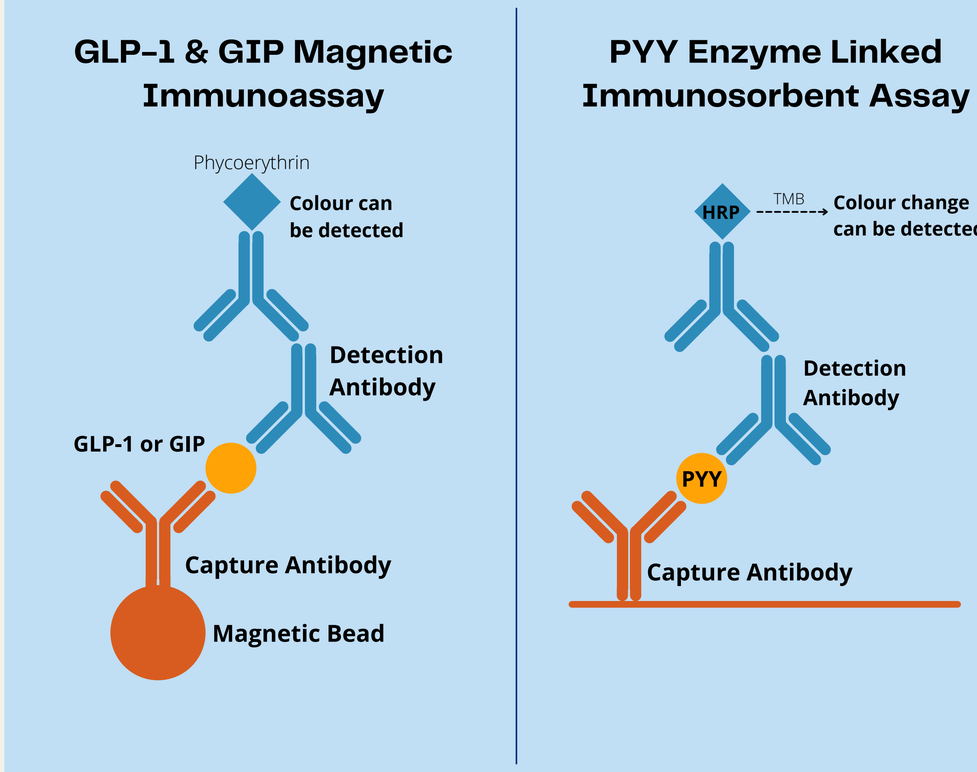
Incretins, such as glucagon-like peptide -1 (GLP-1) and gastric inhibitory peptide (GIP), are hormones that mediate insulin release following a meal and are also involved in regulating satiety.(3) Peptide YY (PYY) is another satiety-mediating gut hormone without incretin effects. (4) The relationship between the CREBRF variant and GLP-1, GIP, and PYY in women has not been investigated.

Methodology

Participant recruitment, sample and questionnaire collection occurred prior to this studentship. On the study day participants answered questionnaires, including a 24 hour food recall, before taking part in a standardised mixed meal test; plasma samples were taken at baseline, 30, 60, 90, 120 and 150 minutes following. Concurrently, participants answered a visual analogue scale (VAS), rating their perception of hunger and fullness on a scale from 0 to 100.

GLP-1 and GIP were analysed using the Millipore Human Metabolic Hormone Magnetic Bead Panel. PYY was analysed using the Invitrogen Human PYY ELISA Kit. Graphpad Prism 9 was used to quantify hormone concentration.

Statistical analysis was completed using SPSS version 27. Statistical significance for food recall data was adjusted for multiple comparisons and accepted at $p<0.01$.



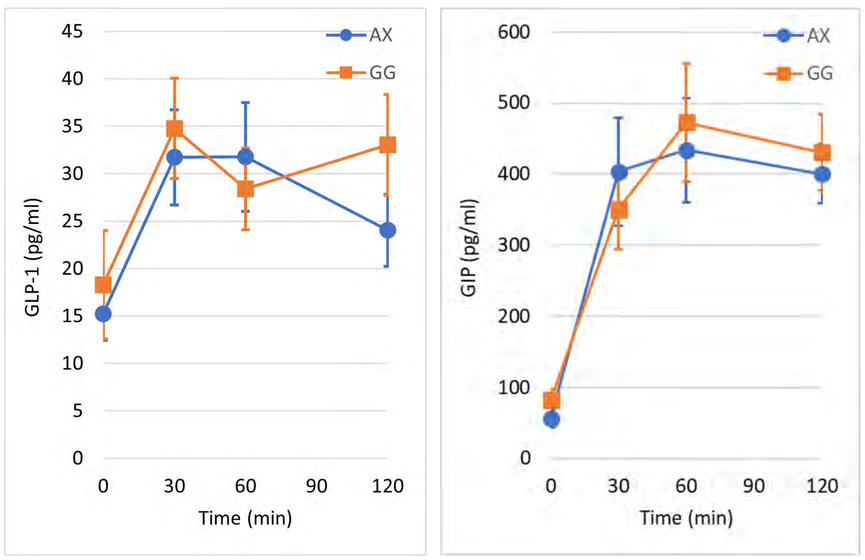


Figure 1. Plasma a) GLP-1 and b) GIP levels before (t=0) and after a standardised mixed meal in Māori and/or Pacific women with an AX (n=9) or GG (n=9) genotype for CREBRF. Data is presented as the mean +/- the standard error of the mean.

Results

Of the 50 participants, 14 carried at least one A allele (AX), 35 had a GG genotype, and one had to be excluded as their genotype data was not available.

Mann Whitney U tests were utilised as a non-parametric method to assess food recall data. No significant associations were found for nutrient intake between the two genotype groups.

Due to limitations on lab materials, 14 participants with a GG phenotype were matched with the 14 carriers (AX) for incretin quantification. Preliminary GLP-1 and GIP levels can be seen in Figure 1. Further assessment of the effect of the CREBRF variant on incretin levels is yet to be completed. The PYY ELISA failed to reach the minimum signal threshold for detection, therefore this analysis could not be completed.

Continued Analysis

In the final weeks of this studentship, quantification of GLP-1 and GIP will be completed for the matched cohort, and investigation of the incretins as well as the relationship between the incretins and VAS scores will continue.

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By Bridget Moss. No conflict of interest to declare.

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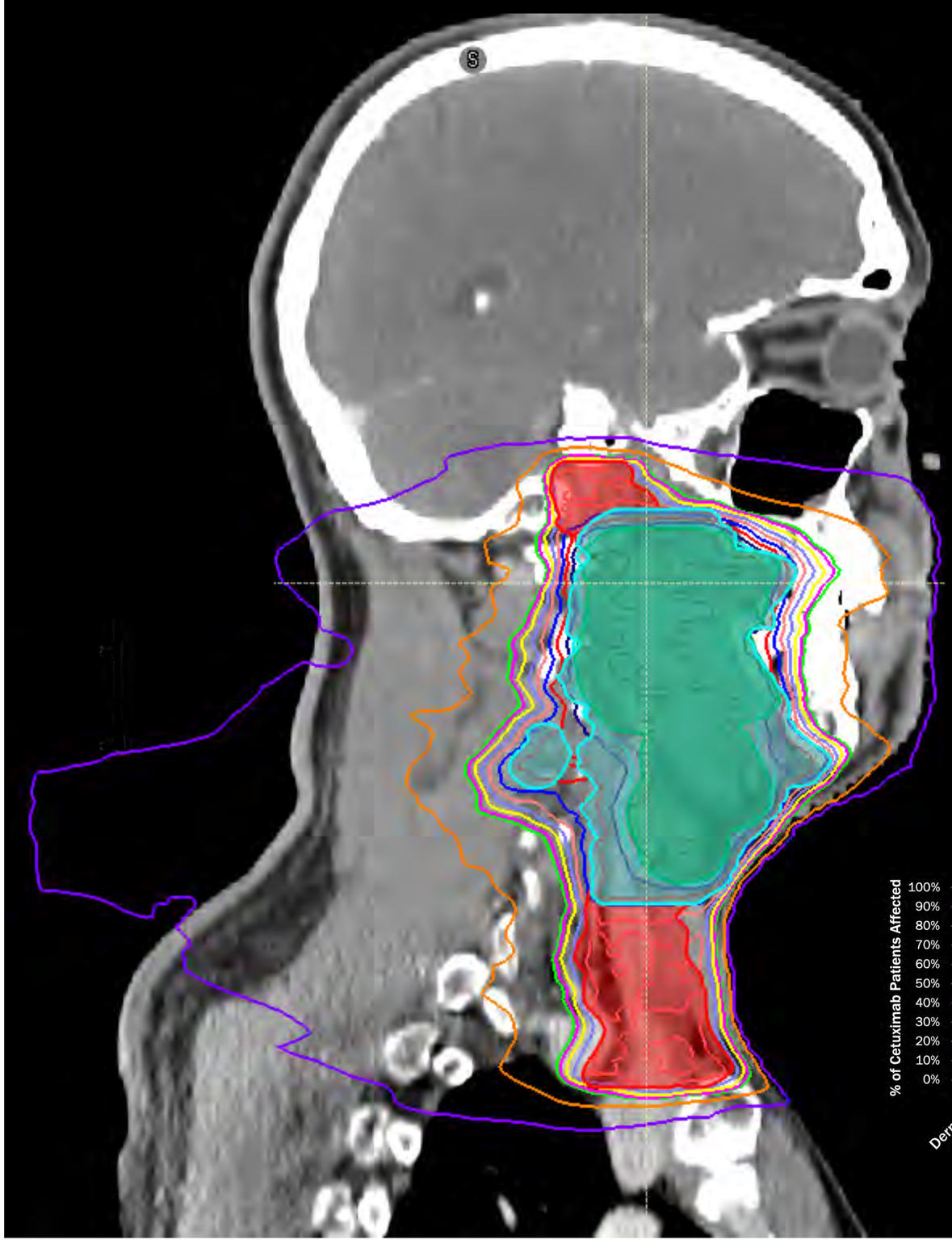
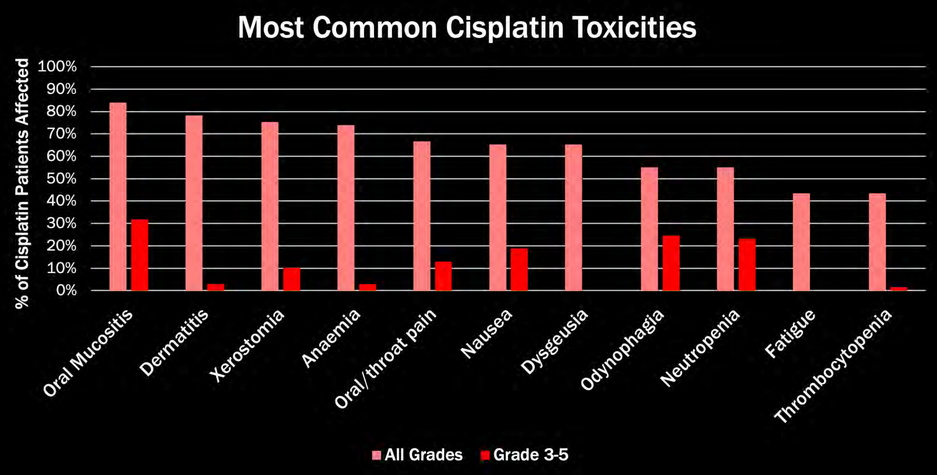
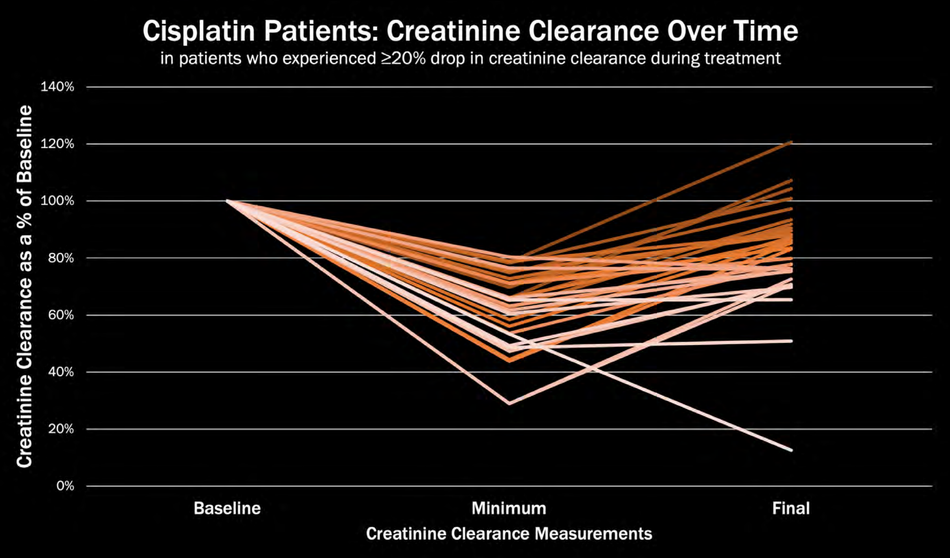
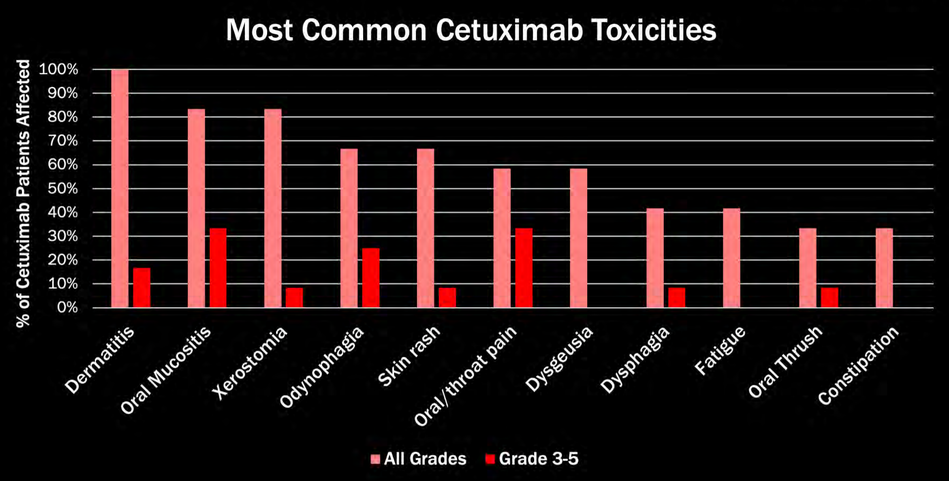
CONCURRENT SYSTEMIC & RADIATION TREATMENT FOR HEAD & NECK CANCER









BACKGROUND

Concurrent chemoradiotherapy has superseded radiation therapy (RT) as the standard of care for patients with locally advanced head and neck squamous cell carcinoma (HNSCC)[1-3]. This combined modality treatment, which takes place over six weeks, has been shown to improve survival, the caveat being increased toxicity compared to RT alone. The preferred systemic agent in this combination is cisplatin (platinum-based chemotherapy) or, if the patient has poor baseline renal function, cetuximab (targeted therapy).

AIM & METHOD

This retrospective audit aims to investigate toxicity and outcomes for HNSCC patients who underwent radical systemic treatment concurrently with RT. Eligible patients received treatment from MidCentral Regional Cancer Treatment Service (RCTS) between 01/01/18 and 18/10/21. Data was collected on 81 patients from the chemotherapy prescribing database and electronic and paper clinical records.

RESULTS

69 (85.2%) patients received cisplatin-based systemic therapy; 12 (14.8%) received cetuximab due to unsuitability for cisplatin. The mean number of grade 3-5[4] (severe) toxicities experienced per patient was 2.5 for cisplatin, 1.7 for cetuximab. Overall there were 36 hospitalisations due to toxicity. The mean number of hospitalisations due to toxicity was 0.48 per cisplatin patient, 0.25 per cetuximab patient. Among cisplatin patients, AKI was the most common reason for hospitalisation, and affected 26.1% cisplatin patients. Three (4.3%) cisplatin patients, and no cetuximab patients, received a dose reduction due to toxicity. Seven (10.1%) cisplatin patients and two (16.7%) cetuximab patients did not complete systemic treatment due to toxicity. Two (2.9%) cisplatin patients died during treatment, of neutropenic sepsis and cardiac arrest respectively.

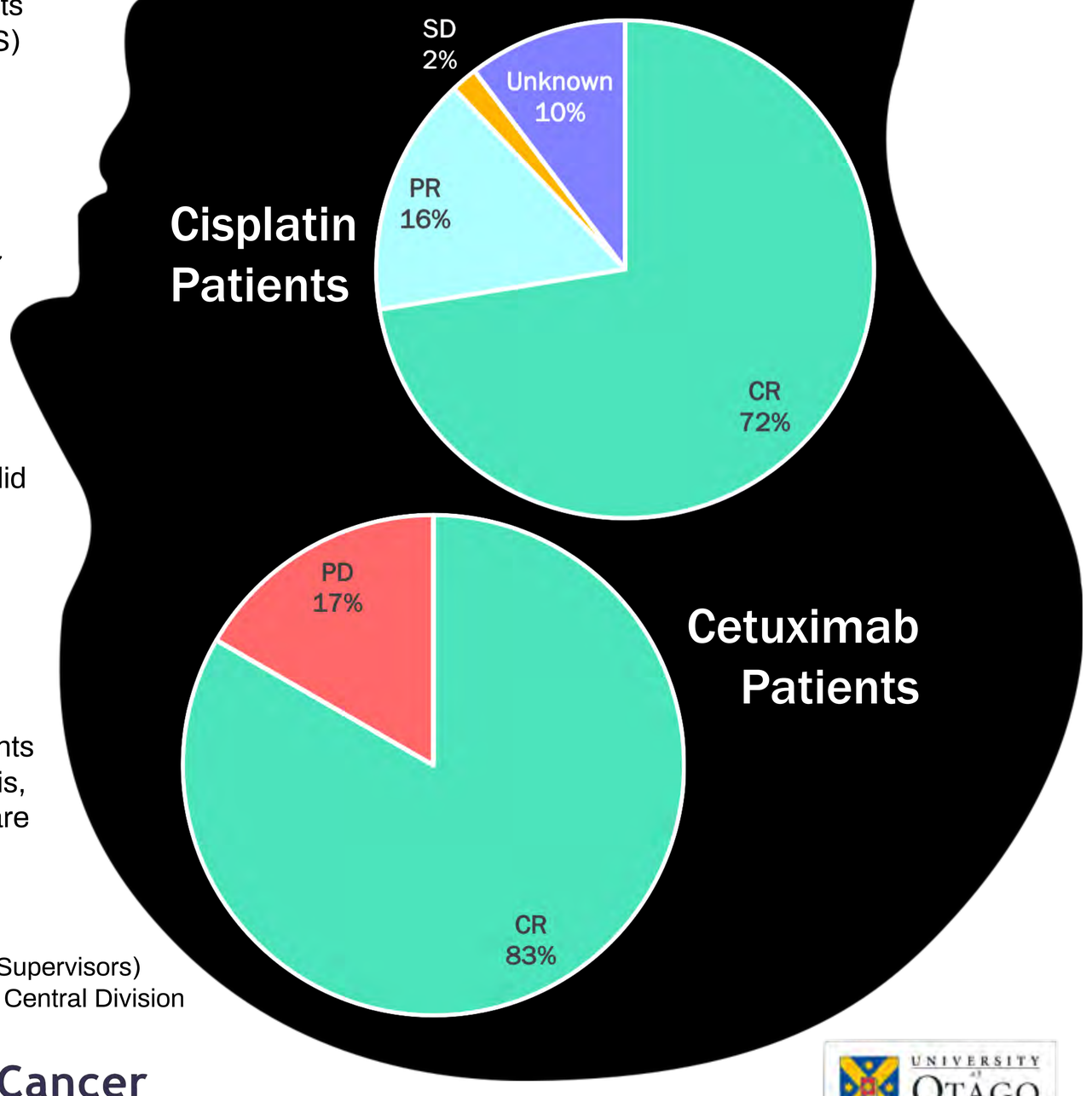
Two-year overall survival	cisplatin 80.6%; cetuximab 71.4%
Two-year progression-free survival	cisplatin 75.0%; cetuximab 50.0%

CONCLUSION

This audit illustrates high rates of toxicity in patients treated with cisplatin or cetuximab concurrently with radiotherapy for head and neck cancer. Two patients died during treatment, and hospitalisation rates were relatively high. Despite this, most patients completed treatment without receiving a dose reduction. These are all important considerations when weighing up application of this combined modality treatment in future patients.

BEST RADIOLOGICAL RESPONSE

CR – Complete Response
PR – Partial Response
SD – Stable Disease
PD – Progressive Disease



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Cancer Society
Te Kāhui Matepukupuku o Aotearoa

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Moving in the Margins

A qualitative study into the role of physical activity in marginalised communities

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Mauri tū mauri ora

"An active soul is a healthy soul"

INTRODUCTION

Physical activity is an essential aspect of health and well-being that has been described as a human right (Messing et al., 2021). However, marginalised groups that are characterised by financial precarity and housing insecurity often experience reduced access to physical activity (Withall et al., 2011). In Wellington, the charitable organisation Wellington City Mission works to reduce financial barriers to physical activity by providing clients with passes to facilities such as leisure clubs and swimming pools, or sports equipment. Prior to this project, no research has investigated the outcomes of such subsidies.

Primary Research Question: *What were the outcomes for clients receiving physical activity subsidies from Wellington City Mission?*

METHOD

Semi-structured interviews with Wellington City Mission clients (*N*= 12).

Key question

What outcomes have you experienced as a result being supported to be physically active?

Analysis

Interview transcripts verbatim were analysed using thematic analysis (Braun & Clarke, 2006).

RESULTS

Wellington City Mission provided participants opportunities for a wide variety of physical activities including swimming, sports, and martial arts. Participants described how they were given the opportunity to **shape their own health and well-being** in four interweaving areas: **mental, behavioural, social & physical**.

Management of existing mental health conditions

"You just push yourself, 'right I'm going to the gym, I'm gonna do this'… and that sort of kick-starts you out of your depression"

Improved body image and self-esteem

"I don't hate seeing myself in a mirror… I genuinely would not go outside some days because I just didn't feel like being seen…but that's not stopping me anymore"

An alternative to maladaptive relationships

"I know for myself, meeting my friend, it's been good having someone else to talk to because I cut everyone out of my life that was in the drug scene"

Breaking down social barriers

"All of a sudden, you're talking away with someone you don't know, who has a completely different lifestyle…it takes you out of your world"

Mental *Hinengaro*

Social *Whānau*

SHAPING HEALTH

Behavioural *Whanonga*

Physical *Tinana*

"When you've got someone who's lost weight, quit smoking, wants to go back to work, their faculties all back and is inspired again to start working for herself, you've got a win"

Positive outcomes that were transferable to other life areas

"Not only for me, for my kids to see me doing something positive… you can't buy that"

Opportunities to role model positive behaviours for tamariki

"Instead of walking once around the block, I could walk four times around because of the swimming and it increased my strength in the back…that's the best bit actually"

Improvements in physical fitness

"Walking down to the swimming pool on the concrete…it's very painful, so when I get in the water it's a relief… swimming has been a Godsend"

Management of chronic physical pain

CONCLUSION

By providing access to physical activity opportunities, Wellington City Mission have empowered people to positively shape their own health and lives and increase social capital within marginalised communities.

