

LOCALLY RESPONSIVE.
GLOBALLY CONNECTED.

Research Report 2014



Western Health

Our Vision

Together, caring for the West – our patients, staff, community and environment.

Our Purpose

Working collaboratively to provide quality health and well-being services for the people of the West.

Our Priorities

Safe and effective patient care

People and culture

Community and partnerships

Research and learning

Self-sufficiency and sustainability

Our Values

Compassion

Consistently acting with empathy and integrity

Accountability

Empowering our staff to serve our community

Respect

For the rights, beliefs and choice of every individual

Excellence

Inspiring and motivating, innovation and achievement

Safety

Working in an open, honest and safe environment

Acknowledgement of traditional owners

Western Health respectfully acknowledges the traditional owners of the land on which its sites stand as the Boon Wurrung and the Wurundjeri people of the greater Kulin Nation.

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Foreword

Medical research is one of the cornerstones of effective health care and better patient care. Through new discoveries we are developing new techniques in medicines, surgery and patient care. In this regard the past year has been a landmark period for Western Health, with the establishment of the Western Health Research Roadmap 2015-2020.

The strategy will sharpen the focus of Western Health's research endeavours. It will strengthen our community and academic partnerships. We are confident that the outcomes of the research carried out by our staff will create a healthier community in the West.

Many of our staff contribute to research that extends far beyond the West; their research also involves projects of national and international significance.

For example, Western Health staff have been involved in the ground breaking AVERT study (acute very early rehabilitation trial), a neuro-rehabilitation trial for patients in acute stroke care. Stroke is one of the leading causes of adult disability globally and the trial tested different approaches to the mobilisation of stroke patients. Of the 2,104 patients in the global trial, 37 were from Western Health. The trial's results were recently

released in Glasgow at the European Stroke Conference, with concurrent publication in The Lancet. The study's list of authors from Western Health was unique because it consisted of a large team of medical, nursing and allied health staff - neurologists, stroke nurses, allied health staff and neurology registrars who collaborated and contributed to the research as investigators and authors of the published results.

Collaboration between our medical, nursing and allied health staff is a hallmark of Western Health's approach to research. We actively encourage a multi-disciplinary approach to our research activities, drawing on the expertise evident across our organisation in order to deal with the challenges and benefits associated with our diverse patient population.

Collaboration with other leading research centres is another important and growing feature of our research activities. Western Health is a key member of the Melbourne Health Care Partners Advanced Health Research and Translation Centre. This year the Centre was formally recognised by the National Health and Medical

Research Council (NHMRC) as only one of four Advanced Health and Research Translation Centres in Australia. The recognition by the NHMRC gives Western Health an even greater opportunity to contribute to and benefit from cutting edge research.

This edition of Western Health's annual Research Report reveals the outstanding work of our researchers and it shows that our achievements in research are growing strongly. The year's main highlights included 207 research projects approved, over \$30 million worth of grants held and 369 journal articles published. Western Health's research efforts will be further enhanced with new appointments in the Chair of Medicine and the Chair of Surgery.

We are delighted to present this annual report. We hope you enjoy reading about the work being done to improve the health of people in our community.

Associate Professor Alex Cockram
Chief Executive

Prof Edward Janus
Director of Research

*(left to right)
Professor Edward Janus, Andrea Hall and
Chief Executive A/Prof Alex Cockram*



Research 2014 Highlights

253

Seminar and
Conference
Presentations

\$1.49 m

Income from Commercially
Sponsored Trials

\$30.3 m

Awarded or held
research grants

207

Research Projects
Approved

369

Published Journal
Articles

14

Published Book
Chapters

1

Published Book

Research Directorate

As this is a report on research activities during the 2014 calendar year, it should be noted that several senior staff members have changed since that time. In particular, Dr Andre Nel commenced as Executive Director Medical Services in January 2015, as did the new Manager of the Office of Research, Bill Karanatsios in February 2015.

WESTERN HEALTH RESEARCH ADVISORY COMMITTEE MEMBERSHIP

Dr Mark Garwood

Executive Director Medical Services

Professor Edward Janus

Director of Research

(from October 2014)

Dr David Newman

Director, Office for Research (Chair)

(to February 2014)

Dr Tam Nguyen

Manager, Office for Research

(Secretary) (to December 2014)

Professor Steven Chan

Professor of Surgery

Professor Jon Emery

Herman Professor of Primary Care

Cancer Research

Professor Michael Green

Director, Cancer Services

Dr Liz Hessian

Chair, Low Risk Ethics Panel, Deputy

Director Anaesthesia Research

Mr David Jones

Executive Director, Western Health

Foundation

A/Prof Harin Karunajeewa

Director, Clinical Research,

Division of Medicine

A/Prof Craig Nelson

Director, Department of Nephrology

A/Prof Denise Patterson

Executive Director, Nursing

and Midwifery

A/Prof Jo Said

Maternal Fetal Medicine Subspecialist

Dr John Violet

Director, Sunshine Hospital Radiation

Therapy Centre

Dr Arlene Wake

Executive Director, Allied Health,

Community Integration and

Partnership

OFFICE FOR RESEARCH STAFF AND VOLUNTEERS

Professor Edward Janus

Director of Research

(from October 2014)

Dr David Newman

Director, Office for Research

(to February 2014)

Dr Tam Nguyen

Manager, Office for Research

(to December 2014)

Ms Kerrie Russell

Ethics Administrator, Office

for Research

Ms Virginia Ma

Research Governance Officer

Ms Renee Hou

Ethics Administrator,

Office for Research

(from May 2014)

Dr Roslin Botlero

Clinical Biostatistician

(to September 2014)

Dr Emily Karahalios

Clinical Biostatistician

(from October 2014)

Ms Jingfei Wu

Office for Research Intern (RMIT)

Ms Tina Pham

Office for Research Intern (RMIT)

Ms Christine Mizrahi

Office for Research Volunteer

Ms Linda Diep

Office for Research Volunteer

Ms Judy Myers

Office for Research Volunteer

WESTERN HEALTH LOW RISK ETHICS PANEL MEMBERSHIP

CHAIRPERSON

Elizabeth Hessian *MBBS FANZCA*
Consultant Anaesthetist

DEPUTY CHAIRPERSON

Elizabeth Skinner *PhD BPhy*
Physiotherapist Intensive Care Unit

LAWYER

Paula Shelton *BA LLB*
Practice Group Leader-Medical Law
Group Slater and Gordon Lawyers
(to February 2014)

COMMUNITY MEMBER

Keri Chater *PhD M.Nurs BSocSc RN*

REVIEW MEMBERS

Angela Marsiglio *MBBS BMedSci*
DRANZCOG
Anaesthetic Registrar

Angela Mellerick *RN*
Nurse Unit Manager Oncology

Anita Panayiotou *BBNSci,*
PGrad Dip Psych, DPsych (Clin Neuro)
Clinical Neuropsychologist

Anne-Marie Southcott *MBBS FRACP*
Director, Respiratory & Sleep Disorders
Medicine

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& Midwifery Deakin University

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Clinical Nurse Consultant
– Pain Management

Jenny Schwarz *MBBS FRACP*
GDip Ed, GDip Pall Med
Director, Geriatric Medicine & Clinical
A/Prof. of Geriatric Medicine, University
of Melbourne

Judy Rigby *BA(Th) CertSpiritDir*
MA/CE GCHlthPromPallCare CertIV
Training&Assessment
Pastoral Carer

Lata Jayaram *MBChB PhD FRACP*
Respiratory Physician

Lei Ching Yeoh *B.Pharm*
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Martin Nguyen *MBBS*
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Research Directorate

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Research Governance Officer

WESTERN HEALTH RESEARCH COORDINATORS GROUP

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Office for Research (Secretary)

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and Pain Medicine

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Heike Raunow
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Disorders Medicine

Valerie Yee
Respiratory and Sleep
Disorders Medicine

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Amanda Hickling
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COORDINATORS

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Cancer Trials Australia

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Emergency Medicine/Office
for Research

Sharon Klim
Emergency Medicine



Research Week Awards

The outstanding research being done by our staff and their research partners was highlighted at Western Health's 2014 Research Week, held on 17-21 November. Numerous events during the week showcased how Western Health researchers are working with our two main partners, the University of Melbourne and Victoria University, and other collaborators to improve clinical care and outcomes for patients. The week also gave our staff the opportunity to hear other leading Australian researchers discuss some of the latest breakthroughs in medical science and technology.

The Hon. Bronwyn Pike, Western Health's chairwoman, officially launched Research Week at the Western Centre for Health Research and Education at Sunshine Hospital. Professor Stephen Smith, Dean of the University of Melbourne's Faculty of Medicine, Dentistry and Health Sciences, gave the opening keynote speech at the event. Professor Smith spoke about the emergence of precision medicine and how it is changing the way patients are considered for various treatment options.

At other sessions throughout the week distinguished guest speakers from the medical, surgical, nursing and allied health domains, presented findings from their research and outlined the challenges and opportunities that lie ahead for health services and patients. A full program containing a list of speakers and the abstracts of their presentations can be downloaded from the Office for Research website.

Professor Martin Silnik, AO, delivered the Western Health public lecture, which was sponsored by the Western Health Foundation. The lecture examined advances in life expectancy for patients with Type 1 Diabetes. Professor Silnik discussed findings from epidemiological studies showing that modest improvements in diabetic control have led to reductions in patient mortality rates and major improvements in longevity.