The results closely align with several models of well-being, including the pillars of **Te Whare Tapa Whā model** (including Hinengaro/mental, tinana/physical, and whānau/social) (Durie, 1985) and the psychological needs (autonomy, competence, & relatedness) outlined within **Self-Determination Theory** (Deci & Ryan, 2002).

From a wider societal context, these physical activity outcomes also aligned with tenets of Bailey et al's (2012) **Human Capital Model** (e.g., physical, social and individual capitals).

RESEARCHER REFLECTIONS

There were some challenges in terms of securing interviews, due to the fact that participants often had competing priorities. However, this resulted in feeling privileged to have heard participants' stories.

THE FUTURE

Supporting marginalised communities to undertake physical activity can reap many benefits. By ensuring ongoing funding to support physical activity subsidies, organisations such as Wellington City Mission are in a strong position to uphold and improve the social capital and the health and well-being of the people in these communities.

"I can feel the aroha in this building and it definitely, you know, what you give is what you get back, so it's helping to build everyone in the community to become better and stronger as a unit."

RESEARCH IMPACT

Brings scientific inquiry and rigor to a community setting

Highlights the social impact of the work of organisations such as Wellington City Mission

Giving communities a voice to be heard

Provides an evidence base for the purpose of future funding for physical activity

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Adherence to endocrine treatment in hormone positive breast cancer in Nelson Region

Emilie Roberts[1], Mary Woodford[2], Ros Pochin[2], Susan Seifred[2], Aleksandra Popadich[1]

[1] University of Otago, Wellington, New Zealand. [2]Nelson Hospital, Nelson, New Zealand.

INTRODUCTION

Breast cancer is the most commonly diagnosed cancer in women in New Zealand. Endocrine treatment (ET) is recommended for all women who have oestrogen and/or progesterone positive cancers. It is proven to lower their risk of cancer recurrence. Clinical trials show adherence to this treatment at around 70%, but real-world adherence rates appear to be much lower. Lower adherence, particularly in women at high risk of recurrence, would be concerning. It would not only impact those women and their whānau, but also place an increased burden on the breast cancer service in New Zealand.

The aim of this study was to look at adherence to treatment in the Nelson population. In the women who stopped treatment, we wanted to know what led to this decision, and whether stopping treatment led to an increase in mortality or recurrence rates.

METHODS

Patient Population

88 women who received treatment for breast cancer in Nelson, New Zealand between January 2017 and December 2020.
Women who underwent surgery on a primary, non-metastatic breast cancer that was proven to be oestrogen and/or progesterone positive. They had to have received some treatment or follow up through the Nelson Breast Cancer Service.

Data Collection and Statistical Analysis

Adherence to ET was collected at each hospital visit by breast nurse specialist. The type of ET they were placed on was recorded, as were any reported side effects, or change in treatment during their clinic visit, as well as reasons for early cessation o if ET treatment was stopped.

Other data collected included demographics and clinical characteristics including: surgical treatment, cancer characteristics including TNM staging and type of adjuvant treatment that they had received. Their predict score was calculated and recorded. Disease recurrence was noted, as well as date of death if relevant. Reasons for early cessation of treatment were recorded.

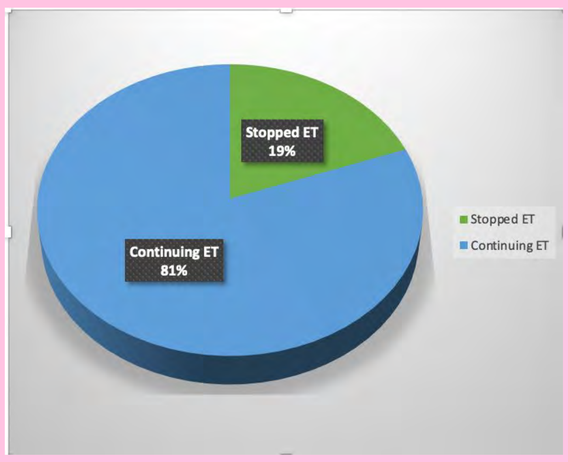
RESULTS

- Demographics, Treatment and Tumour Characteristics (Figure 1)

Table 1

Demographics	
Age	31 - 91 (Median: 64)
NZ European	69/88 (78.4)
Māori	4/88 (5)
Asian	2/88 (2.3)
African	1/88 (1.15)
Other European	12/88 (13.6)
Treatment	
WLE	41/88 (46.6)
Mastectomy	44/88 (50)
WLE + Mastectomy	3/88 (3.4)
SLNB	64/88 (72.7)
ALND	22/88 (25)
SLNB + ALND	2/88 (2.3)
Neoadjuvant or Adjuvant Chemotherapy	19/88 (21.6)
Adjuvant Radiation	41/88 (46.6)
Tumour Characteristics	
Tumour size (mm)	0.5 - 60 (Mean: 16)
Grade 1	42/88 (47.7)
Grade 2	33/88 (37.5)
Grade 3	13/88 (14.8)
N1	14/88 (15.6)
N2	2/88 (2.3)
Breast Predict Score	
10-year survival from all treatment	22.5% - 95.9% (Mean: 80.3%)
Benefit at 10 years of ET	0.2% - 13.8% (Mean: 2.6%)

- During follow-up 17 patients stopped endocrine treatment (Figure 2)



- There was no difference between the 2 groups in demographics, type of surgical treatment, adjuvant radiation, adjuvant or neoadjuvant chemotherapy and type of endocrine treatment.
- The group that stopped endocrine treatment had slightly smaller tumours (14.7 vs 17.81mm on average) ant none of the patients in this group had positive lymph nodes which was significantly different (p=0.022)
- There was no difference in survival or recurrence rate between 2 groups
- The 2 groups did not differ in type of endocrine treatment that they have received (Tamoxifen vs Aromatase Inhibitor)
- There was also no significant difference in the *Breast Predict* 10years survival benefit
- During the follow-up there was also no difference in number of women who have changed to a different endocrine treatment due to side-effects (either from Tamoxifen to AI or vice versa)
- 39 patients (44%) had minimal or no side effects, or switched to a drug with minimal side effects
- By far the most common side effect was heat regulation issues (30 patients) - hot flushes or night sweats. Also common were PV bleeding or period changes (11 patients), and fatigue (13 patients).
- Patients experienced a range of other symptoms such as bony or joint pain (Aromatase inhibitors), weight fluctuation (tamoxifen), and headaches or other pain.
- 5 patients who stopped treatment did so for a single reason: depression (1/17), thrombophlebitis (1/17), pulmonary embolism (2/17), and acute kidney injury (1/17).
- Majority (12/17) of other patients stopped due to combination of typical symptoms related to either Tamoxifen or Aromatise inhibitors or both.
- The majority of patients who stopped did so within the first two years of starting treatment.

CONCLUSION

During the follow-up, 19% of patients (17/88) have stopped their endocrine treatment. As not all patients reached 5 years follow-up, we would expect these numbers to increase over time.

Women stopped their ET for 2 main reasons - either a single major reason (such as a pulmonary embolism or major depressive episode), or because they were experiencing a wide range of symptoms associated with that class of medication.

Women who stopped endocrine treatment had breast cancer that was associated with lower risk of recurrence as calculated by *Breast Predict*. There was no association between stopping ET and higher recurrence rates or poorer survival, but this may be due to small number of women in both groups

Extracellular vesicles in endometrial cancer: predicting response to LNG treatment

Emily Paterson
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Department of Obstetrics, Gynaecology and Women's Health, UOW

Rationale

Early endometrial cancer (EC) can be treated by the levonorgestrel intra-uterine device (LNG-IUD), but is only effective in half of patients. We have no way of predicting who will respond to LNG treatment.

miRNAs are molecules that regulate gene expression, and are often dysregulated in cancer, promoting cancer development and progression.

Extracellular vesicles (EVs) are particles present within biofluids which contain molecules that can act as biomarkers. miRNAs may be present in different levels in EVs between cancers sensitive and resistant to LNG treatment.

Aim

To carry out small RNA sequencing on EVs isolated from LNG resistant and sensitive endometrial cancer cell lines to identify biomarkers of LNG response.

EV miRNAs in the context of LNG resistance have yet to be investigated. This discovery-based approach may identify novel miRNAs involved in LNG resistance which could act as biomarkers for clinical use.

Methods

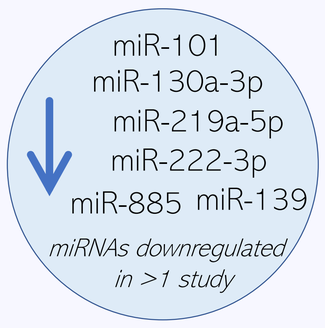
- Perform review of endometrial cancer EV miRNA literature
- Isolate EVs from cell culture media of EC cell lines (MFE296 & MFE319) resistant and sensitive to LNG treatment using size exclusion chromatography (qEV10)
- QC — Extract RNA from EVs using the Total Exosome RNA & Protein Isolation Kit and perform quality control checks using qPCR and RiboGreen assays
- Optimise and complete library prep for low yield RNA using the NextFlex Small RNA-Seq Kit v3, ready for small RNA sequencing
- Assess RNA library quality using BioAnalyser High Sensitivity DNA Analysis

Results

Literature Review

Current EC EV miRNA literature lacks reproducibility. Key methodological differences such as study populations, EV source and isolation technique, and gene expression analysis approach contribute to inconsistent results between studies.

Only six EV miRNAs had the same pattern of dysregulation between cases and controls in more than one study. These miRNAs warrant further investigation as potential biomarkers.



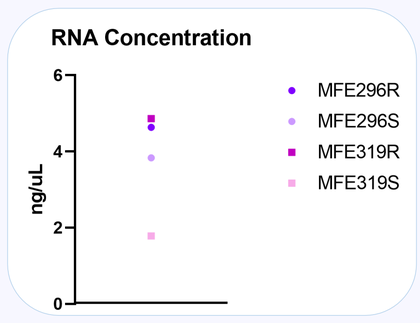
Other factors limiting current EC EV miRNA literature:

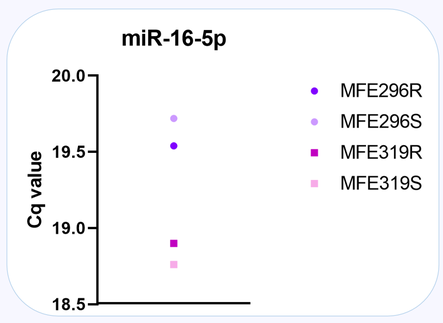
- Poor, heterogeneous study design
- Small cohorts, with under-reported clinicopathological information
- Lack of standardisation and guidelines for sample collection and EV isolation protocols

Recommendations for EV miRNA research to increase reproducibility:

1. Determine standard gene expression normalisation approaches
2. Extensive reporting of methodology
3. Standardise sample processing and storage

RNA quantification and library prep

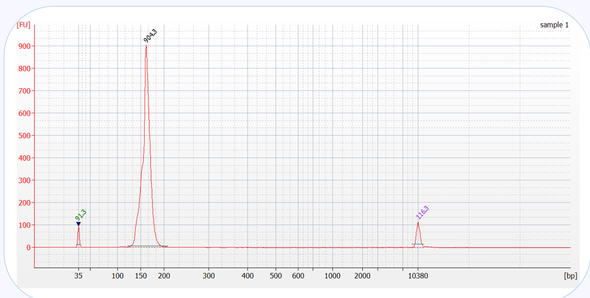




RiboGreen assay and qPCR amplification of housekeeping miRNA miR-16-5p

RNA concentrations were between 1.78 and 4.86ng/µL. Cq values ranged from 18.76 to 19.72. These experiments demonstrate EV isolation and subsequent RNA extraction was successful and RNA concentration is sufficient for library prep.

BioAnalyser High Sensitivity DNA trace



Due to low RNA yield, a gel size selection step was included to improve library quality.

A single peak at 150 base pairs indicates successful library preparation, with no adapter dimer contamination.

Conclusion

EVs were successfully isolated from cell culture media of EC cells resistant and sensitive to LNG treatment. RNA was then extracted from the EVs, with the concentrations checked with qPCR and RiboGreen assays.

RNA library prep was then completed, and library quality was demonstrated with BioAnalyser analysis.

RNA is now ready for small RNA sequencing to be performed at Otago Genomics on the NextSeq 2000.

Future directions and clinical implications

- Bioinformatic analysis of RNA sequencing data
- Validation of RNA sequencing data using qPCR
- Measure candidate EV miRNAs in clinical cohorts

EV miRNA biomarkers have the potential to:

- Enable liquid biopsy for LNG-IUD treatment monitoring, instead of regular uterine biopsy, achieving: reduced pain and discomfort, greater cultural acceptability, and increased accessibility (e.g. rural locations)
- Allow women to opt for conservative EC treatment more safely

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Cardiovascular biomarkers may aid in identifying underlying cardiovascular dysfunction in those born preterm

Freya Weth, Dr Ryan Sixtus, Dr Bec Dyson, A/Prof Max Berry

cure kids

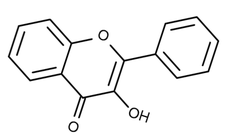
Perinatal & Developmental Physiology Group

Cardiovascular biomarkers in preterm-born offspring following a novel cardiovascular stress test

BACKGROUND

- 10% of live births annually in Aotearoa are preterm.
- Preterm birth is associated with an increased risk of cardiovascular disease and can be considered a non-modifiable risk factor.
- For cardiovascular disease, early prevention is better than later treatment.

How can we tell who has an increased risk for cardiovascular disease?



CIRCULATING BIOMARKERS

Differences in blood biomarkers between preterm- and term-born individuals are difficult to determine at rest. HOWEVER,…

- Stress can uncover dysfunction that is hidden at rest.
- This in turn alters the composition of circulating biomarkers.
- Preterm born guinea pigs demonstrate an altered physiological stress response during a novel thermal stress test.
- Differential cardiovascular stress may be observable in blood biomarkers.
- This may aid in identifying a novel biomarker panel for sub-clinical cardiac dysfunction in those born preterm.

CONCLUSION AND FUTURE DIRECTIONS

- Those born preterm are at significantly elevated risk of cardiovascular disease as a result of their early start to life.
- Developing a biomarker panel specific for those born preterm will allow for early identification of incipient cardiovascular disease.
- Applying these markers to a novel stress test provides an opportunity to uncover underlying (dys)function in cardiovascular control in those born preterm.

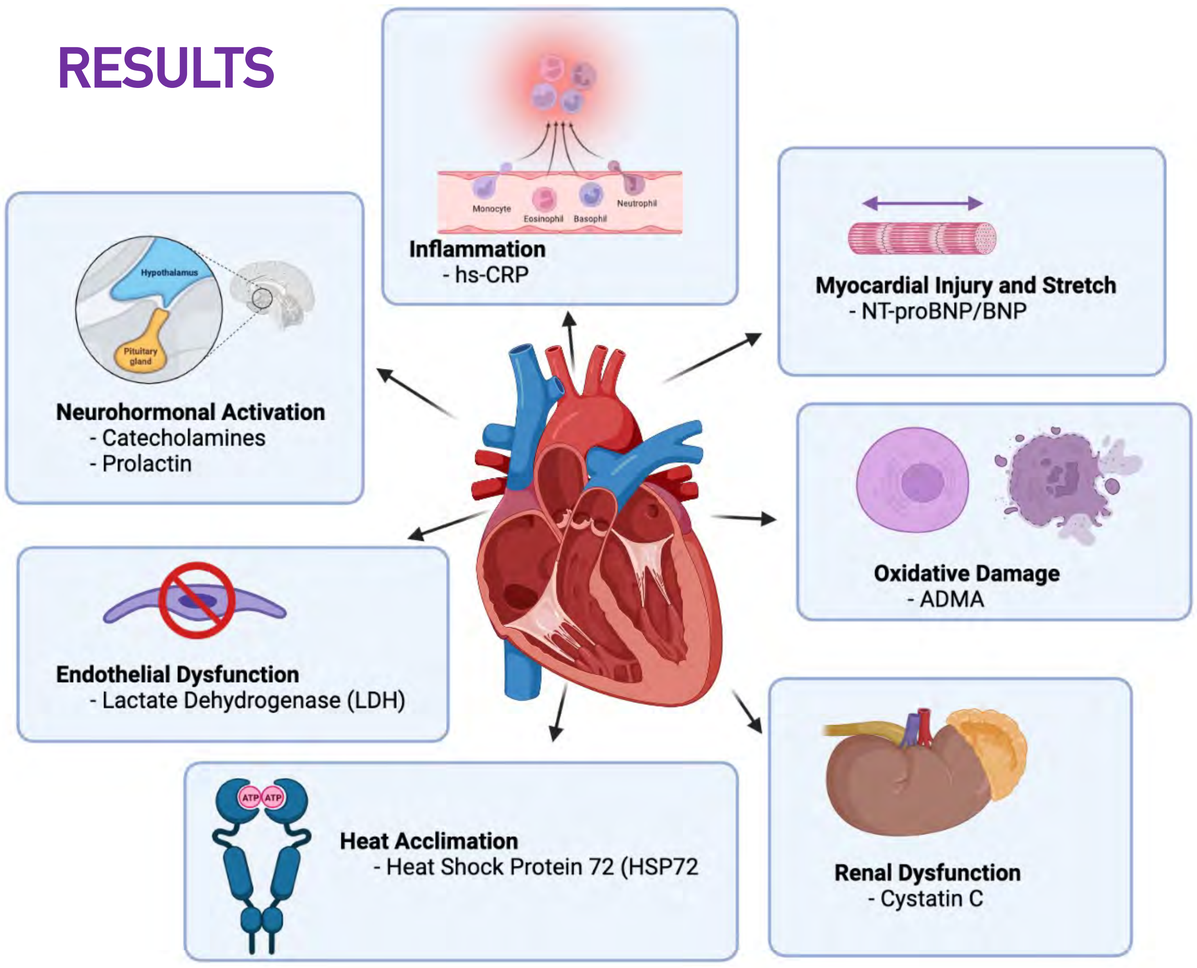
AIM

To determine a biomarker panel sensitive enough to examine differences in blood biomarkers in preterm born guinea pigs following a novel cardiovascular stress test.

METHODS

1. Review and research biomarkers involved in both cardiovascular function and heat stress.
2. Develop ELISA protocols for validation and testing of selected biomarkers
3. Perform ELISA tests to determine biomarker concentration and analyse data for statistical significance

RESULTS



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The Development of a MSK OSCE App

Authors / Contributors: Henry Li, Dr Tehmina Gladman & Associate Professor Rebecca Grainger, Rheumatologist
University of Otago, Wellington

Introduction:

Smartphones have become an essential tool for medical students and junior doctors. We aim to develop a MSK app to enhance learning of MSK examination skills for medical students and junior doctors.
One step in the app development is to produce a wireframe model. A wireframe model is a draft of an app prior to its development to demonstrate its intended contents and features.

Aim:

To integrate medical student and junior doctor perspectives in the development of a wireframe model that can be used to build a high quality MSK OSCE learning app.

Method:

Searched for and reviewed available MSK OSCE learning apps on the Apple app store and Google play store.

→ The "team" (composed of medical students and Med Ed experts) brainstormed features to add to the wireframe design. For example: Quick guides, Full Guides, Presenting scenarios and so on.

↓

Consulted software engineering students and chose to use FIGMA as the software to design the wireframe model.

← Created a first draft of the wireframe model and then reviewed it with the team. Iterative revisions of the draft were completed.

↓

Recruited medical students and junior doctors to participate in an interview to test and review version 1 of the wireframe model

→ Interview responses informed the adjustments made to create version 2 of the wireframe model (there was input from the team).

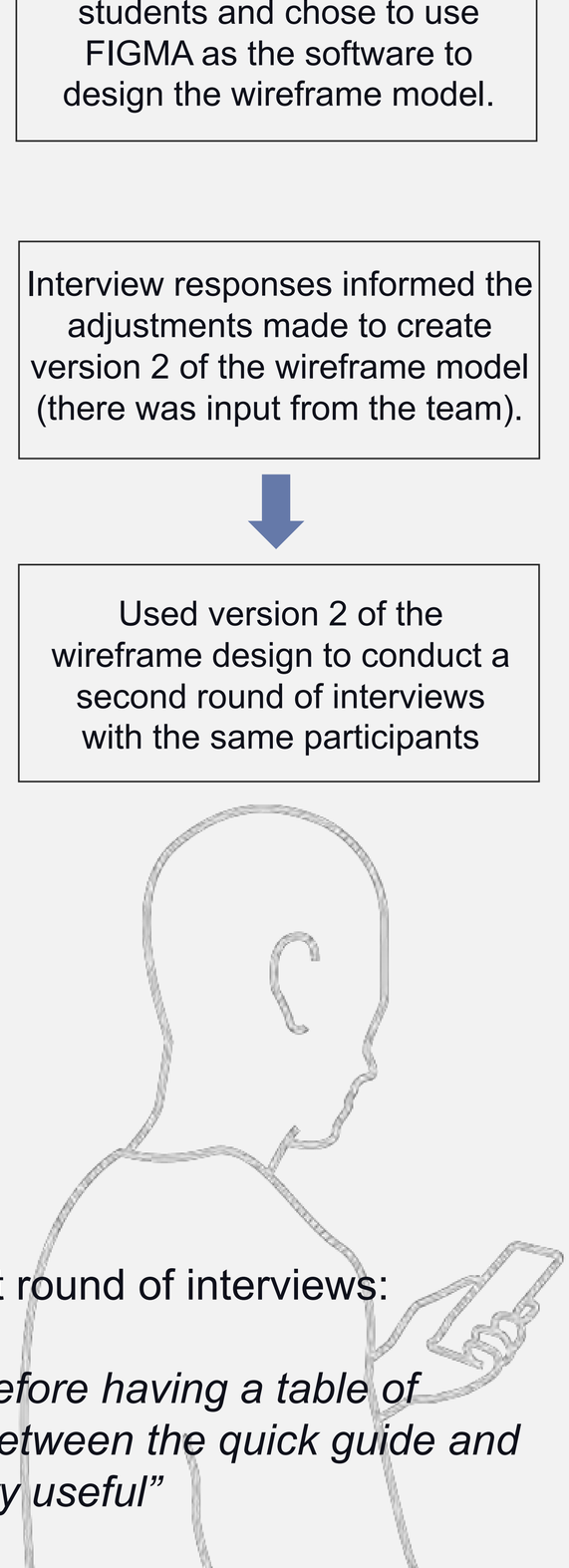
↓

Used version 2 of the wireframe design to conduct a second round of interviews with the same participants

← Interview responses informed the adjustments made to create version 3 of the wireframe model (there was input from the team).

↓

Finalised the wireframe model with the team



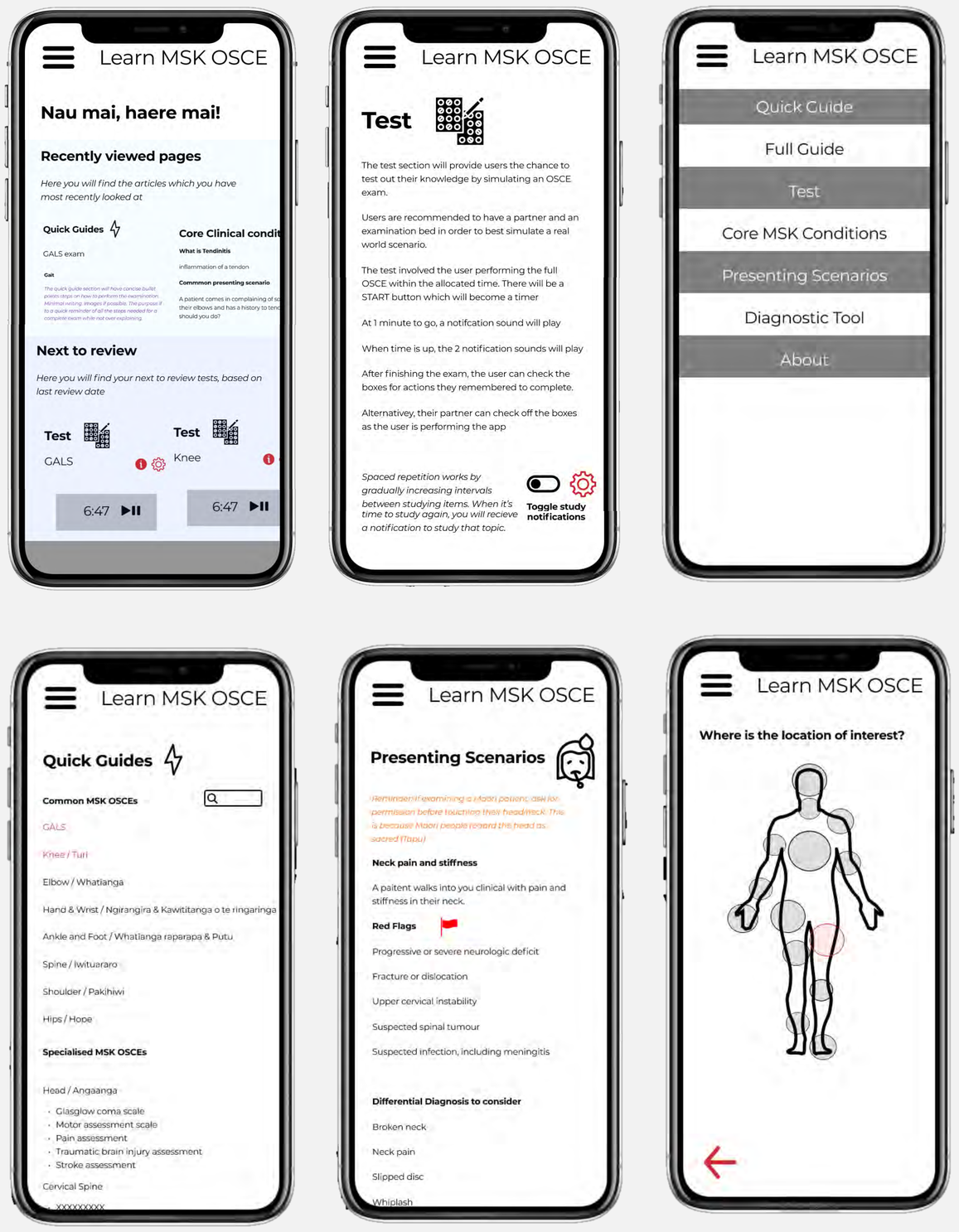
Results:

Participant opinions from the first round of interviews:

1. *"Layout is very important, therefore having a table of contents, search bar or links between the quick guide and full guide section would be very useful"*
2. *"Red flags and presenting scenarios could be useful additions to the app"*

Participant opinions from the second round of interviews:

1. *"The homepage seems to be quite full on, maybe you could reduce clutter?"*



Screenshots of the finalised wireframe model

Conclusion:

We have proposed a wireframe model for a MSK app to enhance student learning. There was input from medical students, junior doctors and medical education experts throughout this project.

Some challenges in the wireframe development process include figuring out what type of content, what details to include in the MSK app and how to make the MSK app to be intuitive to use. It was found that medical student feedback was critical throughout all development phases of the wireframe model in order to overcome these challenges.

Conflicts of interest: None
Sponsor: University of Otago Wellington
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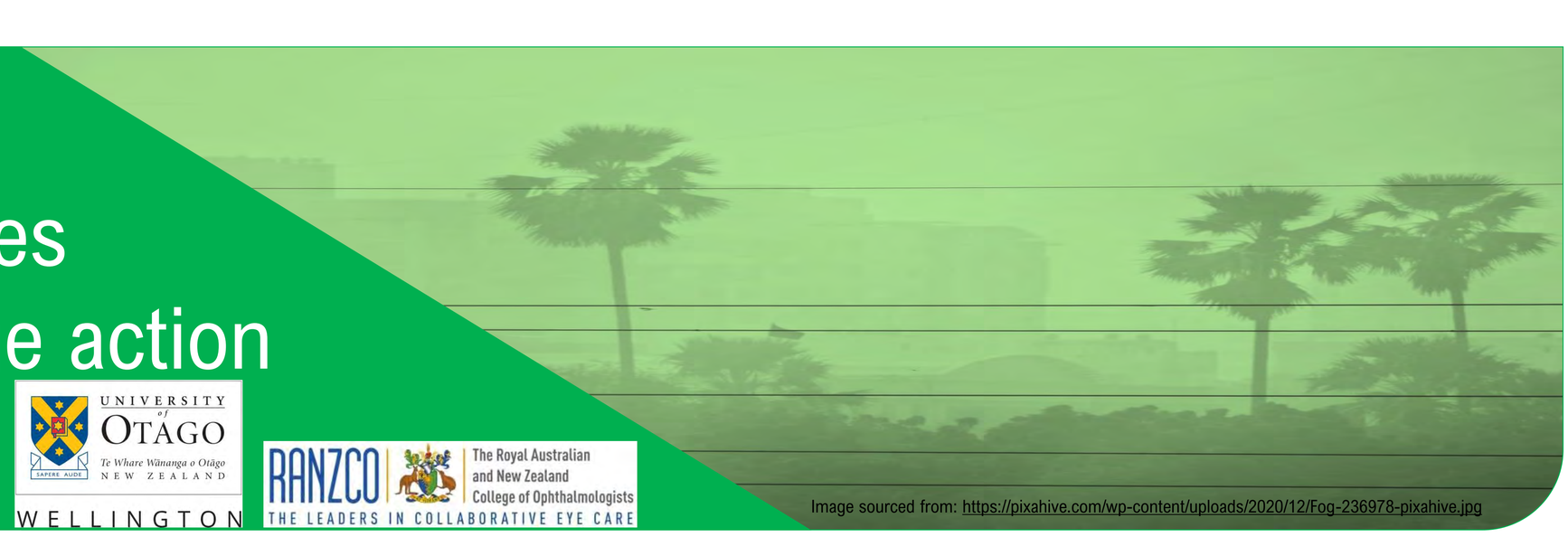
NEW ZEALAND
SAPERE AUDE

Hot Topics: Sustainable Colleges and Climate Change action

Henry Oakley[1], Dr Jesse Gale[1], Associate Professor Caroline Shaw[2]
(1) Department of Surgery and Anaesthesia
(2) Department of Public Health
University of Otago, Wellington, New Zealand



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Aims

- Record and present activities relating to environmental sustainability undertaken by Medical Colleges and Dental Associations across Australasia.
- Showcase and summarise possible actions Colleges and Associations may undertake to advance environmental sustainability as an organisation and for members.

Background

Climate Change is the greatest threat to humanity and healthcare is contributing to this crisis, up to 7% of Australasian carbon emissions are from healthcare(1).

- Recorded surface temperatures in Western Sydney, including playground equipment, are hot enough to sear skin. Rising sea levels and salt-water contamination are leading to waste-water plants being inoperable in Torres Strait communities(2). More drastic impacts are seen in Stanthorpe, QLD, where residents were without water for weeks while dealing with the anxiety and respiratory issues from nearby bushfires(2).

The role of colleges in supporting doctors, advocating, educating, and leading, is still emerging.

Colleges that Participated

- 2 Colleges declined to participate due to not having a member available to participate.
- 1 College declined as their policy stated that climate change is a social issue which they would not take a stance on if no fellows of the college have expertise in the area.
- 6 Colleges did not reply to my contact at the time of writing.
- 12 organisations had agreed to participate at the time of writing.

Acronym	College
CICM	College of Intensive Care Medicine of Australia and New Zealand
RANZCOG	Royal Australian and New Zealand College of Obstetricians and Gynaecologists
RNZCGP	Royal New Zealand College of General Practitioners
NZCPHM	New Zealand College of Public Health Medicine
NZDA	New Zealand Dental Association
ADA	Australian Dental Association

Acronym	College
RACP	Royal Australasian College of Physicians
ANZCA	Australian and New Zealand College of Anaesthetists
RANZCO	Royal Australian and New Zealand College of Ophthalmologists
ACD	Australasian College of Dermatologists
RANZCP	Royal Australian and New Zealand College of Psychiatrists
RACS	Royal Australasian College of Surgeons

Method

Questionnaire development:

- Our study and questionnaire were modelled off of a similar study from the UK in 2014(3). The questions where altered based off of sustainable actions currently being undertaking by colleges sourced from:
  - Listings on college websites
  - Through articles in PubMed or from Doctors for the Environment Australia resources.
  - From wider literature and opinion pieces.

Data Collection:

- We invited each College that was a member to either the Council of Medical Colleges or the Council of Presidents of Medical Colleges to participate via either a Zoom interview or email questionnaire. This was to confirm:
  - The information we sourced from background research was valid.
  - Correct any missed information.
  - Highlight any future actions in development.

Analysis:

- We compiled and tabulated the detailed list of all college activities that were related to environmental sustainability to:
  - Showcase innovative and progressive actions.
  - Undertake qualitative thematic analysis of trends across college sustainable action

Discussion

Colleges are still developing actions in this space, some colleges are very forward facing, taking strong advocacy stances at a regulatory and governmental level. Other colleges have strong supports to promote fellows undertaking sustainable action. Conversely, some college's saw climate change as a social issue which they should not comment on, and others felt it was an issue not supported by their members. For colleges sitting between these two groups and colleges initiating action in this space, there was a trend in situations that hindered sustainable development, such as.

- Without any well-dispersed resources or spokespeople for sustainability, Colleges struggled to develop and direct their own actions against climate change.
- Members were more focused on issues such as Covid-19 response and workforce sustainability and as such these issues had higher priority.
- Smaller Colleges did not have the size or resources to undertake some Corporate Sustainability actions.

We need intercollege partnerships, to provide a common language, shared direction, and a greater weight to the voices calling out for action against climate change. Colleges have a limited role in education and professional standards outside of clinical healthcare and government regulation so identifying the most effective and appropriate actions moving forward should be a priority.

Results

Not all interviews have been completed, therefore data marked with an "X" is from colleges we are yet to interview and data marked with a "•" is from colleges we have interviewed.

Policies on Sustainability

Activities	RACP	ANZCA	RANZCO	ACD	RANZCP	RACS	CICM	RANZCOG	RNZCGP	NZCPHM	NZDA	ADA
Sustainability committee or working group	X	X	•	•	X	X	•*	•			•	•
Published position statement or developed sustainability policy	X	X	•	•		X	•	•*	•	•	•	•
College developing or providing guidelines on more sustainable practice patterns		X	•				•		•	•	•	•

* In development

Corporate Sustainability

Activities	RACP	ANZCA	RANZCO	ACD	RANZCP	RACS	CICM	RANZCOG	RNZCGP	NZCPHM	NZDA	ADA
Measured College activity carbon footprint		X						•	•			
Set reduction targets for College carbon footprint		X		•*			•*	•	•	•*	•*	•*
Divested from carbon-polluting industries (e.g., fossil fuels)	X	X	•	•	X		•		•			
Considers sustainability in relation to College building health, energy usage, procurement, etc.		X	•	•			•	•	•			•

* Attempting to reduce Carbon Footprint without setting specific targets

The Australian and New Zealand College of Anaesthetists have started the Environmental Sustainability Network. The network aims to empower and connect both members of the College and other professionals to promote and enhance their sustainable actions.

The Royal Australasian College of Obstetricians and Gynaecologists is working to become a carbon neutral organisation this year!

The Royal Australasian College of Physicians produced the Climate Change and Health Research Project's first report on Australian healthcare(2). It is a landmark report that lays the foundation for continued intercollege collaboration in advocating for climate action.

The Australasian College of Dermatology is hosting a Climate and Skin summit in 2022 allowing their members to come to a consensus opinion on what must be done about climate change.

Advocacy on Sustainability

Activities	RACP	ANZCA	RANZCO	ACD	RANZCP	RACS	CICM	RANZCOG	RNZCGP	NZCPHM	NZDA	ADA
Engagement with community, indigenous groups, or external organisations on sustainability	X	X	•		X	X	•	•		•	•	•
Participation in the Climate Change and Health Research Project	X	X	•		X	X	•	•				
College promotes sustainability in publications	X	X	•	•		X			•		•	•
Sustainability is a factor in college engagement with politicians, regulators, or public discussions	X		•	•	X	X		•	•	•	•	•

Sustainability for Trainees and Fellows

Activities	RACP	ANZCA	RANZCO	ACD	RANZCP	RACS	CICM	RANZCOG	RNZCGP	NZCPHM	NZDA	ADA
Sustainability as a topic at congress			•	•	X	X		•	•	•	•	•
Online education to reduce travel	X	X	•	•	X	X	•	•	•	•	•	•
Sustainability in the curriculum			•								NA	NA
Educational content on sustainability for fellows	X	X							•		•	•
Toolkits for fellows to measure or improve sustainable practices	X	X	•				•		•			
Program for recognising and promoting sustainable practice	X	X		•					•			•
Investing in research into sustainable practice	X	X	•									
Considering effects of climate change on the wellbeing of fellows												

The RNZCGP has produced the "Greening General Practice; A toolkit for sustainable practice". This toolkit provides a breadth of in-depth information including energy assessments and office set-up, consideration of equipment and supplies, procurement, clinician activities and waste management.

The ADA has used PEER, a closed social media site, to provide a platform for members to share tips and tricks to improve sustainable practice. This is a great initiative for developing profession specific sustainable actions.

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Conflict of interests

While this project is funded by RANZCO, the project cannot be used for promotional purposes and is designed to be purely educational. There are no other conflicts of interest.

Acknowledgements

I would like to thank the Royal Australian and New Zealand College of Ophthalmologists for funding this project, supervisors Jesse Gale and Caroline Shaw for guidance and assistance throughout this project and the University of Otago Wellington for providing this opportunity.

HOUSE PROUD

LGBTIQ+ & TAKATĀPUI EXPERIENCES OF HOUSING

HUGO CORDUE, DR BRODIE FRASER

UNIVERSITY of OTĀGO
Te Whare Wānanga o Otāgo
NEW ZEALAND
WELLINGTON

He Kāinga Oranga
Housing & Health

BACKGROUND

Little is known about the housing experiences of takatāpui & lesbian, gay, bisexual, transgender, intersex, and queer (LGBTIQ) people living in Aotearoa New Zealand. In international studies, LGBTIQ+ people have been found to make up 20 - 40 % of the homeless population despite being only 5 - 10% of the general population.[1] Takatāpui and LGBTIQ+ New Zealanders are estimated to have a population of 160,000, and report significantly higher levels of disability, anxiety, and depression.[2] Over a third of lesbian, gay, and bisexual New Zealanders report facing discrimination.[3] However, local research is limited on the qualitative factors behind discrimination and housing instability. We hope to provide valuable insight into how policymakers can ensure the housing needs of takatāpui & LGBTIQ+ people are met.

AIM

Explore whether LGBTIQ+ & takatāpui people experience discrimination in the housing market and what factors are behind this.

METHODS

We created an online survey of 44 questions in RedCap about general wellbeing and experiences of housing and discrimination. It was open to anyone over 16 who identified as takatāpui or LGBTIQ+ and lived in NZ. The questions were a mix of open and closed, with some drawn from previous Stats NZ surveys to enable comparisons.

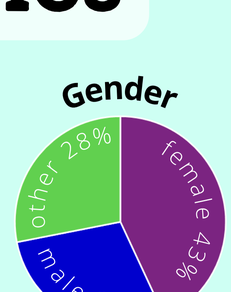
The LGBTIQ+ & takatāpui population of NZ is relatively small and marginalised, so targeted sampling was required to ensure an adequate sample size and diverse representation of participants. The survey was shared with numerous groups, high-profile figures, and through personal social media. We created project pages on Instagram and TikTok to encourage participation and share information on LGBTIQ+ and takatāpui housing research.

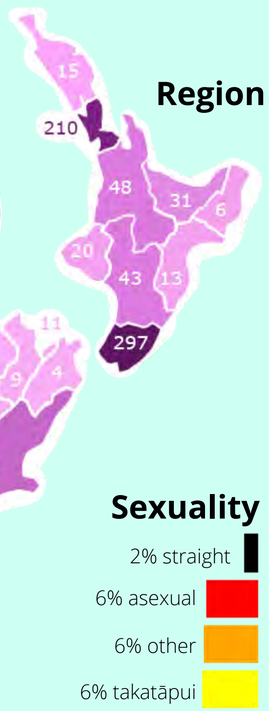
In total, we received 894 eligible survey responses. R was used to calculate descriptive stats and create most plots, while NVivo was used to explore themes from the qualitative data.

DEMOGRAPHICS

Our sample had a median age of 27, ten years younger than the NZ population. We had more women than men, and 28% of people reported another gender. Around a quarter of people considered themselves trans (note: trans people can be men, women, or another gender). A wide range of sexualities were reported.

Over half our responses came from the Wellington and Auckland regions.

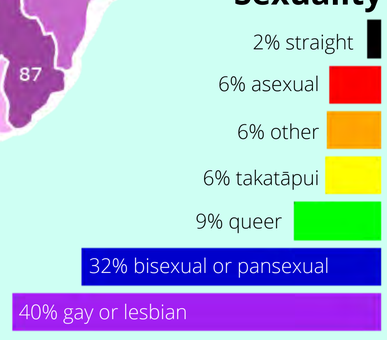




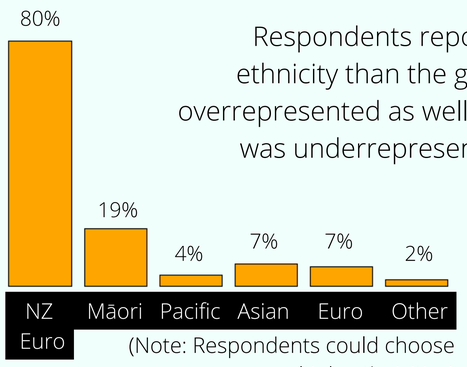
Age

Transgender Identity

Sexuality



Ethnicity

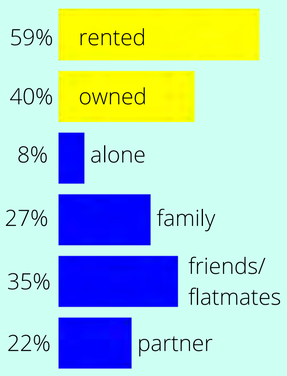


(Note: Respondents could choose multiple ethnicities)

Respondents reported significantly more NZ European ethnicity than the general population, with Māori slightly overrepresented as well. However, Pacific and Asian ethnicity was underrepresented compared to the NZ population.

In future, we believe greater community-specific involvement is needed to fully explore Pacific and Asian experiences in Aotearoa.

Housing Type



The majority of respondents lived in rental accommodation, with an average of 3.3 household members. Those living with a partner were much less likely to report feelings of loneliness or poor mental health. About 12% of respondents felt uncomfortable around the people they lived with.

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'I'm always keeping my head down'

HELPFUL TERMS

Gender: an internal sense of being a man, woman, or neither.

Sexual identity: how someone thinks of their attraction to others. E.g. gay, straight.

Transgender or trans: a trans person has a different gender from their assigned sex. E.g. a trans man was raised as a girl before coming out as male.

Non-binary: a gender identity outside of the male/female binary.

Queer: an umbrella term for anyone not straight or gender normative (while some identify with this term, others consider it offensive).

Takatāpui: traditionally translated as 'intimate companion of the same sex', takatāpui is now an umbrella term for Māori of diverse sexuality and/or gender.[4]

50% OF PEOPLE WORRIED ABOUT HOUSING DISCRIMINATION

47% **of trans respondents reported discrimination from someone they lived with (non-trans: 23%)**

52% **of respondents rated their mental health as 'fair' or 'poor'**

Selected Statistics:

15% reported discrimination from a landlord or property manager

37% had lived in temporary accommodation for more than a week

7% had lived rough for more than a week (e.g. on the street)

INVISIBILITY VS HYPERVISIBILITY

Many respondents noted they hadn't experienced discrimination, but were not 'out' or visible as LGBTIQ+ like a couple searching for a 1-bedroom would be. Around 27% of respondents reported discrimination based on their appearance or way of dressing.

I'll always hide my identity until I know I can trust people.

I'm unapologetically queer and unwilling to compromise that.

Others commented that their ethnicity was more visible than their sexuality/gender, with: 33% of Māori, 48% of Pacific, and 63% of Asian respondents reporting ethnic discrimination.

FIRST TIKTOK STUDENTSHIP?

To reach a wider and more diverse audience, we created shareable videos on TikTok. Across social media, our videos received over 5000 views and 74 shares.

Check them out using the QR code!

Serum Levels of S100B are Significantly Correlated with Injury Severity

Joseph Balfe[1], Dr Alice Rogan[1,2]

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[2]Wellington Regional Hospital Emergency Department, CCDHB

BACKGROUND

Severe traumatic injury is a leading cause of death in young adults worldwide.[1] It is a major global public health issue resulting in more than **14,000 deaths** per day.[2] Because of this, research has focused on the improvement of diagnostic outcomes for patients with trauma in the Emergency Department (ED), including the identification of suitable **biomarkers** to facilitate appropriate treatments.[3] **S100B**, a favorable biomarker for traumatic brain injury (TBI), is being used clinically in a validated Scandinavian guideline to triage the need for CT head scans.[4] However, recent research has shown that **S100B** is expressed in many extracranial tissues including adipocytes, chondrocytes and melanocytes.[5-7] This raised the question as to whether serum levels of S100B correlate with overall **injury severity**.[3] If so, its use as an adjunct in trauma management could be explored.

RESEARCH AIMS

To investigate whether serum levels of S100B correlate with overall injury severity using the injury severity scoring system (ISS).

METHODS

Participants

This is a sub analysis of a patient cohort with a range of injuries from the BRAIN study (HDEC Reference: 20/CEN/5), a multicenter prospective study of patients who required a CT head scan following trauma. Patients were recruited from Wellington Regional Hospital ED.

Measurements

Venous blood samples (8ml) were drawn at time of study enrolment. S100B levels were measured using a Cobas Elecsys S100 module. Regional Abbreviated Injury Scale (AIS) scores were used to compute an overall injury severity score using a pre-configured MDCalc calculator.[8]

Data Collection and Statistical Analysis

Baseline demographics and clinical characteristics were collected retrospectively and stored on REDCap. Pearson's correlation was used to measure the relationship between S100B (μg/L) and ISS.

RESULTS

Baseline Demographics

In our cohort of patients (n = 44), the median age was 50 years and 61.4% were male. Injuries ranged from isolated TBI (n = 9), isolated fracture (n = 5), multiple trauma (n = 20), and healthy controls (n = 10). Twenty patients required admission from ED and 8 required emergency intervention.

Predicting Injury Severity from S100B Levels

Serum levels of S100B were significantly correlated with injury severity scores (p = 0.0001, r = 0.54).