Mr Romlie Mokak, CEO the Lowitja Institute, gave the closing keynote address, examining leadership in relation to the wellbeing of Aboriginal and Torres Strait Islander people. Mr Mokak emphasised that Aboriginal and Torres Strait Islander leadership in research and policy was important. But it was also crucial to apply such leadership to a 'whole of system' approach if the disparities between Aboriginal and Torres Strait Islander people and non-Indigenous people are to be adequately addressed.

The week's activities were capped off with the presentation of the 2014 Research Week awards for the best research undertaken and presented by Western Health staff. Sponsors provided ten major prizes of \$1500 for winners of the awards.

This year's awards and prize winners are listed below:

Neville Yeomans Prize - Best Medical Registrar Presentation:

Dr Julie Huynh

The VINE study: Vitamin D in newborns: A randomized controlled trial comparing daily and bolus supplementation in breastfed infants of vitamin D deficient mothers

Kendall Francis Prize- Best Surgical Registrar Presentation:

Dr Anastasia Dean

Second Toe Systolic Pressure Measurements are Valid Substitutes for Big Toe Systolic Pressure Measurements in Diabetic Patients: A Prospective Study

Best Allied Health Research Presentation:

Clare Holdsworth (Physiotherapy)

Elicitation study to identify staff attitudes and beliefs towards mobilizing ventilated patients in the Intensive Care Unit

Best Nursing Research Presentation:

Andrea Hall

Trauma informed Care: 2014

Robert Smith Prize-Best Critical Care Presentation:

Dr Tanya Dean

Failed Validation of Criteria to Predict 30-day intervention in Emergency Department Patients with Renal Colic

Best Published Research Paper:

Dr Elizabeth Hessian (Anaesthetist)

Plasma ropivacaine concentrations during bilateral transversus abdominis plane infusions

Best Student Research Poster:

Mr Dae Hwan Kwon, Dr David Krieser, Mr Chris Harris, Mr Abhay Khot

Prevalence of Vitamin D deficiency in Children and Teenagers Presenting with Fractures to Sunshine Hospital

Best Research Poster Presentation:

Dr Jeanne Tie

Circulating Tumour DNA (ctDNA) as a Marker of Recurrence Risk in Stage II Colon Cancer (CC)

Footscray Rotary Aged Care Research Prize:

Dr Yvonne Chow

"Sarco-osteoporosis" is a predictor of fracture risk in community-dwelling older adults over 4.5 years

2014 Mavis Mitchell Memorial Scholarship:

Elizabeth Mackey

Stroke Nurse Practitioner: Improving Stroke Nurse Care. A model for stroke NP lead emergency Transient Ischaemic Attack (TIA) management

Yvonne Chow receives the Best Geriatric Research Presentation Prize from Western Health surgeon Graeme Thompson, on behalf of Footscray Rotary.





This year the grant program received a large number of high quality applications from a diverse group of researchers working at Western Health.

Research Grants

Our organisation is determined to encourage the research talents and endeavours of our workforce. The Western Health Research Grant is an initiative funded by Western Health and other sources to support research conducted at Western Health.

This year the grant program received a large number of high quality applications from a diverse group of researchers working at Western Health. The program was able to provide funding support for five projects aimed at improving the health of patients in our community.

The following researchers and their colleagues received their inaugural awards:

A/Prof Harin Karunajeewa

Awarded \$10,000 for research using new technology to evaluate the human microbiome in patients at Western Health: A proof of concept study.

A/Prof Lata Jayaram

Awarded \$10,000 for a Multidisciplinary, Nurse led Model of Asthma Care at Western Health to meet our patients' needs.

Prof Chris Pantelis

Awarded \$10,000 for research investigating the use of cannabidiol as an adjunctive treatment in patients with chronic psychotic disorder.

A/Prof Solomon Cohney

Awarded \$10,000 for a study looking at Divided Dosing Reduces Prednisolone Associated Hyperglycaemia.

Dr Padma Murthi

Awarded \$10,000 for a study looking at Lipoxins as novel therapeutics in the prevention of preclampsia.



Australian Institute for Musculoskeletal Science (AIMSS)

The Australian Institute for Musculoskeletal Science (AIMSS) is a collaborative research institute that promotes novel, high-impact research in musculoskeletal health and disease. It is structured around three research themes: bone, muscle and joint. Within each theme, researchers from Western Health and our partner organisations, Victoria University and University of Melbourne, aim to build collaborative research teams working across five research pillars - basic, translational, clinical, population health and health services research.

AIMSS brings clinicians and researchers together from the partner organisations, making it easier for these experts to collaborate and influence healthcare delivery based on sound research evidence.

It develops new collaborative links between its partners via its Seed Funding scheme. Under the scheme funding is available to generate pilot data in order to support future external research grant applications. It is open to collaborative projects lead by AIMSS members.

AIMSS Seed Funding has been awarded annually since its foundation and in 2014 the successful AIMSS Seed Funding grants were:

- › **Rebecca Liberatore**
Senior Clinical Women's Health Physiotherapy, Western Health and her team for their project, "The effect of a structured antenatal exercise class on antenatal depression/anxiety, birth weight, gestation, length of hospital stay and postnatal depression in women diagnosed with antenatal depression/anxiety: A pilot randomised trial."
- › **Dr John Price**
College of Health and Biomedicine, Victoria University, and his team for their project, "Impact of molecular stress upon osteoblast lineage cell function; Identification of HSF1 as a novel therapeutic target in pathological bone loss."
- › **Dr Padma Murthi**
University of Melbourne and her team for their project, "Vitamin D deficiency in pregnancy, fetal growth and development: a possible mechanism in the pathogenesis of fetal growth restriction?"

Publications made possible through AIMSS collaborations are listed under the partner institutions throughout the WH Research Report 2014, particularly under the University of Melbourne North West Academic Centre and Victoria University Western Centre for Health, Research and Education pages. The following are a selection of publications from AIMSS affiliations across the three partner institutions during 2014:

Gatford KL, Kaur G, Falcao-Tebas F, Wadley GD, Wlodek ME, Laker RC, Ebeling PR, McConell GK (2014). Exercise as an intervention to improve metabolic outcomes after intrauterine growth restriction. *Am J Physiol Endocrinol Metab*:306(9) E999-1012.

Gianoudis J, Bailey CA, Ebeling PR, Nowson CA, Sanders KM, Hill K, Daly RM (2014). Effects of a targeted multimodal exercise program incorporating high-speed power training on falls and fracture risk factors in older adults: a community-based randomized controlled trial. *J Bone Miner Res*: 29(1): 182-91.

Levinger I, Scott D, Nicholson G, Stuart A, Duque G, McCorquodale T, Hermann M, Ebeling PR, Sanders KM (2014). Under carboxylated osteocalcin, muscle strength and indices of bone health in older women. *Bone*: 64:8-12.

Levinger I, Jerums G, Stepto NK, Parker L, Serpiello FR, McConell GK, Anderson M, Hare DL, Byrnes E, Ebeling PR, Seeman E (2014). The effect of acute exercise on undercarboxylated osteocalcin and insulin sensitivity in obese men. *J Bone Miner Res*: 29(12): 2571-6.

Khong JJ, Goldstein RF, Sanders KM, Schneider H, Pope J, Burdon KP, Craig JE, Ebeling PR (2014). Serum selenium status in Graves' disease with and without orbitopathy: a case-control study. *Clin Endocrinol (Oxf)*: 80(6): 905-10.

Martelli S, Pivonka P, Ebeling PR (2014). Femoral shaft strains during daily activities: implications for atypical femoral fractures. *J Clinical Biomech*: 29(8): 869-876.

Mokhtarzadeh H, Perraton L, Fok L, Muñoz M A, Clark R, Pivonka P, Bryant AL (2014). A comparison of optimization methods and knee joint degrees of freedom on muscle force predictions during single-leg hop landings. *J Biomech*: 47(12):2863-8.

Sanders KM, Scott D, Ebeling PR. (2014). Vitamin D deficiency and its role in muscle-bone interactions in the elderly. *Curr Osteoporos: Rep* 12 (1): 74-81.

Scott D, Stuart AL, Kay D, Ebeling PR, Nicholson G, Sanders KM (2014). Investigating the predictive ability of gait speed and quadriceps strength for incident falls in community-dwelling older women at high risk of fracture. *Arch Gerontol Geriatr*: 58(3): 308-13.

Scott D, Sanders KM, Aitken D, Hayes A, Ebeling PR, Jones G (2014). Sarcopenic obesity and dynapenic obesity: 5-year associations with falls risk in middle-aged and older adults. *Obesity*: 22(6): 1568-74.

Scott D, Hayes A, Sanders KM, Aitken D, Ebeling PR, Jones G (2014). Operational definitions of sarcopenia and their associations with 5-year changes in falls risk in community-dwelling middle-aged and older adults. *Osteoporosis Int*: 25(1):187-93.



Allied Health

The following Allied Health departments are represented in this research report:

- › Community Services
- › Nutrition
- › Occupational Therapy
- › Physiotherapy
- › Podiatry and Diabetes Foot Services
- › Psychology
- › Sub-Acute Ambulatory Care Services (SACS)
- › Social Work
- › Speech Pathology

HEADS OF DEPARTMENTS

Natasha Toohey
Director of Allied Health

Lebe Malkoun
Director of Community Services

OUR RESEARCH OUTPUT

Number of Projects: 81
Publications: 16
Presentations: 78



Community Services

/ ALLIED HEALTH

SUMMARY OF RESEARCH ACTIVITIES

Research projects investigating experience-based co-design continued to be a focus for Western Health Community Services. Understanding the client experience, using it to inform service redesign and building the evidence base for consumer engagement remained as key priorities in 2014.

Several poster presentations and a published journal article focused on these priorities, including building the evidence base for consumer engagement methodologies in care coordination; using routinely collected service data to evaluate the effectiveness of care coordination services and workforce innovation and reform.

OUR RESEARCH

Evaluating the effectiveness of experienced based co-design in improving the client experience of mental health transition across health sectors

Researchers: Kate Cranwell, Meg Polacsek, Jo Silva

Collaborators: Terence McCann (Victoria University), Gaylene Boardman (Victoria University), Linda Kensington (South West Melbourne Medicare Local)

Understanding the impact of duplication and fragmentation of care from the perspective of the consumer provides a common and powerful starting point for conversations about how to develop strategies to promote service integration and responsiveness. This study aims to improve the consumer's experience of mental health services as they transition through tertiary/subacute programs to primary care and self-management support. It will identify opportunities for service redesign and integration; develop, trial and evaluate service redesign initiatives; and promote greater understanding of services, more integrated care across the system and more effective communication between stakeholders.

Number of Researchers & Students: 11

OUR AWARDS AND GRANTS

Australian Primary Health Care Research Institute, Australian National University

Kate Cranwell

Join the conversation: Evaluating the Effectiveness of Experience Based Co-Design in Improving the Client Experience of Mental Health Transition across Health Sector: \$150,000 (2013- 2015)

Nutrition

/ ALLIED HEALTH

SUMMARY OF RESEARCH ACTIVITIES

The Nutrition Department continued to grow. Major research projects were undertaken, investigating nutritional intervention in cancer patients to prevent malnutrition.

Malnutrition is prevalent in the colorectal cancer population and can impact treatment tolerance and outcome. One of our lead projects, 'Nutrition intervention in Colorectal Cancer patients attending chemotherapy day unit' has attracted \$40,000 of funding from the Department of Health. This project builds on the findings from the Stage 1 project, 'Investigating Practices Relating to Malnutrition in Victorian Cancer Services'.

A major study completed in 2014 was the 'Fasting Audit in Orthopaedic and Orthogeriatric unit patients' study. The audit revealed that fasting practices can be improved in these units. Further work will occur in these units in 2015 to examine the implementation of the new Western Health Fasting Procedure. The development of this procedure was a key outcome from this audit.

Another significant study was completed in 2014 - 'Investigating the prevalence of protein energy malnutrition in haemodialysis patients, the relationship with handgrip strength and their response to dietetic intervention'. Research shows malnutrition is evident in 23-73% of haemodialysis patients. Malnutrition increases morbidity and mortality, reduces quality of life and increases hospital stay.

A major research focus within the Nutrition Department continues in the area of malnutrition. The focus relates to clinical service provision, where improved identification and management of malnutrition across the organisation is a requirement of accreditation.

The findings from these projects are contributing to innovation and improvement in the provision of nutrition services at Western Health.

OUR RESEARCH

Randomised Clinical Trial Nutrition intervention in Colorectal Cancer patients attending chemotherapy day unit

Researchers: Hollie Bevans, Heather Jordan, Aurora Ottaway

This study aims to:

- › Demonstrate that individualised nutrition intervention of patients receiving chemotherapy for colorectal cancer is feasible and results in improved nutritional status and quality of life compared to current practice
- › Identify a feasible model of care for standard nutrition intervention for colorectal cancer patients undergoing chemotherapy treatment

Results:

Nutritional status - The intervention group's Body Mass Index (BMI) and Patient Generated Subjective Global Assessment (PGSGA) score remained stable on average compared to a decrease of both variables in the control group although statistical significance was not achieved, possibly due to smaller than expected sample size. There was no Quality of Life score difference observed between the two study groups.

Nutritional intake in the intervention group improved during the study period: Energy intake increased by 9% ($p = 0.02^*$). Protein and fluid intake increased (2%, 5.1%) showing a trend towards statistical significance ($p = 0.79$, $p = 0.20$)

Investigating the prevalence of protein energy malnutrition in haemodialysis patients, the relationship with handgrip strength and their response to dietetic intervention

Researchers: Alison Qvist, Giang Nguyen, Elizabeth Skinner, Sarah Terrill

This study aims to measure prevalence of protein energy malnutrition (PEM); investigate the relationship between handgrip strength (HGS), subjective global assessment (SGA) score, albumin and pre-dialysis urea and to measure the impact of nutritional intervention on these markers in haemodialysis (HDx) patients at Western Health (WH).

Results from this study indicate that PEM prevalence was 23%. SGA score and pre-dialysis urea were independently associated with HGS. There was a significant increase in SGA score and pre-dialysis urea for malnourished participants receiving intervention.

Fasting Audit in Orthopaedic and Orthogeriatric unit patients

Researchers: Caroline Calkin, Irene Deftereos, Vanessa Carter, Claire McKie and Forbes McGain.

This study aims to establish current pre-operative fasting practices in WH orthopaedic unit and orthogeriatric unit over a 4-week period and compare current practices to Australia and New Zealand College of Anaesthetists guidelines.

Eighty-six patients were fasted for theatre on 157 occasions during the four week period.

Mean duration of fasting, as specified by anaesthetist or surgical team, was approximately 11 hours for both elective and non-elective patients. Range of duration of fasting prior to theatre was 0.5 - 24.5 hours. 54% of non-elective patients had their theatre cancelled on at least one occasion during their admission. The longest cumulative duration of fasting prior to theatre for a single patient over their admission was 68 hours.

Number of Researchers & Students: 10

OUR AWARDS AND GRANTS

Department of Health Cancer Strategy and Development grant

Hollie Bevans, Kathryn Pierce

Investigating Practices Relating to Malnutrition in Victorian Cancer Services Stage 11: \$40,000 (2013-2014)

Occupational Therapy

/ ALLIED HEALTH

SUMMARY OF RESEARCH ACTIVITIES

In 2014, the Occupational Therapy department continued to increase their engagement in research. Projects have focused on delivery of Occupation Based Practice and building an understanding of aspects of the Occupational Therapy Service that are highly valued by consumers.

The Occupational Therapy department values the opportunity to participate in knowledge exchange with the wider profession and its staff delivered six presentations at conferences during the year.

OUR RESEARCH

Sexuality after Stroke

Researchers: Belinda Woods, Sarah Murphy, Anne Renshaw

The aims of this study were:

- › To determine the barriers and facilitators that exist in providing WH clients with information on sexuality after stroke
- › To develop and implement an education program based on a framework provided by the "How2" program incorporating patient and staff feedback
- › To evaluate the outcome of the program in improving staff knowledge, confidence and compliance in implementing guideline 8.5

Identifying outcome measures in Occupational Therapy

Collaborators: Kathryn Cranwell, Helen Nelson, Jacinta Robertson

The aim of this project was to identify key themes from the varying areas of Occupational Therapy (OT) practice regarding where Occupational Therapy intervention has made a difference for patients. Based on this data, outcome measures will be developed for each area of OT practice to ensure monitoring of best care and patient needs continue to be achieved.

Person-Centred, Occupation-Based Practice in Inpatient Rehabilitation

Researchers: Matthew Thorpe, Sharon Neale

The aims of this project were to:

- › Increase the knowledge, competence and confidence of Inpatient Rehabilitation Occupational Therapists to be person-centred occupation-based clinicians
- › Ensure that patients receive person-centred occupational therapy by:
 - Identification of person-centred rehabilitation goals with their Occupational Therapist
 - Working consistently with their Occupational Therapist in an occupation-based, person-centred manner that enables them to achieve their goals