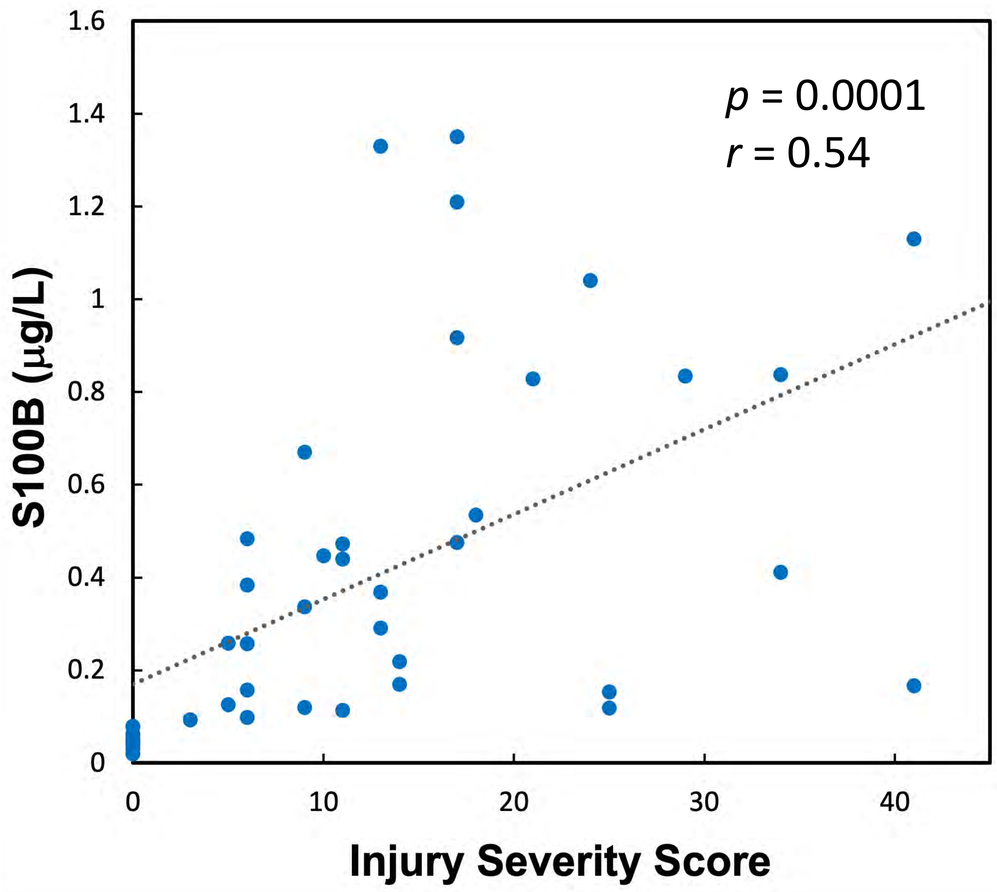

Figure 1. Correlation between serum levels of S100B and injury severity scores (p = 0.0001, r = 0.54).

CONCLUSION

In this exploratory study, we demonstrated a significant correlation between serum levels of S100B and injury severity. Further studies are warranted to validate these findings as they were limited by a small sample size. Future research should investigate whether S100B levels can predict outcomes such as mortality, hospital length of stay, and intervention requirement. This may, in future, guide clinicians through trauma management decisions to facilitate appropriate treatments and improve patient outcomes.

ACKNOWLEDGEMENTS

Thank you to Dr Alice Rogan for her guidance throughout this project. This summer studentship was funded by the Surgical Research Trust and hosted by the University of Otago, Wellington. The S100B results were funded by Wellington Medical Research Foundation grant.

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Postoperative sleep disruption following day surgery (The DURESS Study)

Kate Jenkins[1], Dr Philip Quinn[2], Dr Daniel Ramsay[2]

[1] University of Otago, Wellington, [2] Department of Anaesthesia and Pain Medicine, Wellington Hospital

Introduction/Background

Post-operative sleep disruption appears to be nearly universal and is associated with longer recovery times, pain and increased rates of delirium. (1-3)

Polysomnographic recordings of post-operative patients show decreased sleep time and changes in sleep architecture. (4) The cause of this is thought to be multi-factorial, with surgical trauma, pain and environmental factors all playing a role. (1) The role of anaesthetic agents in sleep disruption continues to be debated but there is some evidence that general anaesthesia causes a shift in the circadian clock. (5,6)

Research to date has focused largely on the inpatient population. Less is known about post-operative sleep disruption in day surgery patients, who are typically undergoing more minor procedures and are not exposed to the same environmental factors during the postoperative period.

Aim

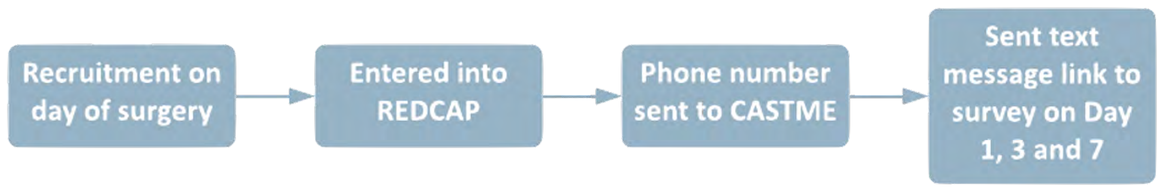
To describe the degree and duration of post-operative sleep disruption in the day surgery population and to generate hypotheses for further studies to consider the role of pharmacological agents in perioperative sleep.

Method

Patients ≥ 18 years who were scheduled for non-cardiac day surgery at Wellington or Kenepuru Hospital between December 2021 – January 2022 were considered eligible for the study. This poster analyses data from the start of the study (Dec 2nd 2021) – Jan 18th 2022.

Over this period, there were 322 eligible patients. Of these, 263 were approached by the research team and 206 consented to participate in the study. 136 patients had procedures under general anaesthesia (GA) and the remaining 70 had procedures under local or regional anaesthesia (LA).

Primary outcomes were self-reported sleep quantity (hours and minutes) and quality (rated on a visual analogue scale from 0-10). Outcomes were assessed using a study-specific text message-based survey tool.



Results

Fig 1: Box plot of self-reported sleep quantity by day after surgery, with whiskers extending to 1.5x IQR and overlying dots representing individual patient responses.

Fig 2: Box plot of self-reported sleep quality by day after surgery, with whiskers extending to 1.5x IQR and overlying dots representing individual patient responses.

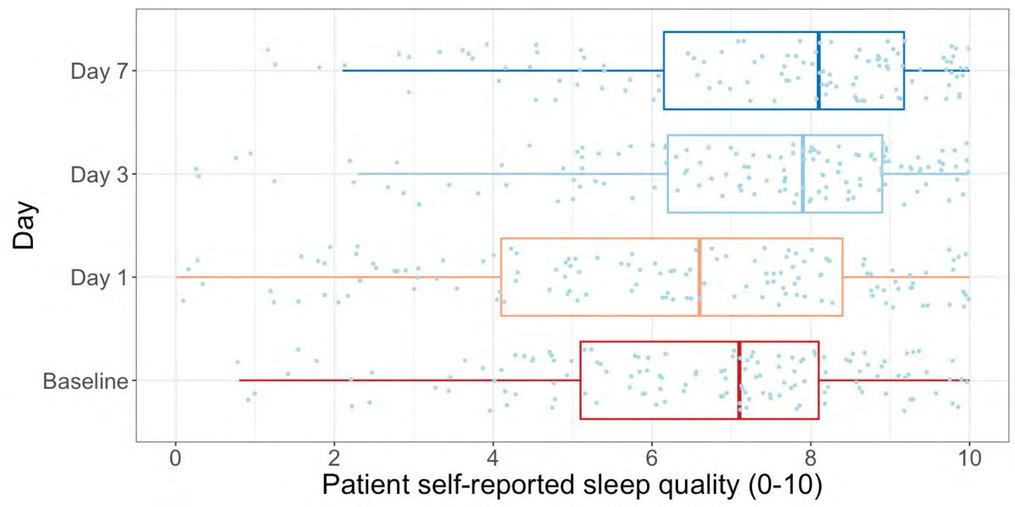


Table 1: Mean difference in sleep quantity (minutes) from the previous month, by day after surgery and by type of anaesthesia.[1]

Day	Mean difference [95% confidence interval]	p-value[2]
Overall		
Day 1	-13 [-40, +14]	0.39
Day 3	+23 [+4, +43]	0.02
Day 7	+23 [+4, +42]	0.02
General (GA)		
Day 1	-16 [-50, +18]	0.35
Day 3	+19 [-5, +43]	0.12
Day 7	+21 [+2, +39]	0.03
Local (LA)		
Day 1	-13 [-54, +27]	0.51
Day 3	+32 [-4, +67]	0.08
Day 7	+39 [-21, +99]	0.19

[1] Sample mean differences in sleep quantity were analysed using the paired t-test to find the 95% confidence interval for the population mean difference.
[2] p-values were not corrected for multiple comparisons as this was a hypothesis generating study.

Table 2: Proportion of patients who experienced a noticeable change[3] in sleep quality from their self-reported sleep quality in the previous month.[4]

Day	Proportion increased [95% confidence interval]	Proportion decreased [95% confidence interval]	Difference in proportion [95% confidence interval]
Overall			
Day 1	36% [29%, 45%]	40% [32%, 49%]	-4% [-13%, +6%]
Day 3	50% [42%, 59%]	28% [21%, 37%]	+22% [+12%, +32%]
Day 7	58% [49%, 67%]	29% [21%, 38%]	+29% [+20%, +39%]
General (GA)			
Day 1	38% [29%, 48%]	44% [35%, 54%]	-6.0% [-17%, +5%]
Day 3	51% [40%, 61%]	30% [21%, 40%]	+21% [+9%, +32%]
Day 7	59% [48%, 68%]	33% [24%, 44%]	+25% [+14%, +36%]
Local (LA)			
Day 1	32% [20%, 49%]	30% [17%, 46%]	+3% [-16%, +21%]
Day 3	50% [33%, 67%]	23% [12%, 41%]	+27% [+7%, +47%]
Day 7	56% [37%, 73%]	12% [4%, 30%]	+44% [23%, 65%]

[3] A noticeable change in sleep quality was defined as a change in sleep quality ≥ 0.5 on the 0-10 visual analogue scale.
[4] The sample proportion of patients who experienced a change in sleep quality was analysed using the Wilson score to find the 95% confidence interval for the population proportion. The 95% confidence interval for the difference in proportion was calculated using an asymptotic method.

Discussion

Our findings do not support the conclusion that sleep quantity is significantly disrupted by day surgery. On day 1, we did not find a statistically significant decrease in sleep quantity. On day 3 and 7, we found a small increase in sleep quantity, which was unexpected and was matched by a parallel increase in sleep quality, with a greater proportion of patients experiencing a noticeable increase in sleep quality compared to a decrease from their sleep quality in the previous month.

Key limitations of our study include the potential for a lack of accuracy in self-reported sleep and the brevity of our survey tool, which limited how well we could describe post-operative sleep.

A potential direction for future research is the identification of pre-operative factors that might predict poorer post-operative sleep in the day surgery population. Another interesting direction would be to utilise at-home polysomnography to determine whether day surgery patients experience significant changes in their sleep architecture post-operatively.

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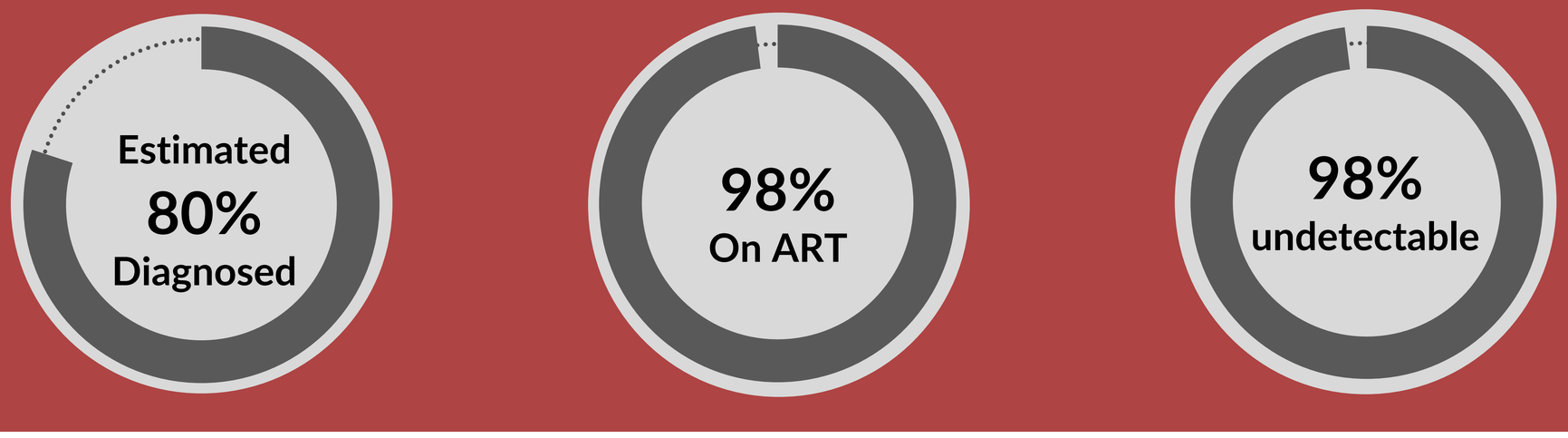
Acknowledgements

Thanks to the J Campbell Barrett Wellington Anaesthesia Trust and the Department of Anaesthesia and Pain Medicine, Wellington Hospital for funding this project. Thanks to Robin Willink, UOW Biostatistics Group for providing statistical support.

Undetectable = Untransmissible

HIV Care Continuum in wider Wellington Region



Background:

Maintained viral load suppression with antiretroviral therapy (ART) leads to superior clinical outcomes for people living with HIV (PLWH) and prevents transmission of HIV[1].

The HIV care continuum is a public health model that describes the steps HIV patients should ideally undergo from infection to viral load suppression. This is an invaluable tool to both assess individual care outcomes and system performance.

Aim:

To audit clinical care provided to PLWH in wider Wellington region

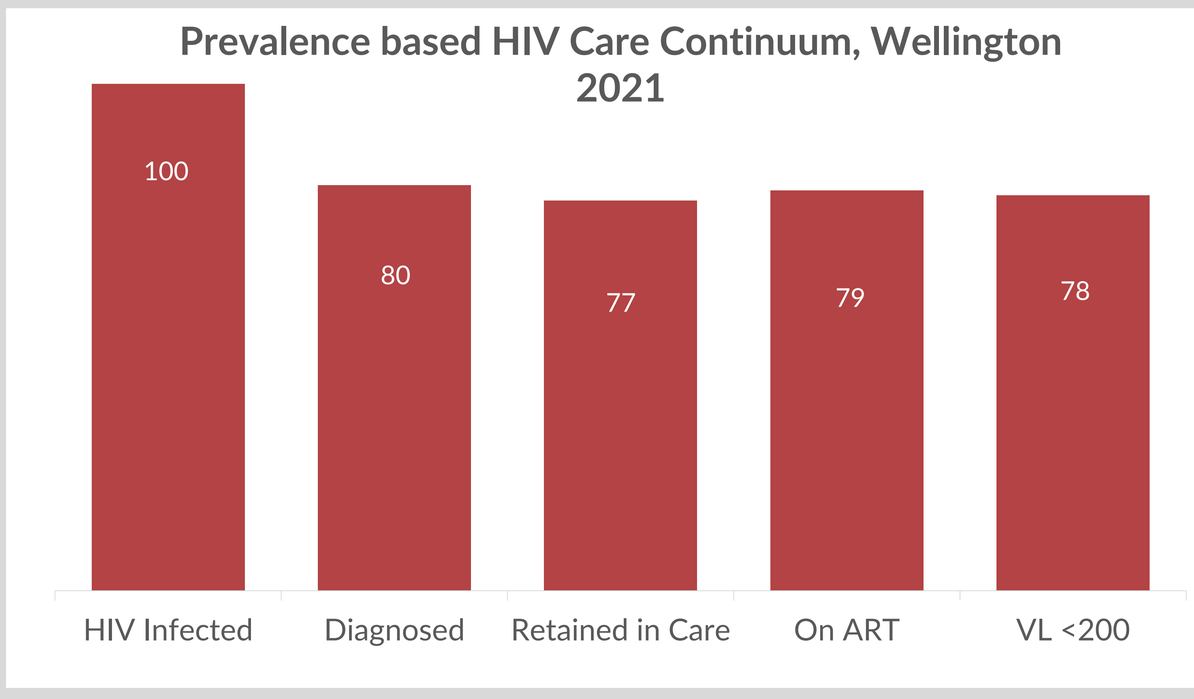
Methods:

The clinical records and laboratory results of PLWH in the wider Wellington region as of 31/12/2021 were reviewed. Viral load <200 copies/ml were considered undetectable. Based on past New Zealand research , an estimate of 20% undiagnosed was used[2].

Ethnicity	Female (n)	Male (n)	Trans-Female (n)	Total (n)
NZ European	13	191	4	**208**
Māori	10	44	0	**54**
Pacific Island	3	10	0	**13**
Asian	9	40	0	**49**
African	25	20	0	**45**
Other European	3	47	0	**50**
Other	6	15	1	**22**
Total	**69**	**367**	**5**	**441**

Results:

With the current estimate of 20% undiagnosed, this research indicates that 79% of all PLWH in the region are on ART and 78% are virally supressed. This demonstrates significant improvement compared with a similar study done in Wellington in 2016, which showed only 71% on ART and 66% virally supressed[3].



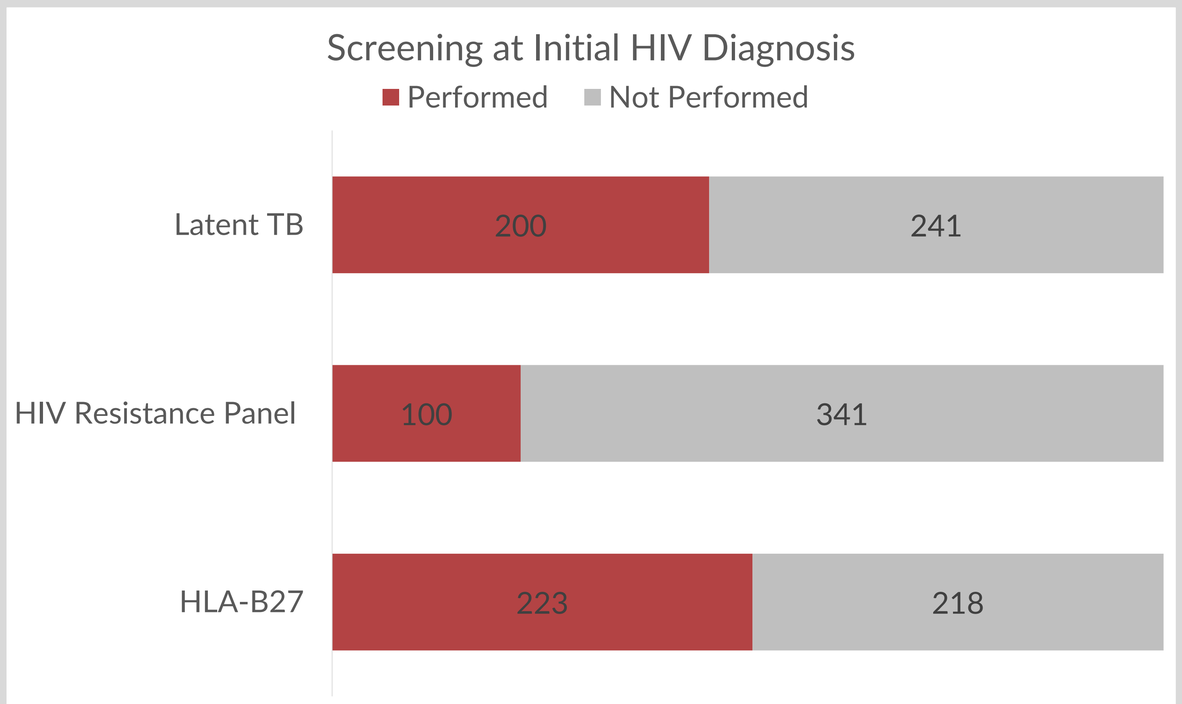
Other results highlighted through this audit;

5% (22) had hepatitis C co-infection, while 3.4% (15) had hepatitis B co-infection

12.7% (56) were known to be diagnosed with an opportunistic infection. The most common opportunistic infection, making up 58.9%, was PCP pneumonia, followed by oesophageal candidiasis (39.3%) then Kaposi sarcoma (14.3%).

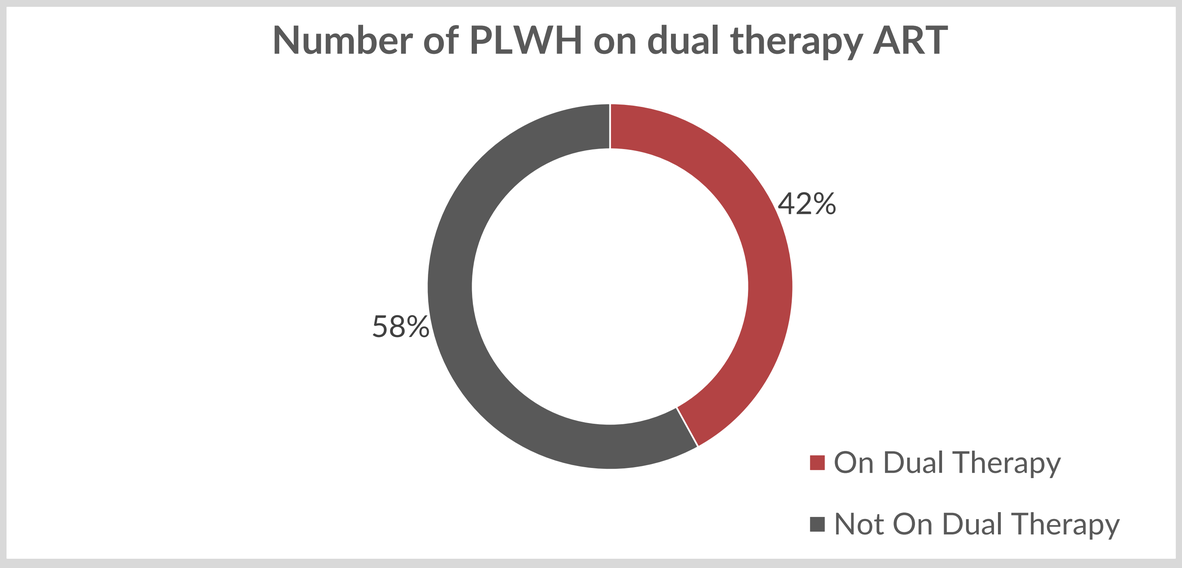
32.4% (143) were previously treated for syphilis.

Screening at initial diagnosis showed a low uptake of HIV resistance testing, latent TB screening and HLA-B27 testing.



Areas for Improvement:

- Dual therapy is increasingly recognized as an equivalent option to reduce toxicity whilst maintaining excellent HIV control



- Age related cancer screening was not discussed in >80% of appointments
- Formal cardiovascular screening was documented in only 11% of patients

Conclusion:

Retention in care, ART uptake and viral suppression are high in the Wellington region.