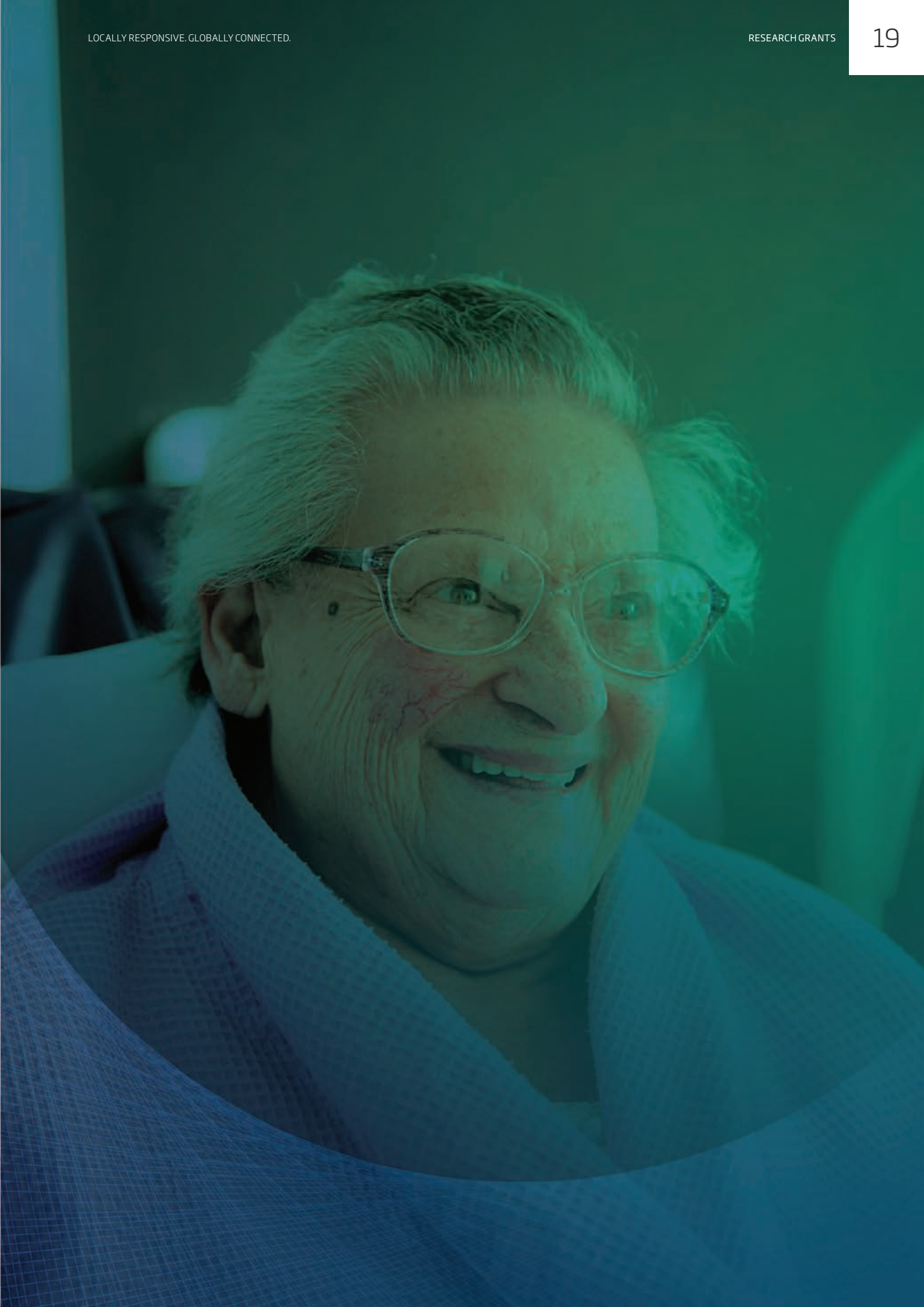
Number of Researchers & Students: Researchers: 12

OUR AWARDS AND GRANTS

National Partnership Agreement on Improving Public Hospital Services Subacute Scholarship

Belinda Woods

Towards Advanced Practice Masters of Occupational Therapy Department of Human Service: \$5,000 (2013-2014)



Physiotherapy

/ ALLIED HEALTH

SUMMARY OF RESEARCH ACTIVITIES

Physiotherapy had another productive year of research achievement in 2014, with 41 projects being conducted or completed, 19 conference or seminar presentations and four new grants and awards (total funding \$43,500) in addition to the four (\$865,663) carried over from 2013. Physiotherapy also successfully published six peer-reviewed manuscripts, as a direct result of our continued emphasis on dissemination of research findings. We have continued to build on our success from 2013, with a substantive focus on our Allied Health-wide weekend services evaluation project, funded by an NHMRC Partnership grant last year.

Our research was disseminated in highly regarded forums and at several international conference presentations.

The Physiotherapy Department aspires to become a national leader in the conduct of clinical research aligned with the strategic priorities for Western Health and our broader community. It has a particular focus on the translation of evidence into clinical practice, with several projects aiming to facilitate translation continuing in 2015.

OUR RESEARCH

Weekend allied health services for acute medical/surgical patients to improve efficiency and safety of patient care.

Researchers: Terry Haines, Elizabeth Skinner, Timothy Chiu, Fiona McDermott, Lisa O'Brien, Donna Markham, Deb Mitchell

Collaborators: Monash University, Monash Health, Melbourne Health, Department of Health

This project will examine the effectiveness, cost-effectiveness and safety of the current model of weekend allied health service delivery on acute medical and surgical units at Western Hospital (Footscray) compared to having no weekend allied health service on these wards. This project will also examine the effectiveness, cost-effectiveness and safety of a new, stakeholder-driven model of weekend allied health service compared to having no weekend allied health service on these same wards. Data collection began on April 1st, 2014 and continues into 2015. The project has now begun implementing the new stakeholder-driven model of weekend allied health service to wards involved in the study and will finish on April 30th 2015.

A randomised controlled trial investigating the effect of duration of immobilisation on function following open reduction and internal fixation for distal radius fractures in adults

Researchers: Narelle Watson, Jenny Keating, Darren Fraser, Collin McIlveen, Rebecca Pile, Paul Silk, Caitlin Thompson, Louise Taylor, Jackson Boyd

Collaborators: Monash University

The primary aim of this investigation is to compare the immobilisation periods of one, three and six weeks for acute distal radius fractures following locked volar plate fixation for the outcome measures of function (PRWE, DASH), range of movement, grip strength and pain Visual Analogue Scale (VAS) when measured over a six-month period from the date of surgery. Collaboration between the WH Physiotherapy and WH Orthopaedic Departments has been one of the key factors facilitating the implementation of this investigation. Data collection for this investigation began in June 2012 and has continued throughout 2014.

Does immersive simulation training improve student supervision skills of Physiotherapy clinical educators?

Researchers: Clare Holdsworth, Clare Delany, Elizabeth Skinner

Collaborators: The University of Melbourne

Experienced clinicians have an established role in supervising and educating students on clinical placement. Simulated Learning Environments (SLE) represent a growing field of education methodology, offering students active and experiential learning opportunities. This project aimed to test if immersive simulation training improved student supervision skills of physiotherapy clinical educators. This study demonstrated improvements in clinicians' self-efficacy in different domains of student supervision among those educators who participated in simulation compared to online learning. The manuscript is currently under review.

Number of Researchers & Students: Researchers: 75; Students: 4

OUR AWARDS AND GRANTS

National Health and Medical Research Council, Partnership Grant, Department of Health

Terry Haines, Elizabeth Skinner, Fiona McDermott, Lisa O'Brien, Donna Markham, Deb Mitchell

Application of a novel research design to aid disinvestment from existing health technologies with uncertain effectiveness, cost-effectiveness and/or safety: \$585,663 (2014-2016)

Macedon Ranges and North Western Melbourne Medicare Local After Hours Primary Health Care Fund, Macedon Ranges and North Western Melbourne Medicare Local

Narelle Watson, Timothy Chiu, David Grace, Vida Pranskunas

Establishing and supporting a primary contact physiotherapy role at the Melton Urgent Care Clinic: \$130,000 (2013-2015)

Macedon Ranges and North Western Melbourne Medicare Local After Hours Primary Health Care Fund, Macedon Ranges and North Western Melbourne Medicare Local

Narelle Watson, Timothy Chiu

Expansion of primary care physiotherapy at Sunshine Emergency Department: \$90,000 (2013-2015)

Department of Health Seeding Grant

Kathryn Barker, Kathryn Ritchie, Elizabeth Skinner, Annemarie Lee, Anne Holland, Terry Haines, Monica Turczyniak, Fiona Pazsa, Claire Boote, Joanne Saliba, Stephanie Lowe, Marcelle Ghaly

What is the effect of a generic compared with a disease-specific outpatient exercise rehabilitation program on functional exercise tolerance in people with multi-morbidity? Two pilot parallel randomized controlled trials: \$30,500 (2014)

Department of Health, Advanced Musculoskeletal Physiotherapy implementation program

Narelle Watson, Darren Fraser

Implementation of a Physiotherapist-led Post Arthroplasty Review (PAR) clinic: \$60,000 (2013-2015)

Podiatry and Diabetes Foot Service

/ ALLIED HEALTH

SUMMARY OF RESEARCH ACTIVITIES

The Podiatry Department and Diabetes Foot Service built its research capacity during 2014. Several projects were undertaken during the year, including a strong collaboration with the Endocrinology department and Vascular unit. The Diabetes Foot Service also collaborated with Victoria University and it was awarded an AIMSS research grant.

OUR RESEARCH

Second Toe Systolic Pressure Measurements are Valid Substitutes for First Toe Systolic Pressure Measurements in Diabetic Patients: A Prospective Study

Researchers: Julia Firth, Michaela Barron

Collaborators: Venu Bhamidipaty, Anastasia Dean, Swee Leong Yap, Stephen Chan

Toe systolic pressure is a simple, yet effective component of standard vascular and diabetic foot assessment. Until now, clinicians have been unable to measure systolic toe pressure on the second to fifth toes given a lack of evidence. In this study, a strong positive correlation was found between the first and second toe pressure measurements in patients with diabetes.

The effect of offloading devices on quality of life, muscle strength and overall cardiovascular condition in patients treated with diabetes related foot ulceration

Researcher: Julia Firth

Collaborators: Alan Hayes, Pat McLaughlin, Elizabeth Skinner

The study aims to determine the effect on patients with a diabetes-related foot ulcer wearing an offloading shoe, boot or cast as well as activity restriction on quality of life, muscle strength and overall cardiovascular fitness/condition for up to a six-month period.

Number of Researchers & Students: Researchers: 2; Students: 2

OUR AWARDS AND GRANTS

Australian Institute of Musculoskeletal Science (AIMSS) Seeding Grant

Julia Firth, Alan Hayes, Pat McLaughlin, Elizabeth Skinner, Peter Ebeling

The effect of offloading devices on quality of life, muscle strength and overall cardiovascular condition in patients treated with diabetes related foot ulceration: \$10,000 (2014)



Psychology

/ ALLIED HEALTH

SUMMARY OF RESEARCH ACTIVITIES

In 2014, the Psychology Department at Western Health continued to extend its research activities, with a greater focus on collaborating with other Clinical Services at Western Health, as well as external teaching institutions. The activities included collaborations with the Outpatient Pain Medicine Clinic; Sub acute and Community Services; Cardiology; Rehabilitation Medicine; Neurology; Children's Allied Health Service; La Trobe University; University of Melbourne; University of Newcastle; Peter MacCallum Cancer Centre and Victoria University.

The Psychology Department has fostered collaborations involving activities designed to improve the patient experience. Many of the research collaborations initiated in 2014, will continue well into 2015.

Additional research endeavours planned for 2015 include:

- › Multicentre collaboration on the neuropsychological profile of clients with Hoarding and Squalor
- › Validation of a Vietnamese translation of the Geriatric Anxiety Scale
- › Evaluation of the usefulness of the Geriatric Anxiety Scale in Geriatric Inpatient care; and
- › Maternal Mental Health

OUR RESEARCH

Reviewing the Outcome Measures Used in the Pain Management Program at Western Health Sunshine Community Based Rehabilitation (CBR): Prospective Observational Study

Researcher: Kathleen Leach

The aim of this study is to review the utility of outcome measures currently used in pain management programs in order to simplify these measures to reduce burden on patients. Ethics approval was obtained in April 2014 and to date there are over 40 patients recruited into the study.

Neuropsychological profiling of amputee rehabilitation patients at Western Hospital

Researchers: Diana Perre, Niloufar Mahdavi

Collaborators: Ngoc Le

The aim of this project is to promote the early detection of, and intervention into, cognitive deficits and/or strengths and weaknesses of patients undergoing rehabilitation following a major limb amputation.

The Role of Individual Patient, Social and Treatment Centre Variables in The Psychosocial Outcomes of Cancer Patients

Researcher: Grey Searle

Collaborators: Cathy Hammond, Rob Sanson-Fisher

The aim of this project is to identify individual, social, and treatment centre characteristics associated with self-reported anxiety, depression and unmet needs among cancer patients.

Number of Researchers & Students: Researchers: 12; Student: 1

OUR AWARDS AND GRANTS

Western Region Aged Care Inc.

Anita Panayiotou

Strengthening the connection between subacute care and community services: A carer focused intervention: \$10,000 (2014)

Sub-acute Ambulatory Care Services (SACS)

/ ALLIED HEALTH

SUMMARY OF RESEARCH ACTIVITIES

Subacute Ambulatory Care Services (SACS) is involved in six research projects that have clinical implications for practice delivery and client outcomes. SACS has a broad cohort of patients with differing therapy needs and expectations and these projects reflect this diversity within the broad field of community rehabilitation.

Patients with rehabilitation needs post stroke are represented within these projects with emphasis on potential new therapies, optimal functional improvement and clinical outcomes. Psychological supports and strategies for those with cognitive deficits and chronic pain provide alternative options for these patients. Patients with specific communication problems due to aphasia are also part of these research activities, which are aimed at delivering potentially targeted, effective therapy.

The National Ageing Research Institute (NARI) on behalf of the Department of Health conducted a trial on seven outcome measures in 18 Victorian Ambulatory Rehabilitation Services. Western Health was one of the 18 services. Community Based Rehabilitation trialled the Participation Scale and along with the results from the other organisations there is now a suite of validated measures applicable for public ambulatory rehabilitation services that have been analysed and/or recommended for use. Currently SACS is utilizing some of these measures.

OUR RESEARCH

Reviewing the Outcome Measures Used in the Pain Management Program at Western Health Sunshine Community Based Rehabilitation: Prospective Observational Study

Researcher: Kathleen Leach

Collaborator: Jazmin Cruz

The aim of this research is to determine if an improvement in physical measure (i.e. a timed six metre walk test), is an indicator of improvements in self-management of pain. All data has been collected and the statistical analysis is commencing. There is a significant proportion of patients who present for chronic pain management however the timed six metre walk measure, if proved to be valid for this cohort of patients, will provide a simple, easily implemented physical test that will inform the progress of these clients in their self-management of pain.

An Investigation of the Impact of Group Therapy on Communications Outcomes in Adults Diagnosed with Primary Progressive Aphasia

Researcher: Sally Howard

Collaborator: Dimitra Chrisikakos

The aim of this research is to show that impairment-based and participation-focused practice could benefit patients. The proactive management strategies from both carers and clinicians should assist patient communication and participation in everyday life. There is a lack of research regarding best practice regarding clinical therapies for patients

with Primary Progressive Aphasia. With the Community Based Rehabilitation Service receiving increasing referrals for this condition, this research project will directly inform the benefit of group therapy as part of a patient's overall clinical management and carer support.

The effect of moderate-intensity cardiovascular fitness training compared to standard care in people with a diagnosis of stroke: a pilot randomised controlled trial

Researcher: Hanna Reynolds

Collaborators: Priya Rangarajan, Lisa Hoare, Elizabeth Skinner

The purpose of this study is to evaluate the effectiveness of interventions based on the Bobath concept in improving the reaching ability of patients with minimal arm control at one to four months following stroke.

Number of Researchers & Students: Researchers: 1

Social Work

/ ALLIED HEALTH

SUMMARY OF RESEARCH ACTIVITIES

Two retrospective data mining projects were undertaken to identify the prevalence and nature of current allied health practice with cancer patients.

Findings from one of the projects will inform the development of an intervention to be trialled and evaluated in clinical practice in the radiotherapy setting and potentially rolled out to other relevant areas.

The other project has identified the allied health service needs for patients with lung cancer attending the radiotherapy setting. A substantial number of these patients required allied health interventions and this data will assist with allocating allied health resources in the lung cancer cohort. Similar analysis is required for all tumour streams to extrapolate allied health service demands.

OUR RESEARCH

Single Session Social Work Interventions in the Radiotherapy Setting- Providing efficient and effective outcomes for patients and their families

Researchers: Jessica Valentine, Laurelle Stalker

The aim of this project is to ascertain the prevalence and nature of social work interventions to inform development of a single contact social work intervention. The research is important because it will facilitate a social worker's ability to respond effectively and efficiently in a climate of increasing referrals and predicted growth.

Number of Researchers & Students:
Researchers: 3; Students: 2



Speech Pathology

/ ALLIED HEALTH

SUMMARY OF RESEARCH ACTIVITIES

Research within the Speech Pathology (SP) Department continued to build on the strong achievements of 2013 with an on-going focus on improving patient outcomes and reducing regional disparities in relation to communication and swallowing impairments.

The development of a Mobile Cultural Key Phrases iPad app will allow patients from a non-English speaking background access to timely and effective allied health assessments in the absence of an interpreter. The expansion of this project to include relevant phrases, images and audio for five allied health professions in the ten most common languages in Melbourne's West, is testament to the benefit of clear communication and the use of technology to bridge the language barrier.

The implementation of a 'Free Water Protocol', the first in an acute setting, will aim to improve the patient experience and enhance the outcomes achieved for those patients with swallowing difficulties that require thickened fluids. A number of projects during 2014 also looked at the efficacy of using group models to treat communication impairments. At a time of increasing demand on the health care system, the aim remains to achieve optimal outcomes in a more timely manner.

The Speech Pathology Department was responsible for delivering 12 conference presentations in 2014, including four at the national Speech Pathology Australia Conference and three at the Department of Health Sharing Advanced Practice Forum Series. In addition, eight further projects were accepted as poster presentations showcasing the continued work by Speech Pathology at Western Health.

Looking forward to 2015, the Speech Pathology Department will focus on finalising current initiatives, including the evaluation of a 'Free Water Protocol', implementation of a Supported Communication Training Program for staff, roll-out of the Mobile Cultural Key Phrases app and evaluation of the benefit of iPads in the rehabilitation of patients with communication and cognitive deficits.

OUR RESEARCH

Mobile Cultural Key Phrases Tool (CKPT)

Researchers: Courtney Pocock, Jill Freyne, Sally Brinkmann, Dana Bradford

Collaborator: CSIRO

Western Health Speech Pathology (SP) recognised the impact of delayed assessment of swallowing difficulties for non-English speaking patients in the absence of an interpreter. In response, the Cultural Key Phrases Tool (CKPT) was developed to address the challenge of timely and effective assessments with limited interpreter access.

In order to further enhance the capabilities of the booklet format, Western Health Speech Pathology in partnership with CSIRO, have produced an electronic application. The purpose-built, one-of-a-kind app has key phrases and accompanying images, audio and video content to convey key concepts between an allied health clinician and a patient.

This project aims to quantify the value in the provision of the CKPT app to assist five allied health groups (Speech Pathology, Occupational Therapy, Physiotherapy, Dietetics & Podiatry) in completing initial assessments with patients from non-English speaking backgrounds when an interpreter is not available.