Moving forward, the focus of high-quality HIV care needs to prioritise our ageing population. We identified several areas of care which can be optimised to further improve our patient's outcomes.

"Patient X told me that perhaps the IV drug use had been a bad idea, and I agreed with him…."

Authors;
Catherine Reed, University of Otago Wellington
Dr Olivia Bupha-Intr, Infectious Diseases Physician Wellington

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Acknowledgements;
Thank you to Dr Olivia Bupha-Intr for supervising this project, and to the Infection Services Research fund for funding.

Funded by the Peter Rule Foundation

An Audit of Requests and Referrals to Initiate Gender Affirming Hormone Therapy (GAHT) in the Wellington Region 2017-2020

The University of Otago Wellington
Supervisor: Dr Rona Carroll
Student: Lane McLeod

Background

GAHT is hormone therapy to affirm the gender of transgender patients by aligning their hormone balance and sex characteristics with their gender. Prior to 2017, Delahunt et al.[1] identified an increase of transgender patients seeking GAHT in the Wellington region, rising markedly from 2010. Since 2017, care has begun shift from secondary to primary care to provide GAHT.

Aims

- Collect demographic data for everyone requesting or referred for GAHT in the Wellington region from 2017 to 2020
- Identify practices that are the most frequent referrers
- Record any changes in GAHT prescribing practices over time
- Collect data on time taken to commence GAHT

EGAHT Oestrogen-based GAHT
TGAHT Testosterone-based GAHT

Methods

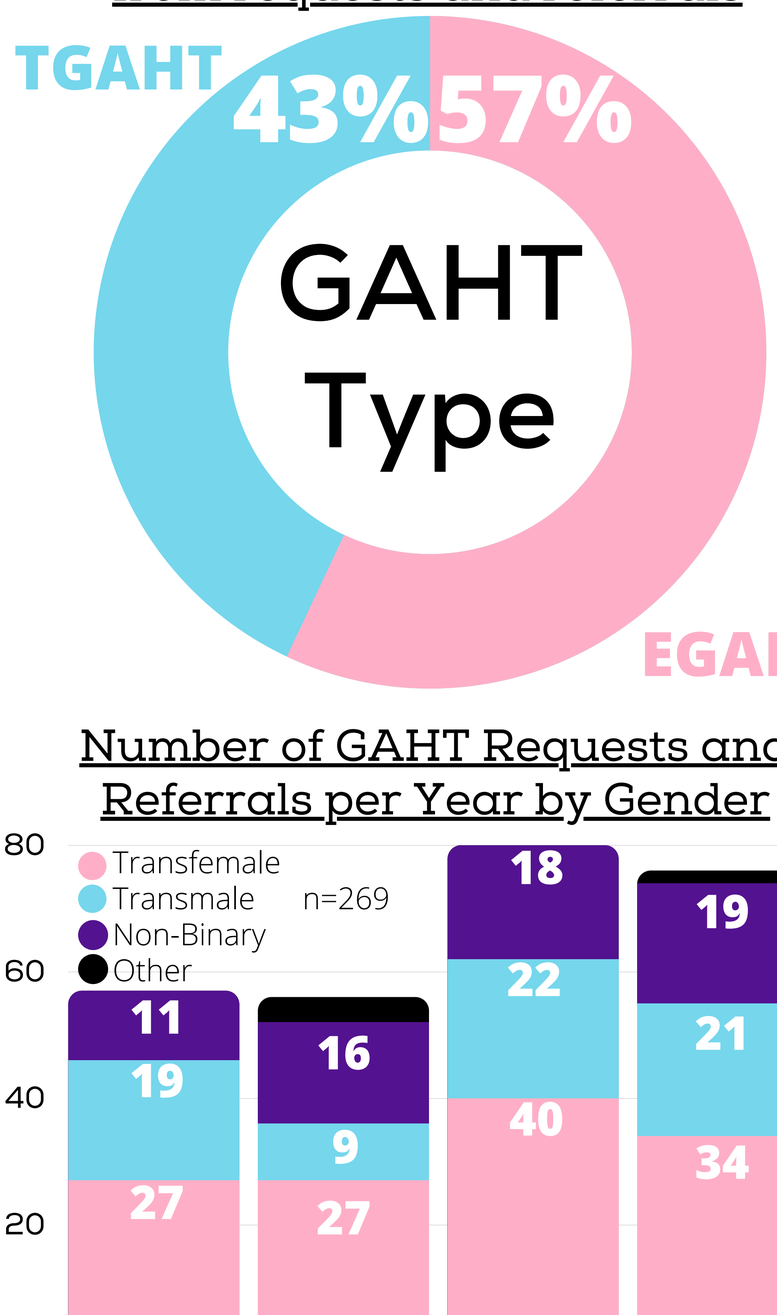
Data was collected primarily through Mauri Ora Victoria University of Wellington and CCDHB Endocrinology. Mauri Ora information was collected through the database prepared by gender team nurse Bianca Sepulveda and accessed through Indici. CCDHB Endocrinology patients were identified by systematically auditing the Endocrinology referral inbox from January 2017, from which information was accessed through Concerto. Data was collected in Microsoft Access and analysed through Microsoft Excel.

Information collected included:

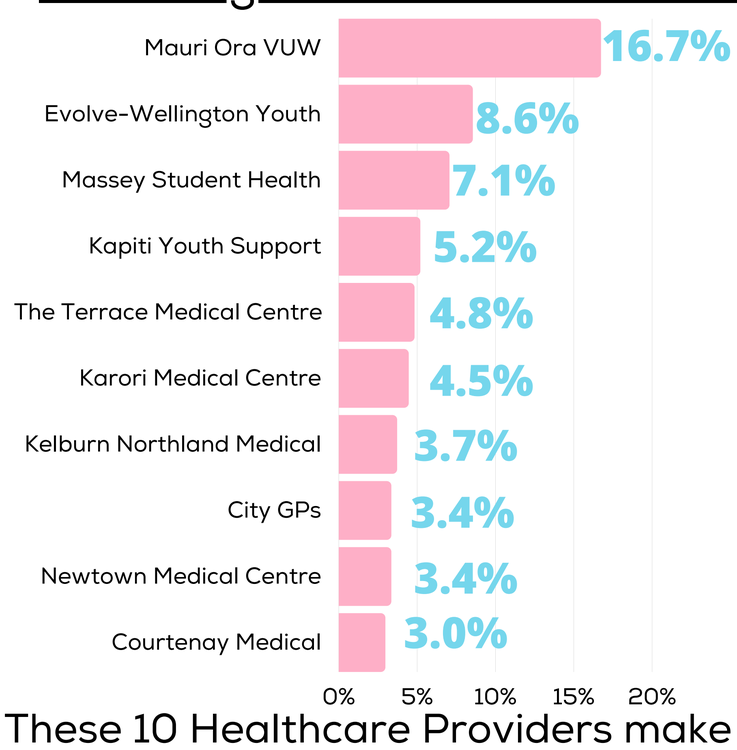
- Gender (sex assigned at birth and self-identified gender)
- Ethnicity and age
- Date of referral/request
- Referral source/requesting and initiating healthcare providers
- If Psychologist was seen for assessment and date of first psychologist appointment
- Date of initiating GAHT (first prescription)
- GAHT type and first choice prescribed

Results

Proportions of GAHT types initiated from requests and referrals

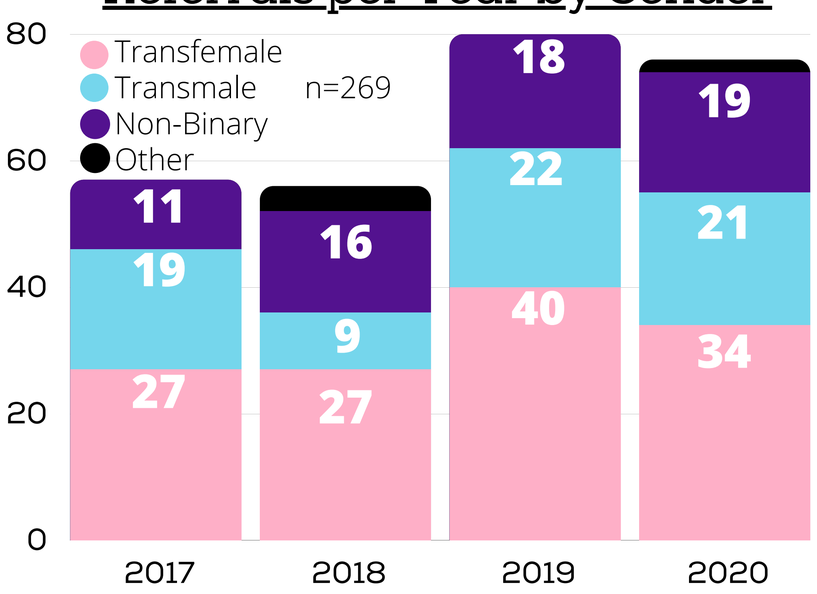


Top 10 GAHT Requesting and Referring Healthcare Providers



These 10 Healthcare Providers make up 60.4% of all GAHT requests and referrals

Number of GAHT Requests and Referrals per Year by Gender



GAHT Initated at Primary Care Versus Secondary Care

20 years old is the median age of patients requesting GAHT

66 different healthcare providers where patients requested GAHT

246 median days between request/referral for GAHT till initiating GAHT at Secondary care

116 median days between request/referral for GAHT till initiating GAHT at Primary care

158 median days between request/referral till first psychological assesment

Discussion

Unlike the rapidly increasing requests and referrals as in Delahunt et al.[1], the number of patients per year appears to be stabilising. Youth one-stop-shops and student health take up the top four highest requests/referrals for GAHT (37.6%), demonstrating the need to prioritise primary care prescribing at these sites to meet the needs of young transgender patients. The markedly longer median wait time for secondary care and psychological assessment level demonstrates the need to shift to a primary care informed consent model to reduce the distress caused by these significant wait times.

Acknowlegements & References

I would like to thank DrRona Carroll for supervising this project, Bianca Sepulveda for assisting in data collection, the CCDHB Endocrinology Department and Mauri Ora Victoria University of Wellington for facilitating this research and the Peter Rule Foundation for funding this project.

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To CT scan or not to CT scan?

A study on the use of CT head scans following headache presentations in the Emergency Department

Lovely Bugtong, Dr. Alice Rogan

BACKGROUND

Headaches are one of the most common forms of pain worldwide. Over 90% of individuals suffer with a headache at some point in their lifetime. (1)

In some cases, headaches are indicative of more serious underlying problems. Because of this, people may present to the hospital emergency department (ED) when they have abnormal or severe headaches.

When someone presents to the ED with a headache, their presenting signs and symptoms are assessed, where certain features are considered more concerning than others.

If a headache is deemed concerning, a CT head scan may be ordered to determine or exclude any serious causes.

AIM

The aim of this project was to review the frequency, presenting patterns and diagnostic outcomes of patients who require a CT head referral after presenting to the Emergency Department with a headache.

METHODS

The data used for this project was obtained from a retrospective observational study of patients presenting to the Wellington ED with a headache, who had a head CT in 2020. Only patients 18 years old or over were included in this project. There were 119 patients included in total.
Patient charts were reviewed and information for demographics, presenting features, CT head result, ED CT head waiting time, ED CT head length of stay, patient disposition and discharge diagnosis were collected. The data was entered into a REDCap database hosted by the University of Otago.
There were 119 individuals included in this study in total.

RESULTS

18.2% of people with thunderclap headaches (extremely severe headaches that develop suddenly) had a positive CT scan.

Out of 119 individuals, 23 had a positive CT head scan (where a new pathology was identified)

18.4% of people who had a headache accompanied by nausea and vomiting had a positive CT scan.

54.6% of people were diagnosed with a primary headache (no underlying cause) such as a migraine, tension headache, or other type of headache.

45.4% of people were diagnosed with a secondary headache (with an underlying cause such as stroke, seizure and other issues).

There was a statistically significant relationship between those who presented to the ED with nausea and vomiting and the outcome of their CT scan. No significant relationship was found for the other presenting features of patients and the outcome of their CT scan.

CONCLUSION

According to our results, the current screening guideline in the Wellington ED which determines if a patient with a headache requires a CT head scan does not increase the likelihood of getting a positive CT scan. CT scanners are time consuming and expensive instruments to run, so it is important to ensure we use them efficiently and effectively. Therefore, we may have to review the current guidelines and potentially look at other screening options. A potential pathway could be the use of blood test biomarkers- which are being investigated in the BRAIN Study project, the parent study of this project- to rule out non-traumatic brain injuries.

ACKNOWLEDGEMENTS

Dr. Alice Rogan (UOW, CCDHB) – *Supervisor*
Surgery and Anaesthesia – *Host department*
Surgical Research Trust – *Sponsor*

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THERMAL: A pilot study of two *wearable* devices to detect fevers after cancer therapy

Maria Larsen[1,2], Robbie Fyfe[2,3], Robert Weinkove[2,3,4]

1. University of Otago, Dunedin, 2. Cancer Immunotherapy Programme, Malaghan Institute of Medical Research, Wellington; 3. Wellington Blood & Cancer Centre, Wellington Hospital, Wellington; 4. Department of Pathology & Molecular Medicine, University of Otago Wellington

Clinicaltrials.gov ID ID NCT05203809

Background

Cancer care comprises a large portion of the burden on health resources – 40% of people will receive a cancer diagnosis in their lifetime. Chemotherapy recipients are at risk of life-threatening infections, for which the first indication is usually fever. Every hour that fever detection is delayed, mortality increases by 18% (1,2), as a result many are monitored as inpatients. Each hospital bed costs around NZD$1,000 per day, and carries a risk of nosocomial infection. To reduce health-care costs and limit inpatient stays, there is an urgent clinical need for ambulatory temperature monitoring in this group. Wireless devices capable of continuous temperature monitoring might enable chemotherapy recipients to be treated out of hospital by detecting fevers earlier, reducing the burden on health-care resources and improving patient experience. We designed THERMAL (Continuous temperature monitoring for the early recognition of febrile neutropenia in haematological malignancies), a pilot study, to evaluate the acceptability and utility of two wearable continuous temperature monitoring devices among inpatients at high risk of post-chemotherapy infections.

Aim

To explore the acceptability and feasibility of two wearable temperature-monitoring devices, CORE and TempTraq, for fever detection in cancer patients at high risk of neutropenic infection.

Methods

Inpatients with leukaemia, lymphoma or myeloma undergoing intensive chemotherapy, stem-cell transplantation or CAR T-cell therapy were recruited. CORE® (GreenTEG, Switzerland) and TempTraq® (Blue Spark Technologies, USA) devices (**Figure 1**) were worn by participants for up to 14 days, or until they were no longer neutropenic or had been discharged. Data were collected using a cloud-based system, questionnaire and by qualitative interview. All participants gave written informed consent; this study was approved by the University of Otago Human Ethics Committee (reference H21/161).

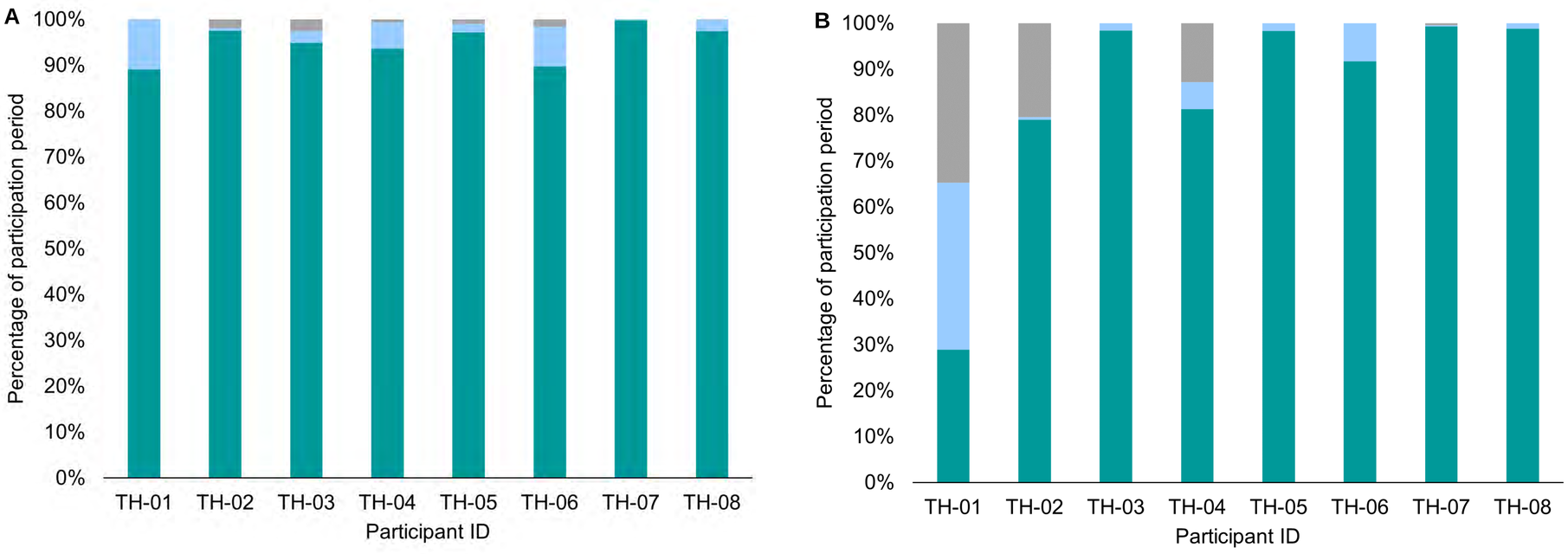
Figure 1. **Images of CORE and TempTraq temperature monitoring devices.**

Results

Descriptive analysis

To-date nine participants have been recruited to the THERMAL study. Six are male, three are female. The median age is 59 years (range 26 – 67). Two are of Māori ethnicity and seven Pākehā/NZ European. Six participants have leukaemia, one has myeloma and two have lymphoma. Five participants were undergoing chemotherapy, two were undergoing stem-cell transplantation and two receiving CAR T-cell therapy. Recruitment to the THERMAL study is ongoing.

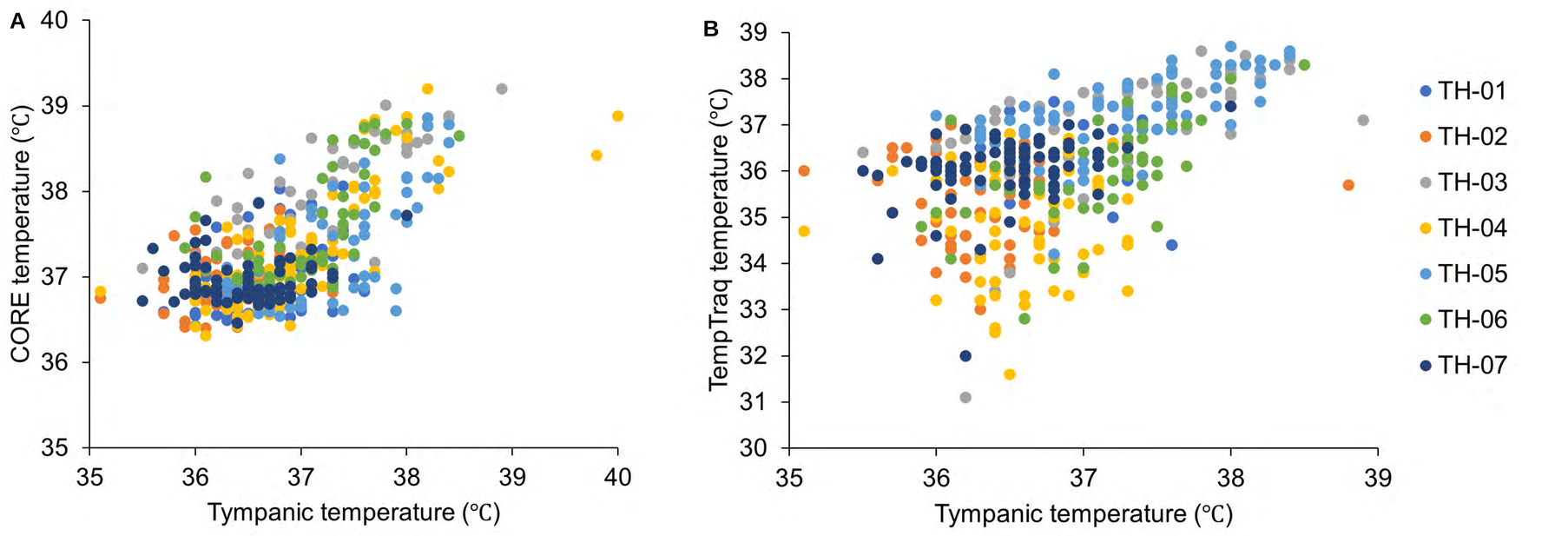
Acceptability



Four of eight (50%) participants wore the CORE throughout the study period, and five of eight (62.5%) wore the TempTraq throughout (with removal only for imaging studies or for showering, per recommended usage). Overall, CORE and TempTraq were both worn and provided temperature readings a mean of 93.28% and 63.85% of the participation periods, respectively (**Figure 2**). The difference was largely due to TempTraq adhesion and connection issues in the first study participant. Overall, both devices were generally well-tolerated.

Figure 2. **Bar graph showing feasibility of CORE (A) and TempTraq (B) devices**. Green is percentage of time the device was worn by the participant and was working. Blue shows the percentage of time the device was removed by the participant. Grey shows the percentage of time the temperature monitoring system was not able to collect data for.

Correlation



CORE and TempTraq readings were compared with contemporaneous 4-hourly tympanic temperature measurements (Genius 3®, Covidien, Ireland). Across seven participants for which data were available at the time of poster creation, a total of 431 paired CORE and tympanic temperature readings, and 379 paired TempTraq and tympanic readings were available.

As shown in **Figure 3,** positive correlations were seen between tympanic thermometer readings and both the CORE ($r^2 = 0.476$; $p < 0.0001$ of non-zero slope) and TempTraq (r2 = 0.2556; $p < 0.0001$ of non-zero slope) devices.

Figure 3. **Scatter plot showing correlation between wearable device temperature recording and tympanic temperature recording**. A is comparison to CORE device recordings; B is comparison to TempTraq device recordings. Trendlines are shown as dotted lines.

Conclusion

Preliminary results of this pilot study suggest that both the CORE and TempTraq wearable devices have potential utility for detection of fevers among patients at risk of post-chemotherapy infection. Recruitment to the THERMAL trial is ongoing, and analyses of participant questionnaires and semi-structured interviews, to ascertain patient preferences, is planned. Both the CORE and TempTraq devices have FDA clearance for clinical use, and if future studies determine their suitability for detection of post-chemotherapy fevers, represent potential alternatives to inpatient monitoring. At just NZD$250 per CORE device and NZD$50 per 72 hour TempTraq monitor, either device has considerable tolerable potential to reduce healthcare costs. Limitations of this study include small participant numbers, and that applicability can not be extrapolated to other patient cohorts.

Acknowledgements

Thank you to LifeBlood foundation for sponsoring this project. Many thanks to the University of Otago, Wellington, the Malaghan Institute of Medical Research, and to study participants and their whānau.