This project aims to determine:

- › Impact on wait times for initial assessments
- › Staff acceptance and satisfaction levels
- › Patient acceptance and satisfaction levels
- › Efficacy of the application

Implementation of a Free Water Protocol (FWP) in the acute setting

Researchers: Hemant Jeena, Monique Stojkovski, Elizabeth Skinner

Thickened fluids are commonly recommended for patients at risk of aspiration with thin fluids. Sips of water, only between meals, in addition to thickened fluids are occasionally recommended to reduce the negative impact that modified fluids have on patient hydration and quality of life. This practice is known as the 'Free Water Protocol' (FWP).

This research aims to pilot a formal with patients who have a swallowing impairment (dysphagia) and are on thickened fluids on two acute medical wards at Western Health. This research will:

- › Measure adverse events related to aspiration of water whilst on the FWP
- › Evaluate the effects of the implementation of the FWP on:
 - Patient satisfaction for those who are on thickened fluids only compared with those on thickened fluids and the FWP
 - Quality of life for patients who are on thickened fluids only compared with those on thickened fluids and the FWP
 - Total volume of fluid intake for patients who are on thickened fluids only compared with those on thickened fluids and the FWP

iPads in Speech Pathology: Is increased engagement and satisfaction a myth or reality?

Researchers: Sally Howard, Laura Bezzina, Lauren Belleli

Speech Pathologists (SP) provide therapy to patients with communication and cognitive deficits through a range of therapy modalities. Traditional therapy includes both paper-based and computer-based tasks to target patients' communication and cognitive deficits.

Recent technological advances have now seen the rise of 'smart technology' (e.g. iPhone, iPads etc.) and an increasing number of applications (apps) designed to deliver a broad range of educational and therapeutic programs.

This pilot study, commencing in 2015 will examine the impact of using iPads to deliver communication and cognition therapy to adult stroke patients at Western Health. More specifically, this study aims to evaluate whether iPad-based treatment increases patient engagement and satisfaction with therapy, which may in turn improve patient-related communication outcomes.

Number of Researchers & Students:
 Researchers: 24

OUR AWARDS AND GRANTS

Victorian Government Technology Innovation Fund

Courtney Pocock, Jill Freyne, Sally Brinkmann, Dana Bradford

Mobile Cultural Key Phrases Tool: delivering equitable healthcare: \$184,172 (2014)

Anaesthesia and Pain Medicine

Head of Department: Dr Richard Horton

SUMMARY OF RESEARCH ACTIVITIES

2014 was a productive research year for the Department of Anaesthesia. With expanding research and nursing staff numbers resulting from a merger with Intensive Care Research, the department was able to strongly contribute to several important multicentre studies.

These studies included RELIEF, an international project looking at the impact of a liberal versus restrictive fluid regimen in major surgery. This important study will help anaesthetists optimise the amounts of intravenous fluids administered to patients for major surgery. The other major study conducted in 2014 was MUM SIZE, a study of 1500 caesarean section patients conducted across seven University of Melbourne affiliated hospitals. MUM SIZE is looking at the impact of increased body mass index on caesarean section outcomes for both mothers and babies. As well as providing valuable information about how best to care for these patients, this study will also help inform discussions about resourcing to meet the health needs of patients with obesity. Sunshine Hospital contributed strongly to this study, with 509 participants of the total 1500 patients.

Into the future, it is expected that anaesthetists will play an increasing role in perioperative care of surgical patients. A growing area of research interest within the department has revolved around the optimisation of patients prior to surgery. Our researchers are interested in identifying preoperatively those modifiable factors that may improve

a patient's outcome including smoking cessation, haematinics optimisation and prehabilitation. Many of the studies in the planning and pilot phases in 2014 are examining these research questions.

OUR RESEARCH

MUM SIZE



Researchers: Elizabeth Hessian, David Story, Mari Kawamata, Kavitha Muthukrisnan, Georgia Preece, Michael Angsuwat, Matthew Jenke, Luis Cuadros, Nadia Messerschmidt, Soheil Hosseini, David Hunchak, Yasmin Lennie

Collaborators: The Anaesthesia, Pain and Perioperative Medicine Unit, University of Melbourne.

This multicentre study of 1500 patients is researching the relationship between Body Mass Index and maternal/neonatal outcomes in women delivering by caesarean section. The data collection period took place throughout 2014. Western Health was a strong contributor to the study, with 509 of the total 1500 patients being recruited from Sunshine Hospital.

RELIEF (REstrictive vs LIBeral Fluid therapy in major abdominal surgery)

Researchers: David Bramley, Forbes McGain

Collaborator: Alfred Hospital

As part of usual anaesthetic care, patients undergoing major abdominal surgery receive intravenous fluids. For decades, debate has raged in the literature as to whether 'wet' or 'dry' is better for these patients. Potential complications of extremes of fluid administration include acute renal impairment, acute pulmonary oedema, and tissue oedema leading to wound and anastomotic dehiscence. RELIEF is a multicentre, international study of 2800 patients aiming to answer the question of whether a liberal or restrictive fluid regimen is more advantageous to survival and recovery from surgery. Throughout 2014, Western Health has remained in the top 10 of the 71 recruiting sites.

An audit of the effectiveness of the smoking cessation interventions offered at Western Health to elective surgical patients

Researchers: David Bramley, Hugh Taylor, Garang Dut, Michael Valente

Collaborators: Ms Karen Rossitto and the Pre-Admission clinic

In 2014, the surgical pre-admission clinic added a formalised smoking assessment and intervention program to its usual assessment processes. Patients presenting prior to surgery who were current smokers, and interested in ceasing or reducing their smoking, were offered free nicotine

replacement therapy and a referral to Quitline. This audit assessed patients at presentation to surgery to ascertain their memory of that intervention, and whether the intervention had any impact on their smoking prior to surgery. Patients were found to have good recall of the intervention, and many attributed the intervention to their reduction or cessation in smoking.

Number of Researchers & Students:
 Researchers: 26; Students: 4

OUR RESEARCH OUTPUT

Number of Projects: 10
Publications: 5
Presentations: 3

OUR AWARDS AND GRANTS

ANZCA Project Grant

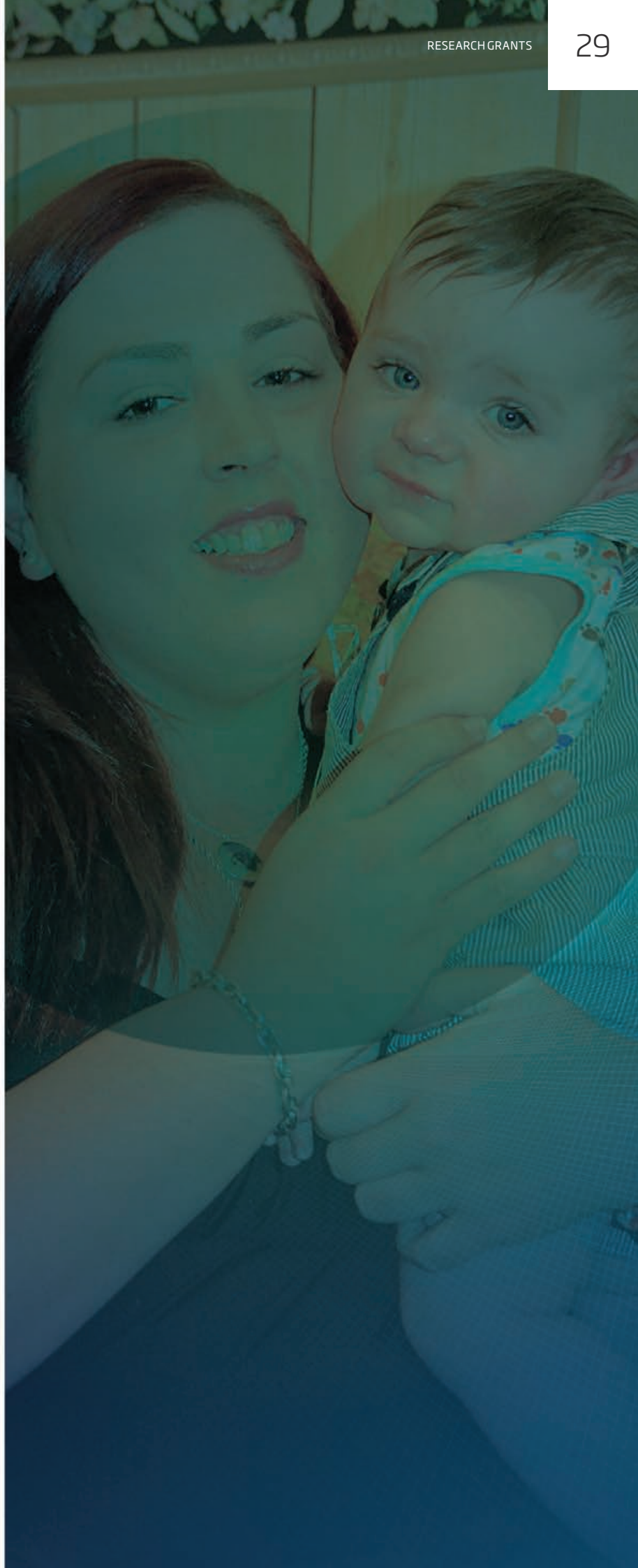
Kate Leslie, Megan Allen,
 Elizabeth Hessian

Safety of sedation for endoscopy
 in University of Melbourne affiliated
 hospitals: \$39,000 (2014)

Department of Health Project Grant

David Bramley

Supporting patients to be smoke-
 free: An ABCD approach in Victorian
 Hospitals: \$20,000(2014)



Cancer In Primary Care

Head of Department: Dr Jane Gunn

SUMMARY OF RESEARCH ACTIVITIES

Our research relates to the role of primary care across the continuum of prevention, screening, symptomatic diagnosis and survivorship. From the perspective of the clinical services at Western Health, our research examines the integration of cancer services between primary care and tertiary care. In particular, our research focuses on the following areas:

- › The application of risk models for tailored cancer screening and assessment of cancer symptoms in primary care. This includes approaches to identify patients in primary care who are at increased risk of colorectal cancer (CRC), who warrant additional colonoscopic screening, avoiding overuse of colonoscopy in people at average risk of CRC, and promoting use of faecal occult blood testing in those at average risk.

- › New models of survivorship care. We have recently completed a Randomised Clinical Trial of shared care for prostate cancer that included men receiving treatment at the radiation oncology services at Western. This will inform potential development of new models of shared cancer care at Western.

- › Diagnostic pathways of culturally and linguistically diverse patients (CALD) with cancer. We are examining the diagnostic pathways of cancer patients at Western with an initial focus on people of Vietnamese and Italian background. This explores culturally specific interpretation of symptoms and potential reasons for later presentation to healthcare.

Our future work will continue these overarching themes of primary care along the cancer continuum and improving the integration of cancer services at Western.

OUR RESEARCH

Supporting earlier cancer diagnosis in general practice

Researchers: Jon Emery, Mary Kyriakides

Collaborators: Alan Moss, Ian Kronborg, Ian Faragher, Cancer Council Victoria, Bianca Bell, South Western Melbourne Medicare Local, Macedon Ranges and North Western Melbourne Medicare Local

This project is a step-wedge trial to test the implementation of a new fast-track pathway for endoscopy. It aims to improve referral and triage processes for people with suspected upper and lower gastrointestinal cancer to enable earlier diagnosis.

The ProCare Trial of shared care for prostate cancer

Researchers: Jon Emery, Emily Hapgood, Juanita Doorey

Collaborators: Michael Jefford, Penny Schofield, Dickon Hayne, John Violet

This RCT tested a new model of supporting general practice to provide high quality shared care for men with prostate cancer. We demonstrated that the new model was as effective, preferred by men who experienced it and was cheaper than standard hospital follow-up.

Symptom appraisal and help-seeking in cancer patients from CALD backgrounds

Researchers: Jon Emery, Sharon Licqurish

Collaborators: Michael Green, John Violet, Penny Schofield

This study is examining the diagnostic pathways of cancer patients from Vietnamese and Italian backgrounds. We are exploring if people from CALD backgrounds interpret their symptoms differently and may present later to healthcare as part of the reasons for their poorer outcomes.

Number of Researchers & Students: Researchers: 5; Students: 3

OUR RESEARCH OUTPUT

Number of Projects: 8

Publications: 23

Presentations: 7

OUR AWARDS AND GRANTS

NMHC Practitioner Fellowship

Professor Jon Emery: \$459,686 (2015-2019)

Department of Health Victoria

J Emery, M Kyriakides

Supporting earlier cancer diagnosis in general practice: \$251,000(2014-2015)

NMHC Project grant

J Emery, D Mazza, N Campbell

CHEST Australia: reducing time to consult in primary care with symptoms of lung cancer: \$880,425(2014-2017)

NMHC Project grant

J Emery, R Sackson, G Mann

iPrevent: Development and pilot testing of an evidence-based, tailored, computerised risk assessment and decision support tool to facilitate discussions about breast cancer prevention and screening measures: \$404,772(2014-2016)

NMHC Project grant

J Emery, L Trevena, J Dowie, S-A Pearson

Should I take low dose aspirin? The 'Optimise' decision aid study: \$424,115(2014-2016)

Cardiology

Head of Department: Associate Professor Nicholas Cox

SUMMARY OF RESEARCH ACTIVITIES

Western Health Cardiology has continued to grow its research profile in 2014. We have been successful collaborators in several significant multicentre randomised trials. The Safety trial, which assessed a nurse-led model for management of atrial fibrillation, was published in Lancet in November. Western Health was the largest contributor to this Australian investigator-initiated NHMRC sponsored trial.

PCSK9 inhibitors appear poised to revolutionise the way cholesterol is modified in patients with coronary disease. Our department contributed to two multicentre trials with this drug – one involved Intra Vascular Ultrasound assessment of atherosclerotic plaque progression, the other will be the pivotal phase III trial assessing clinical outcomes for this drug.

Cardiologists within the department initiated projects on the role of CT coronary angiography in predicating risk for coronary events, and assessment of a new model of care for management of elderly patients with heart failure. We have enrolled in an Australian Investigator-initiated, NHMRC sponsored trial assessing a nurse-led model for management of patient heart failure.

We have made significant inroads into developing the structure and support of our research program. With two research nurses and an increasing number of committed investigator clinicians we look forward to an exciting 2015.

OUR RESEARCH

WHICH 2 The Which Heart Failure Intervention is most Cost-effective in reducing Hospital Stay WHICH? II Trial

Researcher: Chiew Wong

Collaborators: Simon Stewart, Australian Catholic University

Effect of ivabradine versus placebo on cardiac function, exercise capacity, and neuroendocrine activation in patients with chronic heart failure with preserved left ventricular ejection fraction An eight-month, randomised double-blind, placebo controlled, international, multicentre study

Researchers: Chiew Wong

Collaborators: Henry Krum, Servier Laboratories (Australia) Pty Ltd

A randomized, multi-centre, placebo-controlled, parallel-group study to determine the effects of AMG 145 treatment on atherosclerotic disease burden as measured by intravascular ultrasound in subjects undergoing coronary catheterization-GLAGOV study.

Researchers: Kean Soon, Nicholas Cox, David Irons

Collaborator: SAHMRI

Number of Researchers & Students: Researchers: 5

OUR RESEARCH OUTPUT

Number of Projects: 5

Publications: 16

Presentations: 2

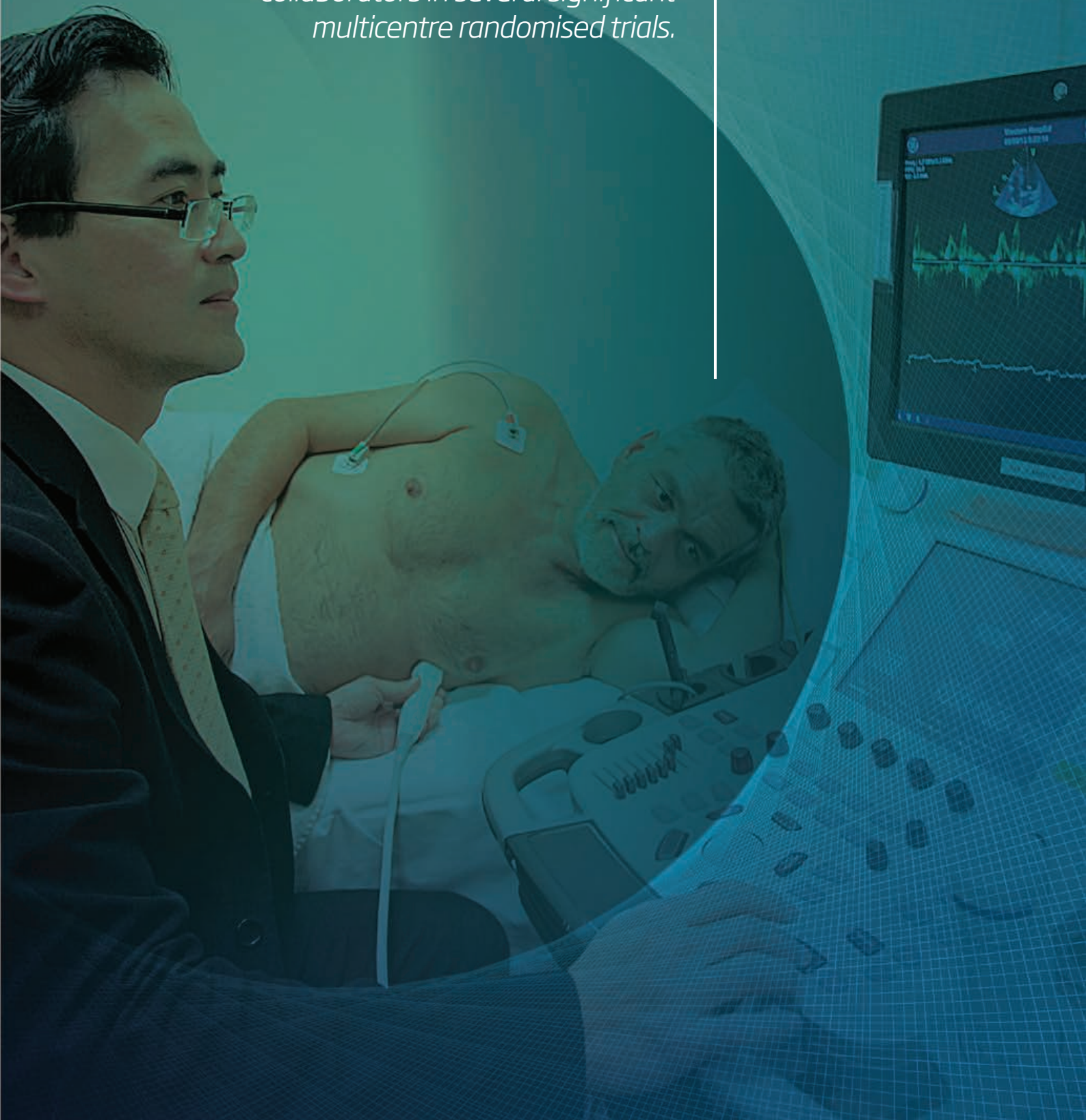
OUR AWARDS AND GRANTS

NHMRC Project Grant

Simon Stewart, John Horowitz, Chiew Wong, Amanda Richbieth, Paul Scuffham, Phillip Newton

WHICH? 2 Trial of Standard Versus Intensify Heart Failure Care: \$1,800,000(2013-2016)

Western Health Cardiology has continued to grow its research profile in 2014. We have been successful collaborators in several significant multicentre randomised trials.