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IMPACTS OF LIVING IN PŌNEKE

Michaela Walker, A/Prof Mark Huthwaite

Department of Student Affairs

BACKGROUND

- Pōneke (Wellington) is home to a third of the University of Otago Medical Schools students on placement. With the others in Ōtepoti (Dunedin), or Ōtautahi (Christchurch).
- Average weekly rent price for a three bedroom house in Dunedin: $475, Riccarton: $460, Newtown: $790[1]

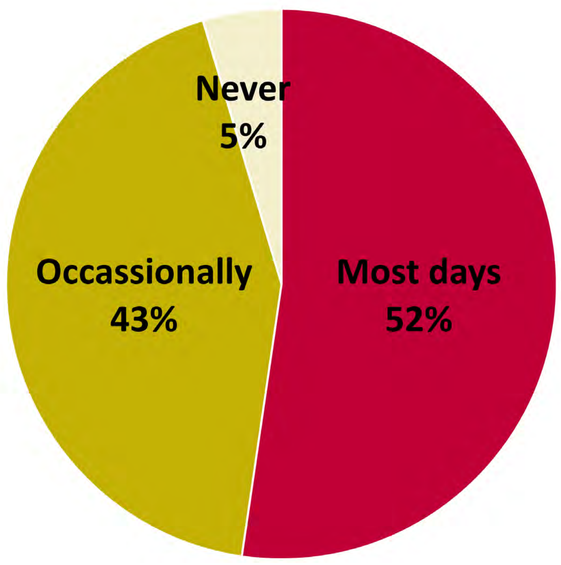
AIM

- Identify barriers and challenges students face searching for accommodation in Pōneke and their impacts on students-wellbeing
- Identify solutions to assist students in finding suitable accommodation

METHOD

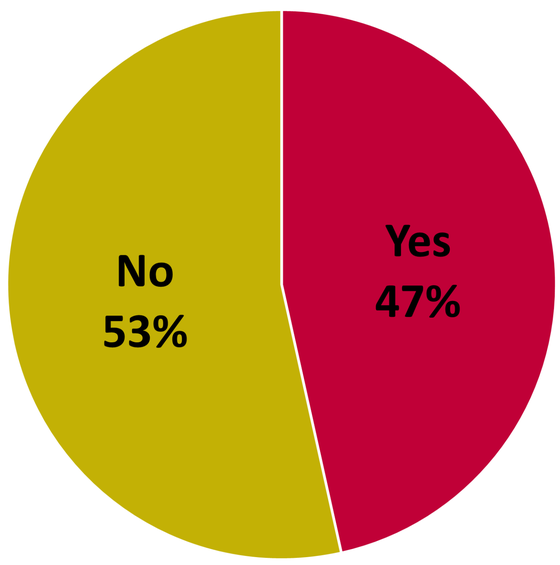
Conducted 10 semi structured interviews/kōrero with TI (5), ALM5 (3), and ALM4 (2) students discussing their flatting experiences then thematically analysed.

How often do you feel financially stressed?



Pie charts are from data collected in a survey done by WHPSA 2021.

Does studylink fully cover your rent cost?



RESULTS

From the collected data there were five overarching themes.

COST OF RENT

*"Trying to live on 230 and pay for rent in a place that's 250 and not being able to work properly during fifth year, **it was just too hard**."*

FINDING ACCOMODATION

"competing with all the families, young professionals and other students from two other universities means that student accomodation is hard to find"

FINANCIAL BURDEN

*"My parents and I came to an agreement that I would borrow money from them…. In order for them to give me that money, they ended up having to **remortgage the house**"*

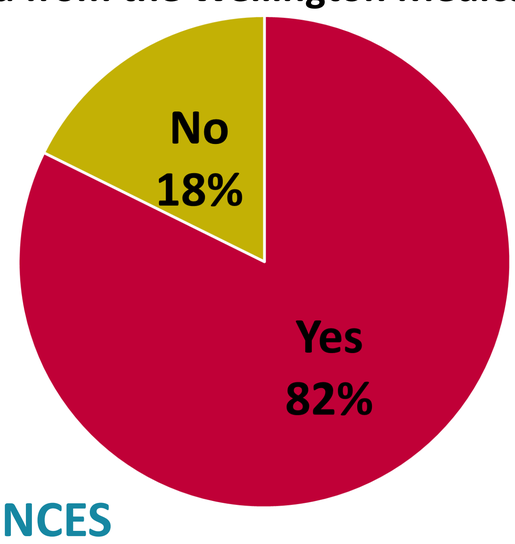
POOR QUALITY HOUSING

*"got quite **damp**… started to get **rats** in the walls… all these sorts of colours of **mould** on everything"*

PERCIEVED DIFFERENCES IN THE SCHOOLS

*"both the **cost of renting and just cost of living**… groceries are more expensive here. Petrol's more expensive here. Going out is more expensive here. Um, the fact that the med school doesn't have the same results as other medical schools…. The fact that we had to do travel to other hospitals and other DHBs with no subsidy from the medical school"*

Did the associated cost of living in Wellington deter you from the Wellington Medical School?



CONCLUSIONS

Wellington prides itself on being inclusive, but this city is crippling students. Students currently feel unsupported by the University of Otago, which continues to send students here every year, without any acknowledgement of the extra cost and it's consequences.

Housing is a necessity, not a want. Whether it is lobbying for student rights, education, grocery vouchers, more accessible hardship funds, or accomodation itself; it is time to not only open the conversation but start acting.

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ACKNOWLEDGEMENTS

Thanks to the University of Otago, Wellington for their funding, A/Prof Mark Huthwaite and the Student Affairs Department in Wellington for the input and supervision.

University of Otago Te Whare Wānanga o Otāgo New Zealand | Wellington

New Message now

Musculoskeletal examination skills mobile apps: What is available and user-informed design improvements

Ollie McCullough, Dr Tehmina Gladman, Associate Professor Rebecca Grainger, Rheumatologist
University of Otago, Wellington

Literature Review

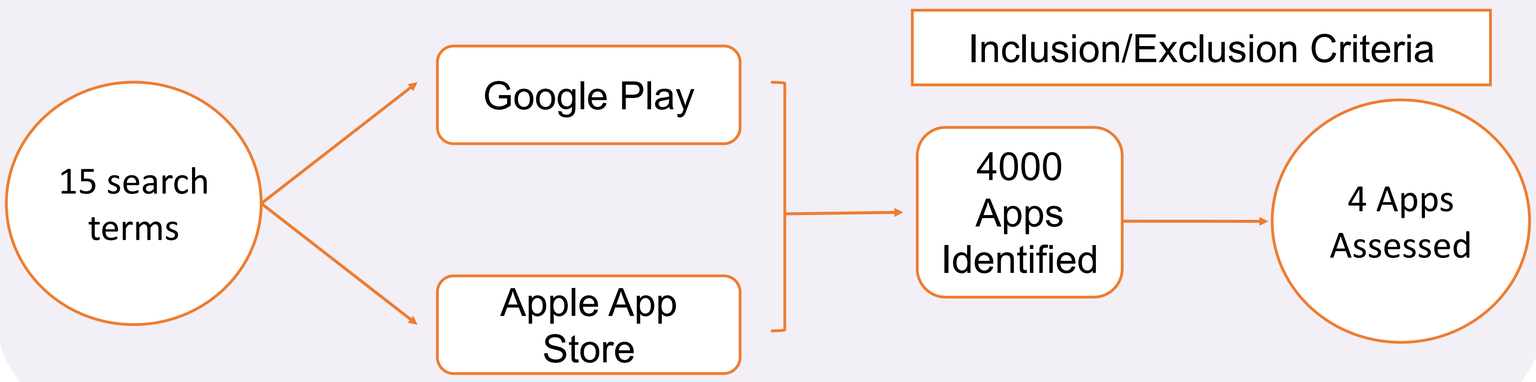
What is the current state of medical school musculoskeletal education?

Five themes identified

1. Hypothesis-driven physical examination skills
2. Near-peer teaching
3. Adequate anatomy teaching
4. Novel teaching methods
5. Self-directed learning

Systematic App Search

What mobile apps are currently available on musculoskeletal examination for medical students?



Focus Group

What are the needs in a musculoskeletal examination app for current medical students?

1. Usability: interactive tool
2. Environment: just-in-time learning
3. Layout: clear and concise
4. Content: anatomy and pathology
5. Cultural competency: red flags/‘don’t forget’ section

ARTHRITIS NEW ZEALAND
KAIPONAPONA AOTEAROA

UNIVERSITY of OTAGO
Te Whare Wānanga o Otāgo
NEW ZEALAND

PATIENT PERSPECTIVES IN RHEUMATOLOGY

INFORMING SERVICE REQUIREMENTS FOR PUBLIC RHEUMATOLOGY CARE IN AOTEAROA

AUTHORS

Rachel Ngan Kee, University of Otago
Valerie Milne, Patient partner
Prof. Nicola Dalbeth, University of Auckland
Prof. Rebecca Grainger, University of Otago

ACKNOWLEDGEMENTS

Thank you to all of the participants who contributed to this project, and to Arthritis New Zealand for sponsoring this project.

BACKGROUND

Rheumatic diseases are an **important and increasing** cause of morbidity[1,2,3]. In Aotearoa in 2018, **17% of adults were living with arthritis**[2,3]. People with rheumatic diseases in Aotearoa should receive care from specialist rheumatology services[1].

Patient perspectives and experiences are important for **meaningfully improving health service delivery**[4,5]. The upcoming 2022 health system reforms present an **opportunity to improve** public rheumatology service delivery. Patient perspectives of what these services should include are **fundamental for making meaningful improvements** that will support **better experiences and overall care**[4,5].

WE AIMED TO DESCRIBE WHAT PEOPLE WHO HAVE USED DHB RHEUMATOLOGY SERVICES CONSIDER IMPORTANT IN PUBLIC HOSPITAL RHEUMATOLOGY SERVICES

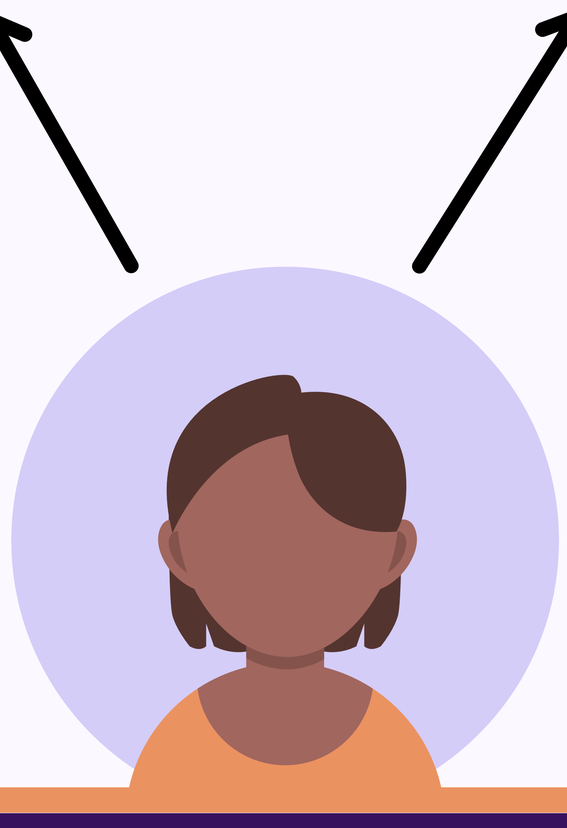
METHODS

The perspectives of people who have used DHB rheumatology services within the last 5 years were collected by **focus group** (n=11) and a phone interview (n=1). Arthritis New Zealand purposefully recruited participants to represent **diverse regions, diseases, ages and genders.** Participants were asked four open-ended questions regarding **what services they value; what aspects of DHB rheumatology services have worked well for them** and **what they hope to see improved**; and their **ideal services overall.** Data were were transcribed using Ottr.AI and coded by inductive coding.

RESULTS 2 themes, 5 sub-themes

Experiences of individuals and whānau are respected and valued

- Experiences as people
- Experiences as patient



Right care, right time

- Rheumatology specialist care
- Access to rheumatology nurses
- Other aspects of care

CONCLUSION

When using a public rheumatology service, patients want to feel **valued** and **respected as individuals**, and have their **experiences** similarly valued. A **best-practice rheumatology service** will provide them **access** to the services they need, **when they need it,** and from the **appropriate health care professional.**

NEXT STEPS

These patient perspectives data will be integrated with previously identified rheumatologists' opinions of best-practice services into a **national survey** of patient perspectives. The results should inform **future best-practice rheumatology service requirements in Aotearoa public health systems.**

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The Uncharted Territory of Epigenetics, Inflammation and Cancer

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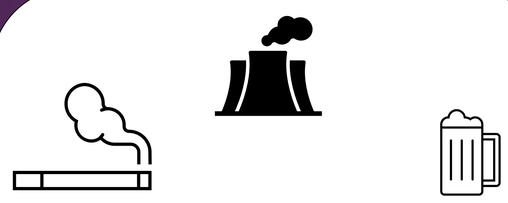
Primary Funder: Cancer Society Te Kāhui Matepukupuku o Aotearoa

BACKGROUND

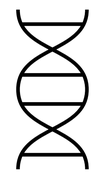
25,000 New Zealanders are diagnosed with cancer every year.

There is no definitive cure, but...

"Prevention is better than cure"



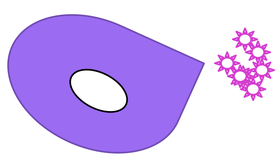
Oxidative stress can be caused by environmental factors such as smoking, pollutants and diet. They can modify chemical markers in DNA, changing a person's Epigenetics



Cancer progression is tightly linked to changes in a person's epigenetics.

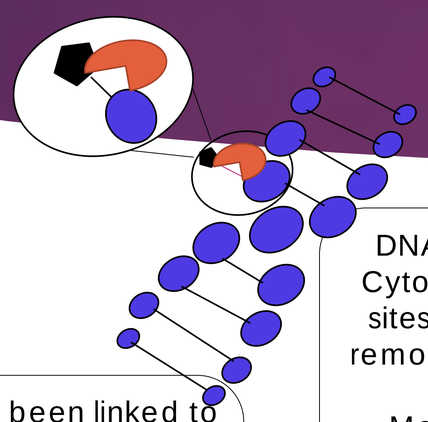
Inflammation produces Reactive Oxygen Species, and we aim to investigate how these cause epigenetic changes

INFLAMMATION AND DNA METHYLATION

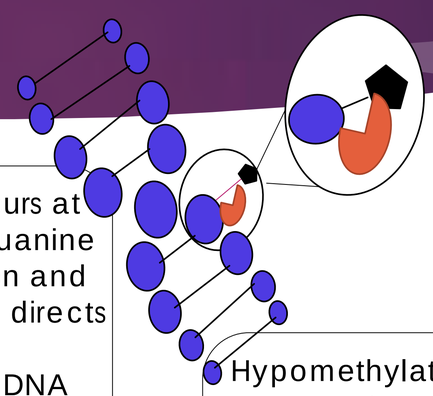


During inflammation. Immune cells produce reactive oxygen species. One of these is Hypothiocyanous acid (HOSCN)

HOSCN has been linked to Hypermethylation. However, the genomic location of DNA methylation changes are still unknown



DNA methylation occurs at Cytosine Phosphate Guanine sites (CG). The addition and removal of Methylation directs gene activity.
Methylation requires DNA Methyltransferases (DNMT)

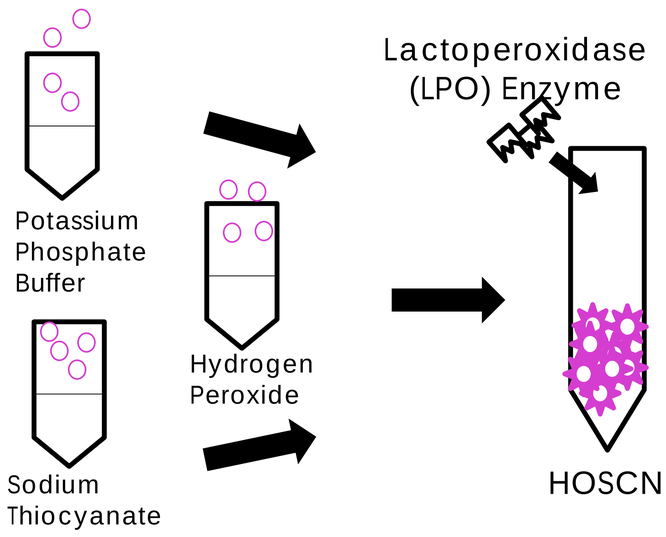


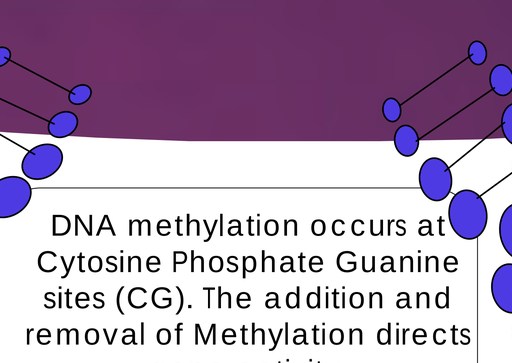
Hypomethylation can:
- promote genetic instability.
- Cause mis segregation of chromosomes during cell division

Hypermethylation can:
- can silence key tumour suppressors .
- promote tightly packed inactive DNA conformations

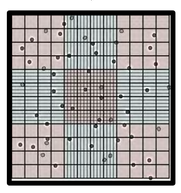
Understanding **EPIGENETICS CHANGES** can help us formulate **METHODS OF PREVENTION AND CURES**

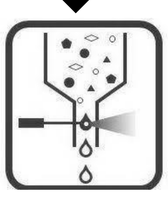
METHODS





Haemocytometer:
Live/dead cell count





Flow Cytometry
% of Viable cells

Release cells with Cytidine for 2- 4 hours to maximise cells in the S-Phase

Block cells with Thymidine to maximise and synchronise number of cells undergoing DNA replication at the time of treatment

JURKAT Acute Leukaemia cultured tissue cell line

We Hypothesise that HOSCN will interfere with DNA methylation machinery, which is active during cellular replication

RESULTS

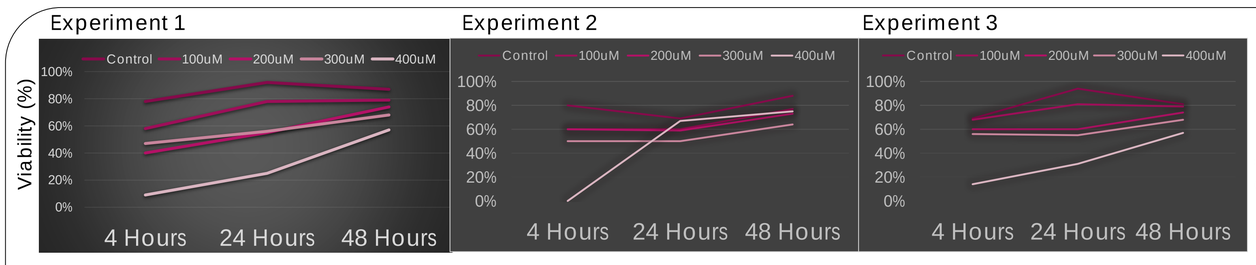


Fig 1. % viability of cells post HOSCN treatment at conc. levels of 100uM, 200uM, 300uM, 400uM. measured at 4, 24 and 48 hours

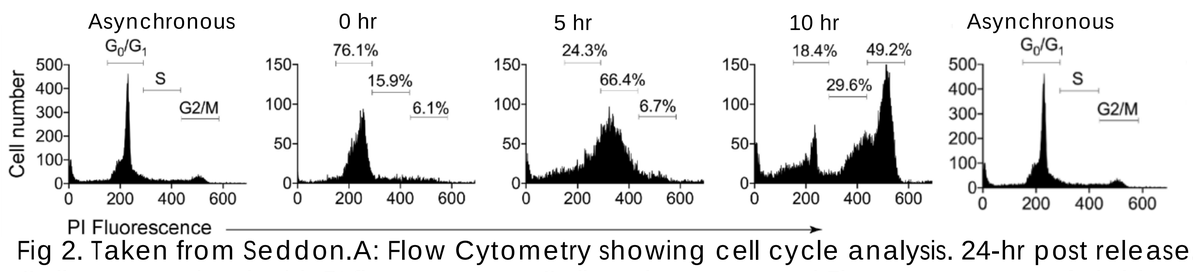


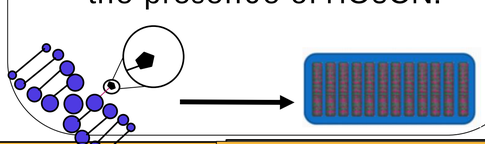
Fig 2. Taken from Seddon.A: Flow Cytometry showing cell cycle analysis. 24-hr post release. Cells were stained with PI fluorescence Cell cycle stages and The percentage of viable cells are shown at 0,5 and 10hr. Cell Post block by thymidine. Results from flow are TBD.

DISCUSSION

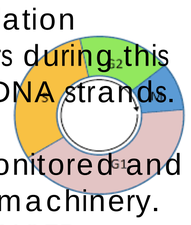
HOSCN is produced by eosinophils.
HOSCN is primarily involved in killing pathogens.
BUT it influences intracellular signalling pathways i.e. phosphatases that can influence kinase signalling pathways.
Promoting hypermethylation of oncogene and/or tumour suppressive genes

Sublethal dose of HOSCN was determined.

This will allow future experiments to investigate DNA methylation changes in viable cells that have undergone replication in the presence of HOSCN.



Cells needed to be in the S-Phase as DNA methylation predominantly occurs during this phase of replicating DNA strands.



These changes are monitored and fixed by DNA repair machinery.
BUT as with CANCER DEVELOPMENT NOT ALL CHANGES MAY BE FIXED

Next step is to:
- To determine the precise sites of DNA methylation changes following HOSCN exposure using genome-wide array based technology

AND
- replicate findings using non-cancerous primary T cells

To be continued

Te Tari Mātauranga Mate
Department of Pathology and Molecular Medicine

ACKNOWLEGEMENT

I would like to thank my supervisors Dr. Aaron Stevens and Dr. Fenella Rich as well the UOW department of Pathology and Molecular Medicine, and UOW for this opportunity

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A High Quality Aotearoa New Zealand Diet for Metabolic Health and Whānau Wellbeing: Pilot Intervention Study

While 1 in 3 adults in New Zealand (NZ) are currently diagnosed with diabetes, Māori and Pacifica are carrying an even greater burden (MOH,. 2021), hence it is important to create accessible healthy-lifestyle options for the population. There are currently no dietary interventions in NZ which aim to prevent diabetes at a household level. Using the Whanau wellbeing approach, this pilot intervention study aims to test the efficacy of implementing a New Zealand styled Mediterranean diet (MD) to prevent the onset of diabetes. Co-morbidities are often shared by households, therefore a dietary change may benefit the whanau as a whole. Accepting dietary change at a household level presents many barriers that are beyond the decision to eat differently (Daivadam, Wahlstorm et al. 2014), therefore understanding barriers such as social norms and knowledge around food will help to inform follow-on interventions.

Collaboration with Tu Kotahi and Kokiri Marae will ensure at-risk participants within these communities are invited to participate and engage in a life-style change they would not usually. By providing participants with 50-75% of their regular households intake, participants are able to prepare and incorporate MD foods into their regime.

Meals consisting of high Saturated fat: Mono/ polyunsaturated fat ratio, low fibre— promoting co-morbidities

SAMPLE AND RECRUITMENT

Females made up 75% of the index sample size where average age was 48y

Males made up 25% of index sample size where average age was 49y

Average number of whanau included was 3

Through CEDOR, there was over 50 respondents, in which 32 passed a phone screen (AUSRISC≥12). Participants were invited to complete a fasted (≥12hr) onsite blood screening where 20 of those participants were eligible. The same criteria was used by Kokiri Marae researchers.

Meals consisting of high Mono/ polyunsaturated: Saturated fat ratio, high fibre— promoting the prevention of co-morbidities

HIGH-VALUE NUTRITION Kō Ngā Kai Whai Painga National Science Challenges

METHODS

Using both qualitative and quantitative methods, this modest pilot study examined changes in a metabolic syndrome severity Z-score (MetS-Z) to indicate metabolic health. In addition, participant engagement and adaption was evaluated throughout the duration of the study to provide areas requiring revision.

A summer student at the UoW completed the recruitment phase from screening to final visit. Based at the CEDOR department, the student researcher completed initial contact calls, phone screening, and in-person whanau interviews. Informing participants on how to complete the questionnaires and then on the food bag delivery process, as well as what is required for the remainder of the period.

Data collection: Height, weight, waist circumference, systolic and diastolic blood pressure were recorded. Fasted bloods were taken to measure glucose, HbA1c, lipid profile and renal function. Data was collected on paper, where it is stored in a CEDOR office with names removed. Data is entered on RED-Cap data base.

Questionnaires	Baseline Wk 0	Phone visit Wk 2	Email visit Wk 6	Final visit Wk 12
24hr-Recall	X		X	X
FFQ	X			X
Physical activity-Q	X			X
Kaupapa Maori WQ	X			X
Adverse events		X	X	X
Changes in meds		X	X	X

Table 1. The engagement with participants. Week 2, index participants receive a phone call to see if there have been changes to medication or adverse events and the same via email at week 6. Additionally, Index participants are required to complete an online 24hr recall. At week 12, the entire whanau are invited onsite—repeat the baseline visit.

CONCLUSION

NZ has not explored a whanau based dietary intervention and with the rates of obesity, lifestyle preventative measures are more important than ever. Measuring the acceptance and barriers around a MD at a household level will help determine the efficacy of a dietary change in preventing the onset of diabetes.

Rhiane Bishop—Student researcher
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Dr Meika Foster (b)
Prof Richard Gearry (c)
Prof Clare Wall (d)
Dr Troy Merry (d)
Prof Mark Weatherall (a)
Dr Amber Parry-Strong (f)
Dr Denise Conroy (g)
Cecilia Ross (RN)
Maria Raymundo (RA)
Helena Fahterty (RA)
Margaret Ward (RA)

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EDIBLE RESEARCH Translational research in Food and Nutrition Science Kia Whai Hua te Rangahau i ngā Mātauranga Kai

Plant & Food RESEARCH RANGAHAU AHUMĀRA KAI

THE UNIVERSITY OF AUCKLAND Te Whare Wānanga o Tāmaki Makaurau NEW ZEALAND

CEDOR WELLINGTON Centre for Endocrine, Diabetes and Obesity Research

University of Otago Wellington Te Whare Wānanga o Otāgo ki Pōneke

A STORY OF RESILIENCE

A Narrative Case Study of a Whānau Supported by Takiri Mai te Ata Whānau Ora Collective, a homelessness prevention service.

Shannah Fiso[1,2,3], Saera Chun[3], Elinor Chisholm[3], and Nevil Pierse[3]

[1] Takiri Mai Te Ata Whānau Ora Collective
[2] School of Health and Social Services, Whitireia
[3] He Kāinga Oranga, Department of Public Health, University of Otago

CASE BRIEF

Aroha is in her late 40s and is a single mother living with her youngest teenage son. She is a full-time worker, working 40 hours and more each week to support herself and her son.

She was once a homeowner. However, after a relationship breakdown, the house was sold.

Aroha had been renting in the Greater Wellington region nearby her workplace and her son's school. However, the property had severe mould problems despite how well Aroha maintained the house. She had made repeated requests for repairs to the landlord, which weren't delivered. She was given 90-days notice to vacate after a Healthy Homes Standards assessment of the property.

We conducted a narrative case study with Aroha, drawing on the framework for reflexivity in the social work by Houston.[1]

AROHA'S EMOTIONAL JOURNEY

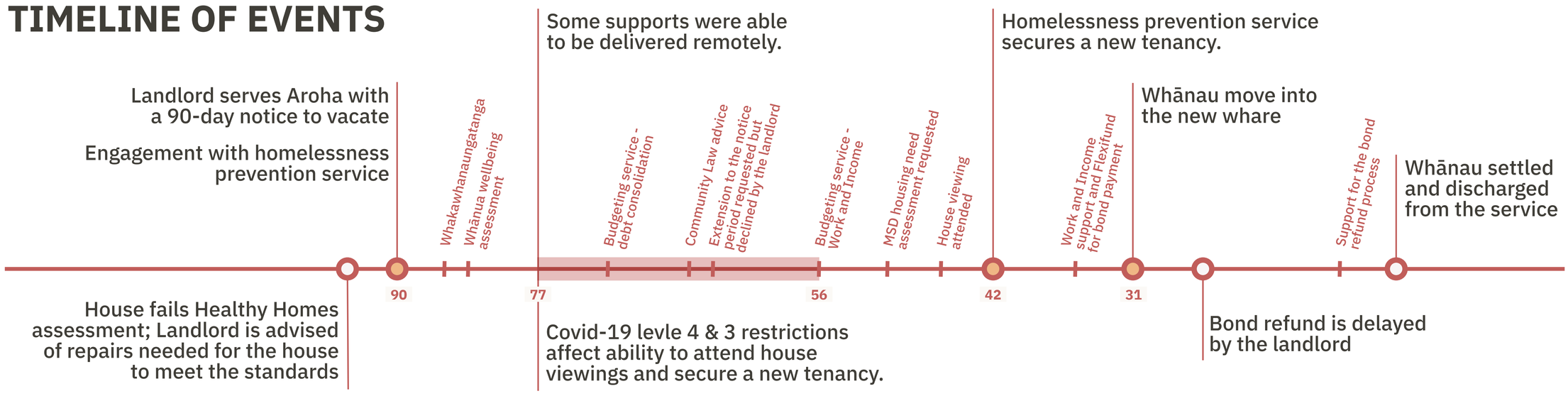
Loss
Loss was the immediate emotion felt by the whanau. Losing a home that symbolised the whānau coming back together after spending time apart meant this idea of having a family home was now gone.

Guilt
Guilt was the second emotion. Guilt that she was not able to provide a secure and stable home her son deserved, and guilt that she was putting her son in more pain and suffering that he did not deserve as he had been through enough loss and grief already.

Anger
Anger arose from the lack of empathy the landlord showed to the whānau. It was the landlord who failed to maintain the house despite the repeated requests from Aroha. Now it was used as a legitimate reason for the eviction, which added more frustration.

"All I just started thinking about was my son. How I inconvenienced him again, when he's already unsettled. [...] That really depressed me."

TIMELINE OF EVENTS



IMPACT OF THE SERVICE

"To be a part of an organisation... It wasn't about the food parcels or getting money or any help like that. It was about the emotional, mental health that I got from being a part of an organisation."

The new tenancy was secured by the homelessness prevention service utilising its existing working relationship with the local property management agency, and collaborating with other support services.

Moreover, Takiri Mai te Ata Whānau Ora Collective was able to provide the whānau with wraparound services, which helped Aroha and her son across multiple aspects in dealing with their situation. The network of services included communities and organisations such as Kokiri Mārae, Community Law, Budgeting Services, and Work and Income.

Although stable housing was the main priority for the whānau, Aroha was able to receive mental and emotional support during the process of evicition and search of a new house. Budgeting advice showed Aroha that she is capable of taking control of her own situation. The Whānau Ora's approach contributed to creating a positive outcome for Aroha, simply by releasing any mamae and sharing korero with those around her rather than suppressing her emotions.

DISCUSSION & CONCLUSION

The homelessness prevention services is not just about housing whānau. The first step is to understand what could be impacting their housing opportunites. After issues have been identified and goals have been set with the whānau, the kaiarahi's role is to empower the whānau to achieve their goals.

Highlighting Aroha's experience showed an unintended outcome of the Healthy Homes Standards and how whānau can be seriously affected when insufficient consideration is given in policy implementation.[2] Most importantly, the research project encouraged Aroha and her whānau to tell their story and empower them by sharing their korero with a wider audience using a narrative case study method. Allowing Aroha to share her experience and validate her korero through the research project created another opportunity to heal from past and present mamae.

The next step in the project is to examine the student researcher's reflection as a service provider. Further analysis will aim to uncover the contributors of whānau and service providers' success.

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Identifying triggering factors for gastrointestinal symptoms! Time for pragmatic recognition and more rational targeting approach

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Background

Irritable bowel syndrome (IBS) has served to cover development and the phenotypes of multifactorial disorders with variable aetiology and pathophysiology. The polymorphisms of food antigens, the modern lifestyle influence and epigenetic factors bring new insight into the ununified pathophysiology of conditions under IBS. Therefore, the treatment should be focused on triggering factors to encompass the associated effects food antigens, lifestyle and metal health.

Aim

The aim of our study was to assess the aetiology and efficacy of targeted treatment strategy in common gastrointestinal presentation identified as IBS.

Method

In this observational study we included consecutive patients referred with unexplained gastrointestinal symptoms (GI) with or without other GI morbidities, presenting to Gastroenterology Unit of Palmerston North DHB between September 2018-November 2021. A focused history and physical examination and appropriate clinical investigations were performed to explore and assess the chief complaint and symptoms.

Results

Hundred-twenty-one patients were initially included (73% female; age range 18-88). From this group 74/121 were NZ European (61%), 9/121 (7%) were NZ Maori, 4/121 (3%) Asian and 29/121 (24%) were from another European ethnicity. The outcome data were available for 78/121. Most prevalent symptoms were abdominal pain 96/121 (79%), diarrhoea 83/121 (69%), followed by bloating and constipation in addition to extraintestinal. The data of 78 patients with available outcome analysed as illustrated in figure 1 and tables 1-2.

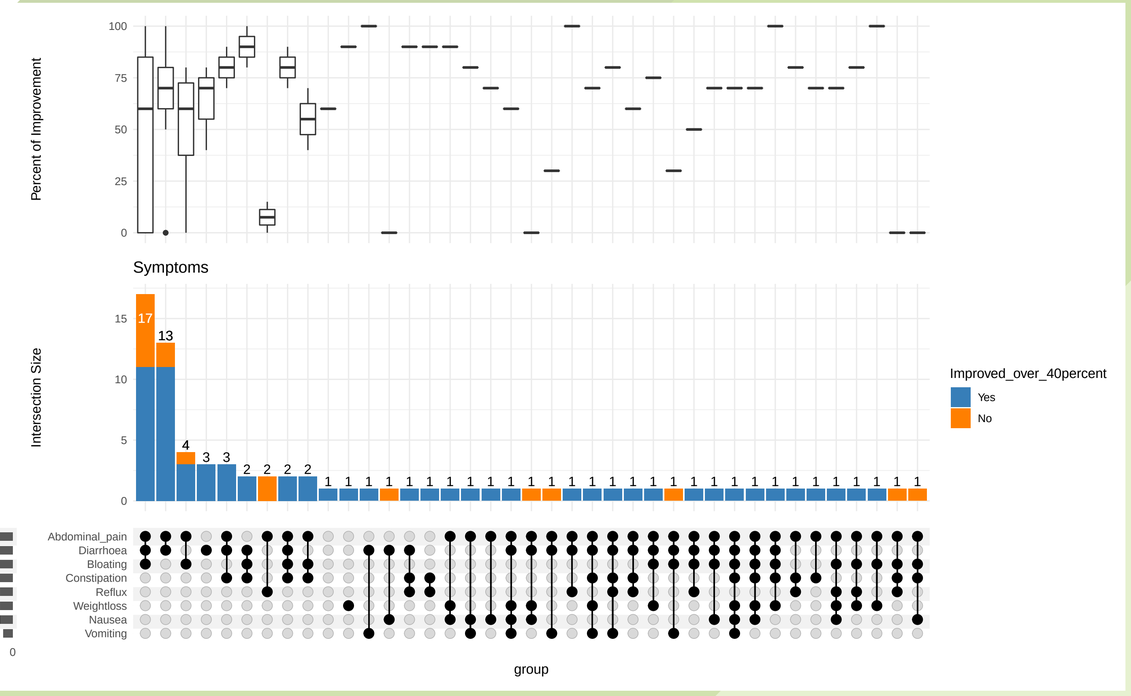


Figure 1, bottom left represents total no. of patients with symptom. Middle bar chart represents no. of patients with corresponding intersection of symptoms. The most frequent symptoms in this group of patients are abdominal pain, diarrhoea and constipation. Box plot represents the distribution of percentage of improvement

Symptoms	Patients	Improvement
Abdominal pain	67/78	55(82%)
Diarrhoea	57/78	48(84%)
Bloating	39/78	31(79%)
Constipation	21/78	19(90%)
Weight-loss	12/78	11(92%)
Reflux	12/78	10(83%)
Nausea	11/78	8(73%)
Vomiting	8/78	8(100%)

Table 1, presenting symptoms and improvement rate

Extraintestinal symptoms	Patients	Improvement
Fatigue	15/78	12(80%)
Headache	16/78	15(94%)
Joint Pain	13/78	12(92%)
Foggy mind	8/78	6(75%)
Anxiety	5/78	3(60%)

Table 2, presenting extraintestinal symptoms and improvement rate

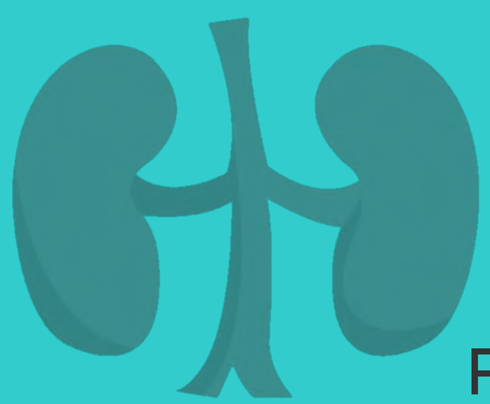
Conclusion

Gastrointestinal symptoms like in IBS have often complex aetiology and risk factors and require well designed multi-disciplinary approach. Elimination diet and lifestyle modifications such as stress reduction, increased physical activity and loosing extra weight seem to be cardinal approach in managing patients presenting with IBS symptoms with or without other GI comorbidities. Focusing on triggering factors without incriminating non-specific diagnosis like IBS is essential in rationalising and implementing pragmatically, the appropriate treatment strategies.

Acknowledgements:

We would like to thank Dr Allamanda Faatoese, Mr Kiki Moate and Dr Manon Knapen who kindly supported Taliah to secure funding for this project through the *Health Sciences Pacific* fund. We also would also like to thank Dr Nathalie De Vries and Julie Cooper for their contribution in making this happened through UOW.

Conflict of interest:
None declared



HYDRONEPHROSIS & CERVICAL CANCER

Management & Outcomes of Radically Treated Cervical Carcinoma Patients with Hydronephrosis in the Wellington Blood & Cancer Centre

Tessa English, University of Otago, Wellington
Supervisors: Carol Johnson, Amanda Tristram & Jonathan Graham, Wellington Regional Hospital

BACKGROUND

Hydronephrosis & malignant ureteric obstruction are known complications of locally advanced cervical cancer. Not only have they been shown to impact patient quality of life and have prognostic value but they also have an impact on treatment deliverability.

Chemotherapy is used adjunctly with radiation therapy to treat cervical cancer, the first line chemotherapeutic agent is cisplatin, which is renally cleared.[1] ,thus impaired renal function can impact clinicians ability to deliver optimal treatment.

Despite the impact hydronephrosis and malignant ureteric obstruction can have on care, local and international cervical cancer guidelines do not provide guidance on the topic. [1,2] Standard management options include ureteric stents and percutaneous nephrostomy (PCN).[3]

Research thus far is yet to determine if management provides benefit to patient experience and overall survival.[4]

METHODS

A retrospective review of all FIGO IIIB & IVA cervical cancer patients from December 2007 to December 2021 radically treated in the Wellington Blood & Cancer Centre was done. Patients were identified from the services HDR Brachytherapy Cervical Cancer Database. Clinical & radiological records were used to identify those eligible with radiology evidence of hydronephrosis or ureteric obstruction.

Data collected included demographics, cancer & management details, renal function and survival. In those who received intervention additional information regarding indications, complications and care pathway were recorded.

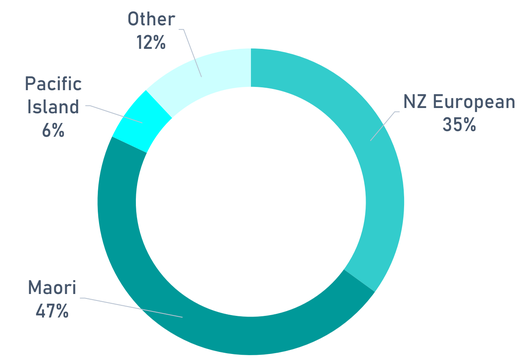
Patients were excluded from the study if they had received previous treatment for the primary malignancy or if hydronephrosis or ureteric obstruction developed post treatment.

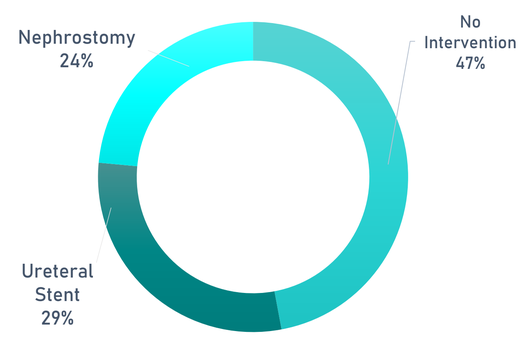
OBJECTIVES

- Identify & evaluate clinical outcomes of cervical cancer patients with hydronephrosis & ureteric obstruction treated in the Wellington Blood and Cancer Centre
- Document the clinical pathway taken by those who receive ureteric stents and PCN to manage hydronephrosis & ureteric obstruction.
- Evaluate management practices overtime to aid understanding of the care pathway taken for those with ureteric stents & nephrostomies.

RESULTS

Of the 189 patients recorded in the database, 17 were identified as having radiological evidence of hydronephrosis or malignant ureteric obstruction prior to the commencement of treatment, accounting for 9% of those recorded in the database.

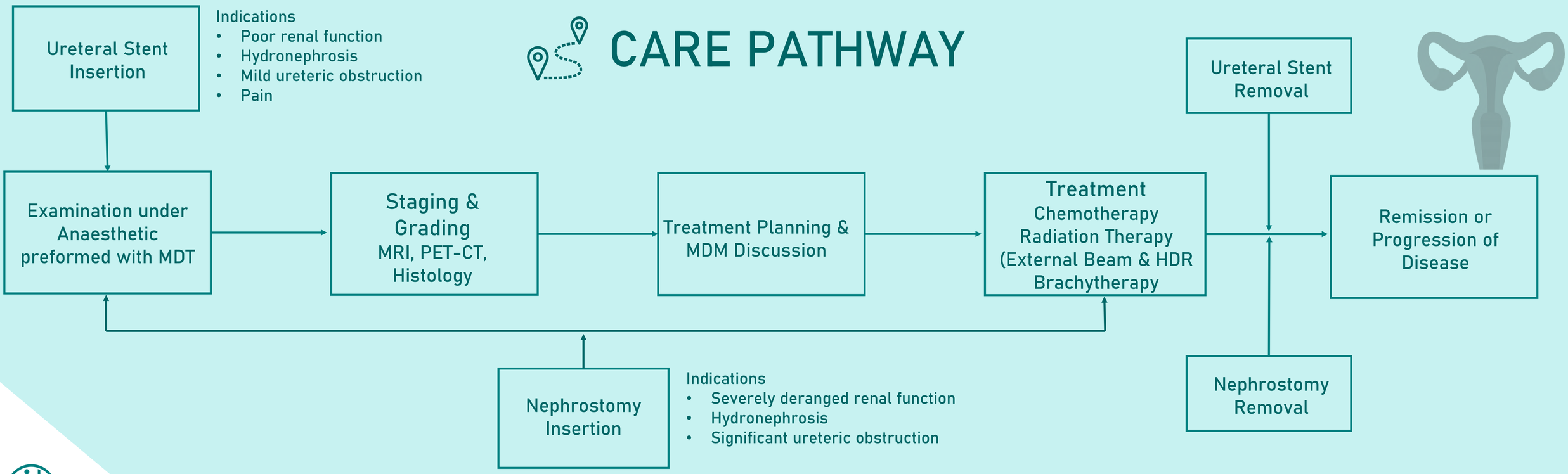




Each patient with an intervention experienced at least one complication, the total number of complications experienced across the cohort is outlined in the graph below. Infections were the most common complication overall with the most common sites being UTI's and urosepsis.

Complications	Infection	Displacement	Blockage	Pain	Other	Total
	8	5	2	2	3	20

CARE PATHWAY



CONCLUSIONS

Trends emerged when evaluating patients care pathways, all ureteral stents were inserted during patients examination under anaesthetic. Whereas, nephrostomies were inserted at variable times in the treatment course, often as a result of a sudden deterioration in renal function. Overtime indications appeared to change, rather than intervening to manage severe loss of renal function or impairment, stents and nephrostomies were used proactively to avoid changes in renal function that could impair treatment deliverability. Follow up of care post treatment was managed by urology in stent cases and interventional radiology in conjunction with the cancer care team in nephrostomy cases. 5 patients had their stent/nephrostomy removed post-treatment while the remaining 4 did not due to disease progression.

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ACKNOWLEDGEMENTS

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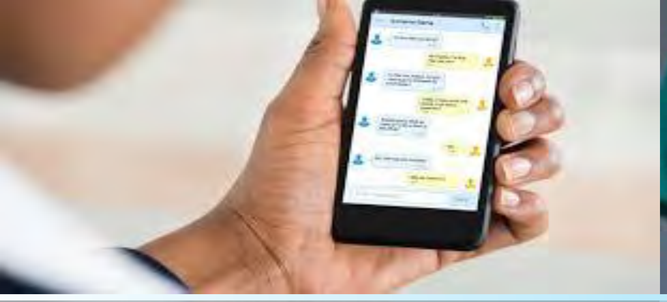


A REPORT ON SMS MESSAGING AS A TOOL FOR DATA COLLECTION

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Background

Of all the mobile phone functions; text messages are the most widely used and least expensive[1]. Research into the value of SMS messaging is increasing[1,2]. However, New Zealand studies have shown minimal participant engagement to SMS based surveys[3,4]. To date, there have been no studies evaluating the usefulness of SMS messaging as a tool to collect data for postoperative patients that have been administered anaesthesia. This report is based on the preliminary findings of the DURESS STUDY, which is an SMS based survey used to assess postoperative sleep.

Method

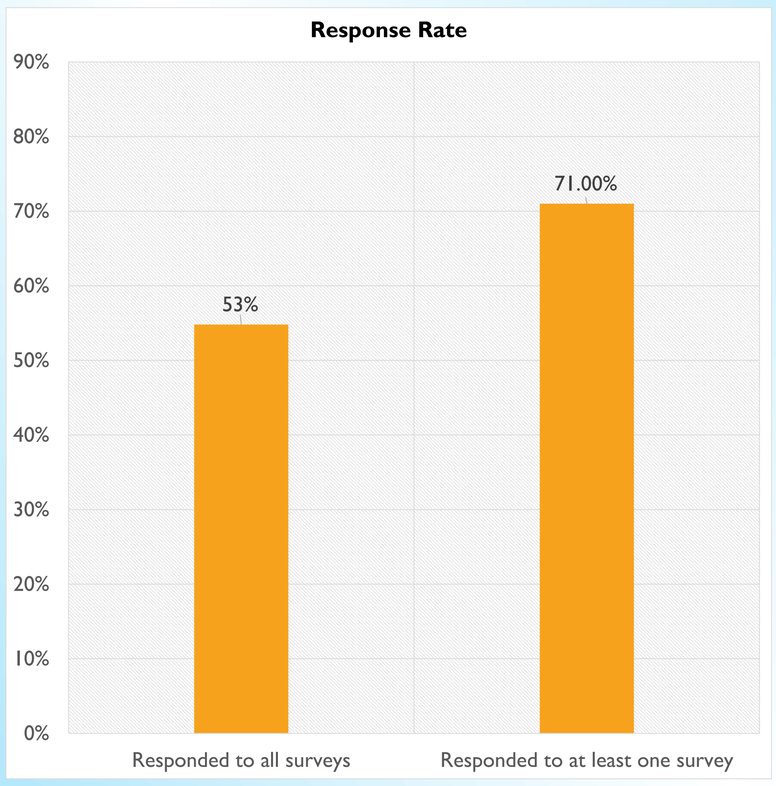
Patients undergoing day surgery from Wellington Regional Hospital and Keneperu Hospital, Wellington, New Zealand, were approached to participate in the study. Patients were excluded if they were receiving cardiac surgery, were less than 18 years of age, have a history of drug or alcohol abuse or were not competent to give consent.

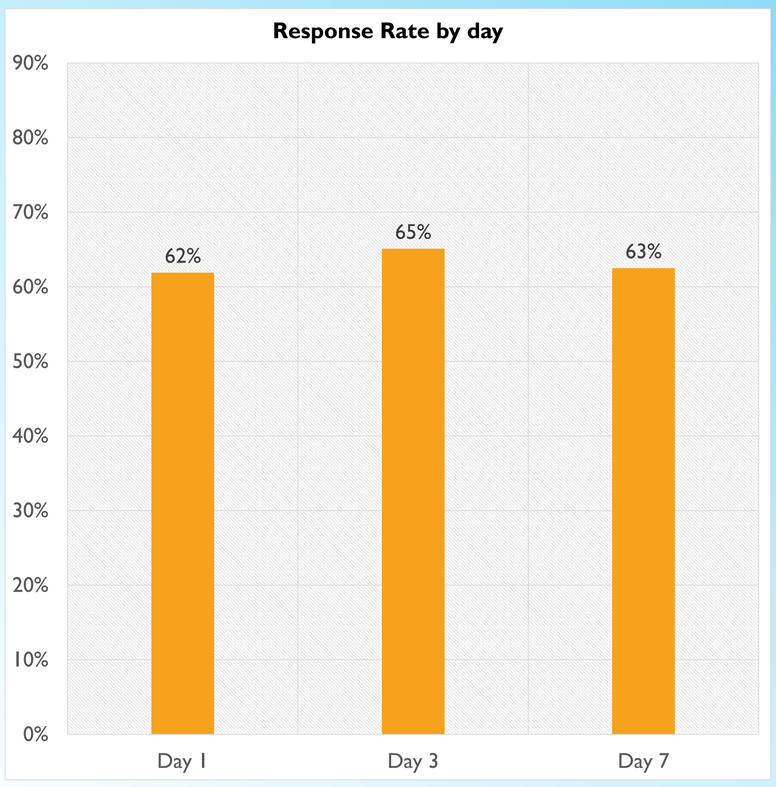
The participants were then sent 3 SMS based surveys that investigated their previous night's sleep. Their responses were then analyzed.

Objective

A) To describe the response to all 3 SMS based surveys.

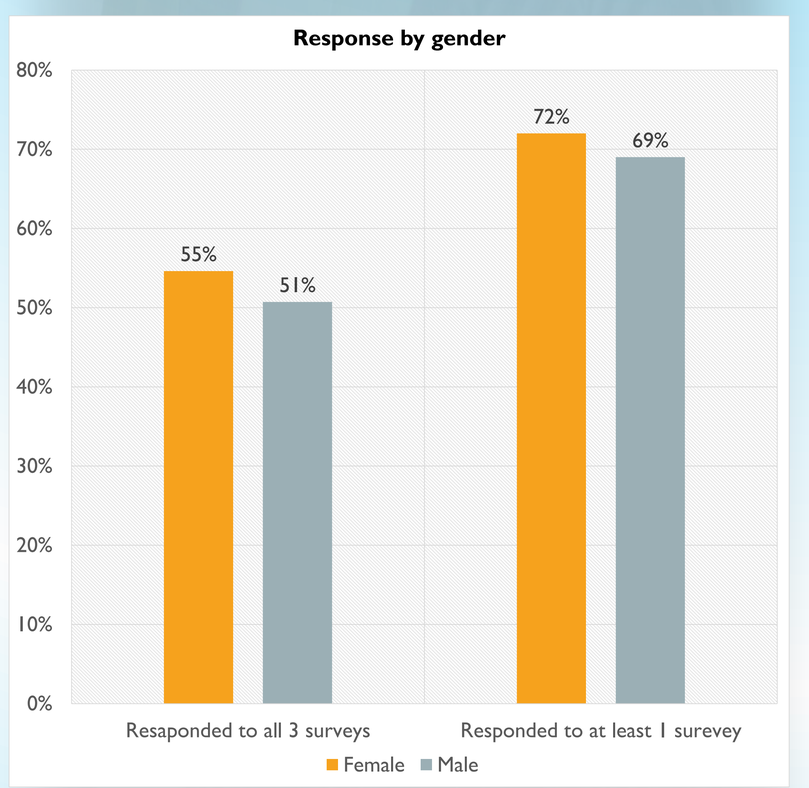
B) To describe the response to at least 1 of the 3 SMS based surveys.





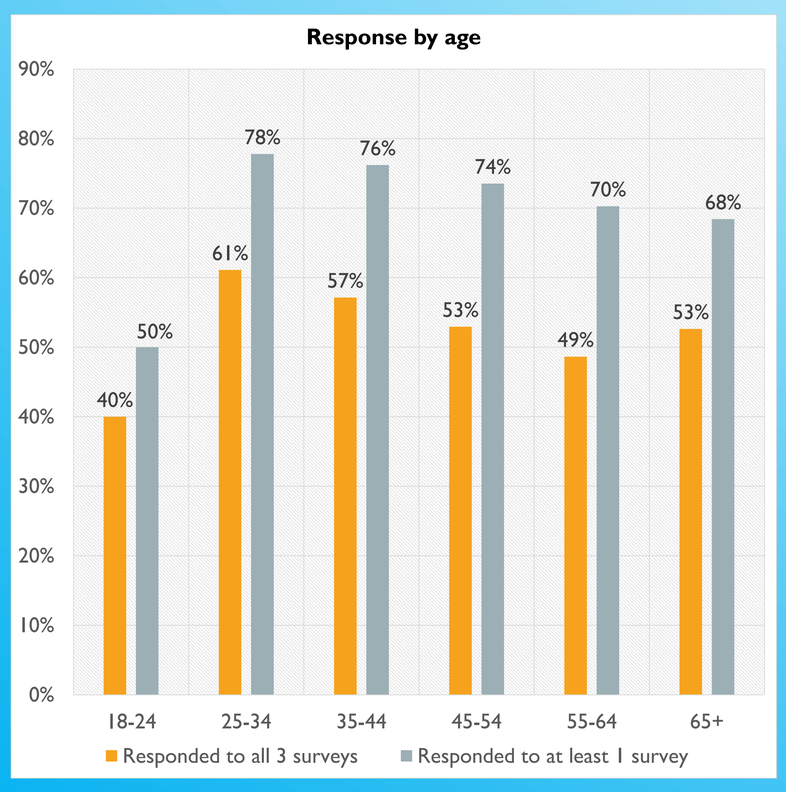
Results

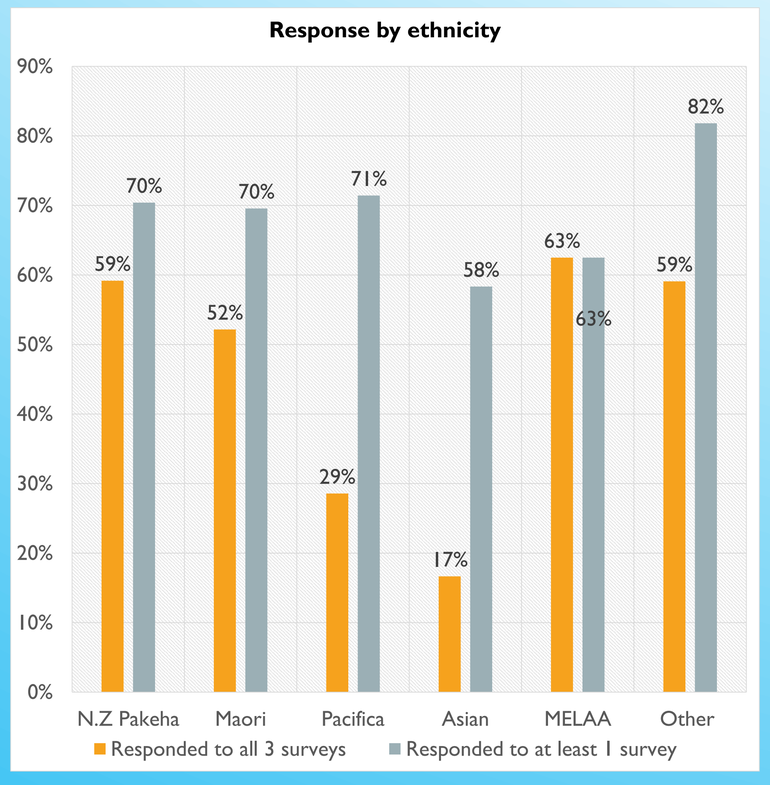
- **267** eligible participants, **177** participated in the study
- The sample population resulted in **61%** female, and **39%** male.
- Ages ranged from **18-83** with a mean age of **54** years, and a median age of **56** years
- **53%** of participants completed all 3 surveys, and **71%** completed at least 1 survey.
- Response by day: Day 1 **62%**; Day 3 **65%**; Day 7 **63%**
- Highest response: Gender (Female **55%**); Age (25-34 years **61%**); Ethnicity (MELAA **63%**)



Discussion

The preliminary findings of the DURESS STUDY show that SMS messaging is an effective tool for the purpose of data collection. The preliminary response rate of 53%, far exceeds responses from other current New Zealand studies (5.6). However, this could be due to bias as subgroup sample sizes of gender, age, and ethnicity, as well as literacy and comorbidities such as arthritis and vision problems, which were not controlled for. Nevertheless, if the final results of the DURESS STUDY mirror the outstanding preliminary response rate; particularly with the Māori and Pacifica cohort, this would warrant a commitment to further research in this area. As there is a unique opportunity to improve the health of every demographic in Aotearoa, if this response rate can be replicated.





Acknowledgements

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AN ANALYTIC OVERVIEW OF PATIENTS WHO DID NOT WAIT IN THE EMERGENCY DEPARTMENT OF PALMERSTON NORTH HOSPITAL

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Supervisor: Dr. Kelvin Billinghurst, Dr. Greig Russell (Medical Admin of Mid-Central DHB)

Introduction/Background

Within the Emergency Department, there is a group of patients who present but do not wait (DNW) for a full medical assessment before self-discharging. There are conflicting findings on the health outcome of these patients. Majority of the studies suggests these patients are more likely to return in a more severe state and needing intensive care.

Thus, this group of patients who DNW serve as a key indicator to improving the health outcome of ED patients, and a guide for interventions to improve health of the wider population.

Aim/Objectives

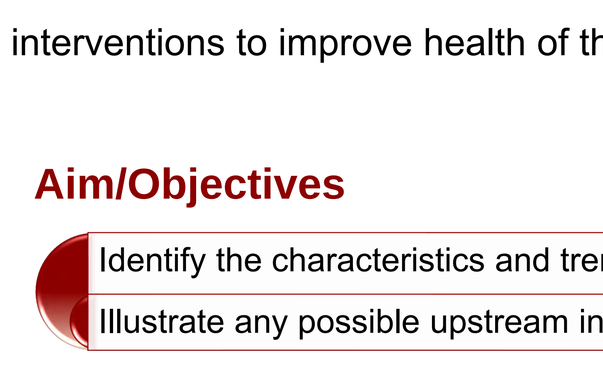
- Identify the characteristics and trends of patients who DNW
- Illustrate any possible upstream intervention

Method

Data is retrieved from WebPAS through Palmerston North Hospital Emergency Department (ED) → Raw data analysed using Microsoft Excel and Access → Complex statistical analysis done through Stata, and graphs are generated

Timeline: 1st July 2019 – 30th June 2021

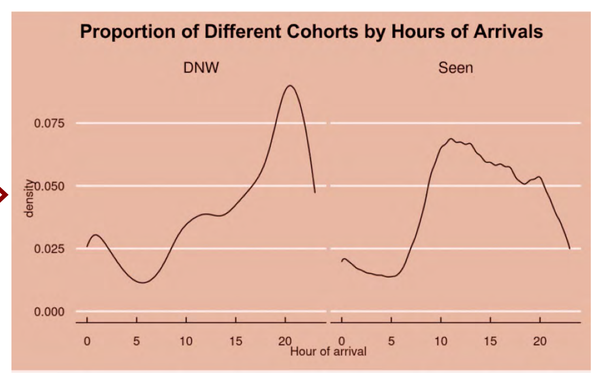
Results

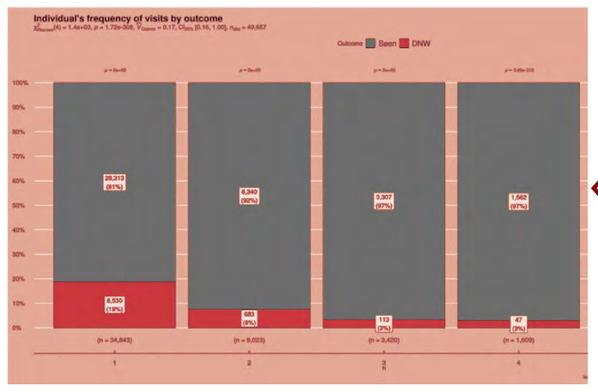


- The Seen group density stayed constant, with a minor decrease during the COVID lock-down
- The DNW group density decreased dramatically during the lock-down and remained low until today
- The DNW cohort are less likely to attend ED under the COVID circumstances

=> It is a different cohort to the Seen group.

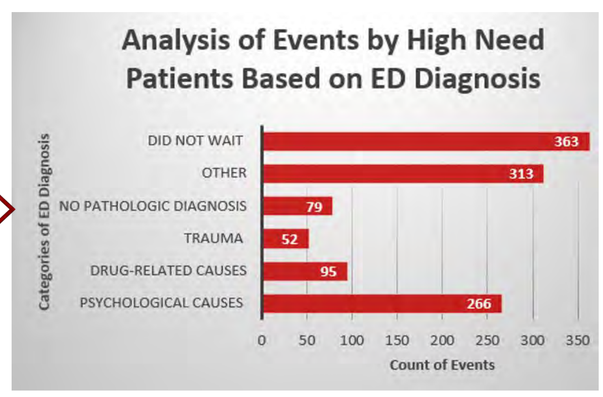
- The total arrival volume of ED has two peaks at 10am and 8pm
- The Seen group accounts for the 10am peak; and the DNW group accounts for the 8pm peak
- The 8pm peak coincides with the closure of urgent care facilities





- For the group of patients that visited ED once, there is 19% of DNW rates
- For the group of patients that visited ED twice, there is 8% of DNW rates
- For the group of patients that visits ED three times, there is 3% of DNW rates
- This rapid decline in DNW rate suggests the cohort of DNW patients are less likely to return to ED, when their expectations are not met

- There is 33 patients categorized into the High Need group
- They have visited ED 1168 times in total, and DNW 363 times
- ED diagnosis are analysed, with the top three being DNW, Others, and Psychological causes



Characteristics of DNW Cohort

- A Median age of 28 years old
- Arrival volume peaked at 8pm
- Waited on average of 124 minutes before DNW
- Mainly from Triage category of 3 and 4
- No differences in gender, or ethnicity after age-adjustment
- Unlikely to return to ED after the initial DNW

Conclusion

The DNW cohort typically present at 8pm when urgent care facilities are shut, and they are unlikely to return to ED again if they did not receive the services they expected. This suggests the DNW patients need something in the middle ground of primary health care providers and Emergency department, particularly in the after hours.

Furthermore, analysis of high need patients reveals psychological problem is one of the biggest causes of their repeated ED visits and repeated DNW. A potential upstream intervention is increasing direct community access to psychiatric services.

Acknowledgement: Many thanks to Mid-Central Undergraduate Education Trust, and my supervisors Dr. Kelvin Billinghurst and Dr. Greig Russell.

Conn's in the Capital

Primary aldosteronism: are we doing enough? A tertiary centre clinical audit

William Park (1), Patricia Whitfield (1,2), Richard Carroll (2)
1 - University of Otago, Wellington; 2 - Endocrine, Diabetes and Research Centre, Wellington Regional Hospital

Background[1]

An underdiagnosed cause of hypertension

Primary aldosteronism (PA), also known as Conn's syndrome or primary hyper-aldosteronism, was once thought to be a rare secondary cause of hypertension. However, PA is now being consistently identified in 5-10% of those with hypertension, confirmed with positive dynamic testing after a raised screening aldosterone to renin ratio (ARR). Approximately half of cases are unilateral due to aldosterone hypersecretion from an aldosterone producing adenoma, and half due to bilateral adrenal hyperplasia. Identification of PA is important as bilateral disease is effectively controlled with mineralocorticoid antagonists, while unilateral disease can be cured with laparoscopic adrenalectomy.

3DHB PA Pathway[2]

Referral *n = 188*

First specialist appointment (FSA)

Clinical review

Saline Suppression Test (SST) *171 SST performed*

Diagnosis confirmed *n = 82*

Subtyping

+/- imaging
+/- AVS *77 AVS performed*

Intervention *26 surgeries*

Methodology

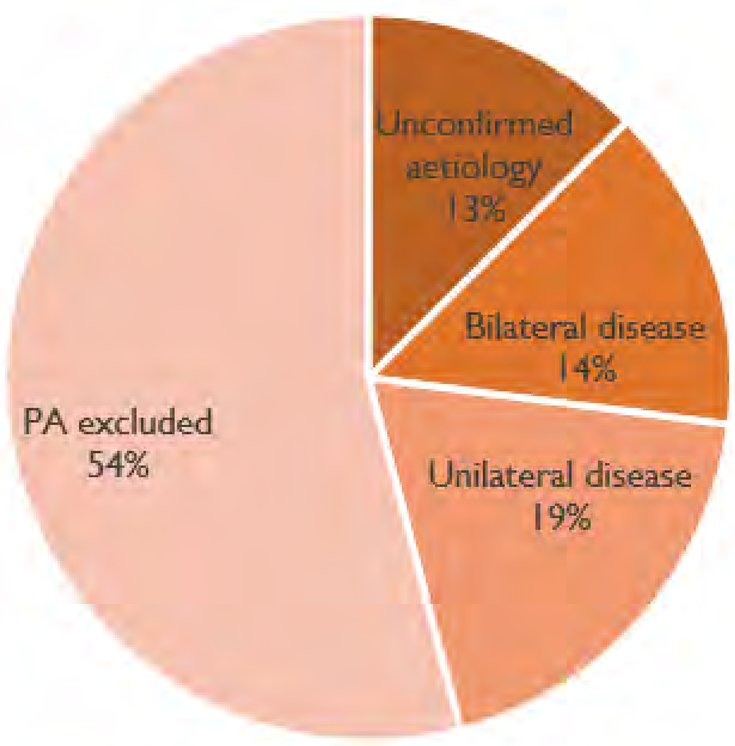
Purpose

This audit aims to describe the frequency of referrals, clinical characteristics, diagnostic delay, and outcomes of patients investigated or treated for PA within 3DHB. Comparison to local protocols and international guidelines will identify areas of improvement for diagnosis and treatment. A full analysis may also be of benefit as little has been published on the characteristics of PA in New Zealanders.

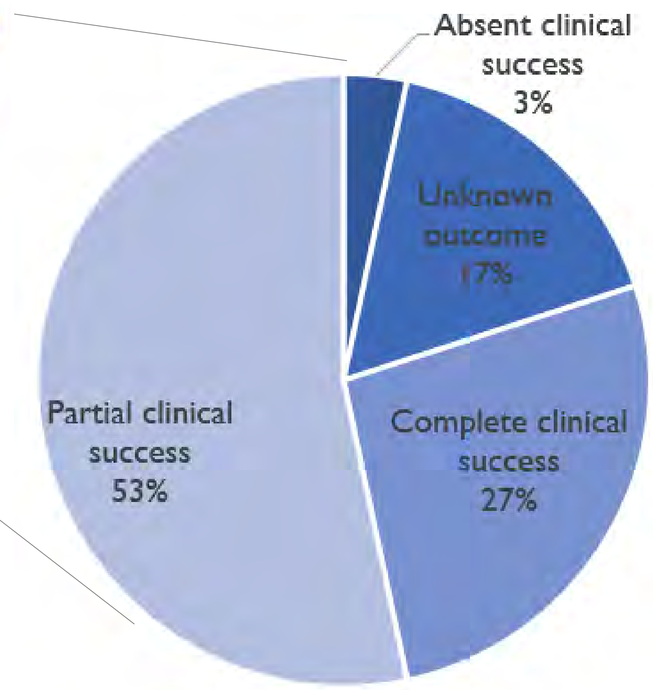
Case identification

Patients investigated for PA between 1st January 2016 and 31st November 2021 were identified by SST and AVS templates on the electronic medical record and searching supplemented by other methods. All data was collected electronically and retrospectively.

Results



Type of disease is determined by dynamic testing, imaging, and adrenal vein sampling (AVS)



Clinical success of surgery is based on post-operative blood pressure and dose of anti-hypertensives

Audit

Protocol	Mean / %
Screening criteria met	77%
Referral → treatment (medical | surgical)	42 | 67 wks
FSA → SST <6 weeks	50%
Correct medications (SST and AVS)	93%
Dynamic testing per guidelines	100%
AVS success rate	57%
Post-operative ARR measured	100%

Barriers to Care

Included **hypertension or hypokalemia** being in-adequately controlled, **adrenal biochemistry not ordered** when imaging showed an adrenal lesion, and being on **medications interfering with diagnostic tests. Increased screening** partly explains gradually increasing referrals since 2016.

Conclusions

PA is underdiagnosed in the region, but identification is important as effective intervention exists. *A low estimate would expect at least 8000 people to be living with PA in the 3DHB catchment, yet only 82 patients were diagnosed over 5 years. However, local protocols are largely being adhered to, and while there are some-times delays and barriers, many of these can be overcome by educating patients, GPs, and secondary care providers. Ultimately, increased rates of* ***appropriate ARR screening tests*** *will aid in identifying the many patients with undiagnosed PA.*

Acknowledgements

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