Critical Care

Head of Department: Associate Professor Craig French

SUMMARY OF RESEARCH ACTIVITIES

The Department of Intensive Care performs clinical research in intensive care medicine and related disciplines. Research is integrated within clinical practice. The department participated in more than 15 clinical research projects in 2014: these included local investigator-initiated studies, multicentre investigator-initiated studies, and industry studies.

The Critical Care department contributed to a number of significant studies such as the ARISE study- *Goal directed resuscitation for patients with early septic shock*. This landmark study demonstrated that an expensive, invasive, protocol-led approach to the management of patients with life threatening infection did not improve patient outcomes compared to standard care provided in Australia and New Zealand.

2014 also marked the 20th anniversary of the Australian and New Zealand Intensive Care Society Clinical Trials Group (CTG). The CTG is a network of ICUs, clinicians and researchers who collaborate to conduct multicentre research aimed at improving patient outcomes. All of the research conducted by the CTG is investigator-initiated and funded through competitive public grants or unrestricted funding from other government or corporate sources. Western Health Intensive Care Department is proud to be a contributing member of the CTG, and the Director of Intensive Care, A/Prof Craig French, is the current Vice-Chair of the management committee.

The department aims to begin research activities at Sunshine Hospital in 2015 and to increase the number of local investigator projects. The commissioning of the Sunshine Hospital Intensive Unit provides us with the opportunity to conduct research in an expanded patient group, particularly the critically ill obstetric patient.

OUR RESEARCH

A Multi-Centre Randomised Controlled Trial of early Goal Directed Therapy in Patients Presenting to the Emergency Department with Severe Sepsis in Australasia (the ARISE study).

Researchers: Craig French, John Mulder, Sathyajith Velandy Koottayi, Forbes McGain, Anne-Maree Kelly, Shyaman Menon, John Loy.

Collaborators: ANZICS CTG, ANZIC research centre, Monash University, Australasian College for Emergency Medicine (ACEM) Clinical Trials Group.

Implementing the EGDT approach to management of sepsis is expensive and invasive. The study results show that standard treatment is just as effective at managing sepsis, and therefore is a cheaper and less invasive option. This research is integral to guiding physicians practice and management of treatment of patients with severe sepsis. The study results have been noticed by the worldwide community, and attracted comments in the Surviving Sepsis Campaign Guidelines.

STandaRd Issue TrANsfusion versuS Fresher red blood cell Use in intenSive carE (TRANSFUSE) - a randomised controlled trial.

Researchers: Craig French, John Mulder, Sathyajith Velandy Koottayi, Forbes McGain, Zia Ansari.

Collaborators: The ANZIC research centre, ANZICS CTG, Australian Red Cross Blood Service.

Once blood is donated it can be stored for up to 42 days, however we know that changes occur in the blood when it is stored and this is called a "storage lesion". It is not known whether these changes are harmful to patients. It is standard practice to always first issue the oldest blood stored in a blood bank to minimise the amount that is wasted by reaching its "use-by" date. This study will determine the effect of transfusing the freshest available blood in the blood bank inventory compared to transfusing the oldest blood in the blood bank inventory (current standard of care). We will determine if these two inventory management approaches affect mortality in critically ill patients.

The Permissive Hyperthermia Through Avoidance of Paracetamol in Known or Suspected infection Trial - the HEAT trial.

Researchers: Craig French, John Mulder, Sathyajith Velandy Koottayi.

Collaborators: The George Institute for Global Health, ANZICS CTG, Medical Research Institute of New Zealand.

Severe infections are an important cause of mortality. There is substantive evidence that fever caused by severe

infections is an adaptive response which occurs widely within the animal kingdom. Suppression of the febrile response to infection with paracetamol has been shown to increase the risk of mortality in animals with severe infection.

Observational data suggest that in patients with bacterial infection fever reduces mortality. However, in patients with infections in the ICU, control of fever may have beneficial effects that relate to factors such as decreased demands on the heart and the lungs. Overall, it is unclear whether paracetamol use in patients with infections and fever in the ICU is beneficial or harmful. In this trial, patients in the ICU with infection will be randomly assigned to receive paracetamol or placebo to treat elevated temperature in order to determine whether paracetamol is beneficial or harmful to such patients and whether further studies are needed. Recruitment of the 700 patient target was completed in mid 2014. Data analysis is underway with journal publication expected later in 2015.

Number of Researchers & Students: Researchers: 9; Student: 1

OUR RESEARCH OUTPUT

Number of Projects: 15
Publications: 11
Presentations: 2

OUR AWARDS AND GRANTS

STandaRd Issue TrANsfusion versus Fresher red blood cell Use in intenSive carE (TRANSFUSE) - a randomised controlled trial

NHMRC Project Grants: \$2,761,870 (2012-2016)

Health Research Council of New Zealand: \$775,723

Erythropoietin in traumatic brain injury

NHMRC Project Grants: \$1,848,475 (2009-2014)

Transport Accident Commission (formerly Victorian Neurotrauma Initiative): \$1,416,130

National Health and Medical Research Council - European :\$120,000

Funding to establish the Centre for Research Excellence for Patient Blood Management in Critical Illness and Trauma at Monash University- (The Blood-CRE)

NHMRC Funding Grant: \$2,500,000 (2012-2017)



Drug Health Services

Head of Department: Ms Robyn Jackson

SUMMARY OF RESEARCH ACTIVITIES

Drug Health Services/Addiction Medicine continues to maintain a small but focused research strategy, working on creating linkages with other health and welfare services providers in the Western region through the Western Alcohol and Other Drug Health Research Network. The Addiction Medicine team has undertaken three projects throughout 2013/14, one of which is ongoing. A key focus has been implementing a Chronic Disease Management model in the treatment of addiction.

Work is currently underway to develop and implement reviews of current clinical practice in the pharmacotherapy domain, with a focus on methadone takeaway provision, and unplanned discharges from treatment. Both areas of practice are associated with high rates of mortality/morbidity, with methadone takeaway doses in particular a recent focus of the Coroner's Court. Drug Health Services hopes to contribute to the evidence base of safe clinical practice in this area.

OUR RESEARCH

Evaluation of thiamine utilization at Western Health: reviewing thiamine use in addiction medicine and upper GI surgical patients at Western Health

Researcher: Michael McDonough

Collaborators: Samuel Law

Addiction, co-morbidity & chronic disease management: a QA assessment of the implementation of a CDM approach to care for patients with complex addiction and co-morbid disease referred to Drug Health Services

Researcher: Michael McDonough

Collaborator: Josh Geraghty

Western Health AOD Screening Project

Researcher: Michael McDonough

Number of Researchers & Students:
Researcher: 1; Students: 2

OUR RESEARCH OUTPUT

Number of Projects: 3

General Medicine

Head of Department: Professor Edward Janus

SUMMARY OF RESEARCH ACTIVITIES

A number of earlier research projects have progressed in 2014. Under the leadership of Professor Janus a pilot study of epigenetic factors in gestational diabetes has been completed and a larger study is planned with substantial Western Health patient numbers.

A/Prof Harin Karunajeewa has begun a five-year NHMRC Career Development Fellowship. He has been working with a multidisciplinary team to develop capacity in health outcomes research as it applies to the internal medicine population, now predominantly elderly with high complex multi-morbidity rates. This research aims to use individual patient data contained in our existing hospital data systems to explore determinants of key outcomes of hospitalization, including those related to health economics (clinical costing) and health services burden (LOS, readmission risk).

OUR RESEARCH

Preventing diabetes in pregnancy from progressing to Type 2 diabetes: Macro-level system change in South Australia and Victoria

Researchers: Edward Janus, Peter Ebeling

Collaborators: Dunbar JA, Best JD, Carter R, Oats J, M Ackland, Victorian and South Australian Governments.

In an NHMRC Partnership Grant Professors Janus and Ebeling are working on a gestational diabetes register to ensure long-term follow up and an intervention (MAGDA) to decrease progression of GDM mothers

to Type 2 diabetes. Recruitment of almost 600 subjects for the lifestyle intervention vs usual care has now been completed. The trial results should be available by mid-2015.

EPI-FIND - Epigenetic Factors in Diabetes

Researchers: Edward Janus, Peter Ebeling

Collaborators: University of Melbourne and Deakin University colleagues

A spin off project currently underway to identify epigenetic (environmental) effects on gene expression in the development of diabetes during pregnancy. Subjects are drawn from Western Health Gestational diabetes and non-gestational diabetes clinics. The pilot study showed differences between a number of groups and funding is now being sought from NHMRC for a larger study with substantial input from Western Health.

Prevalence of factors that influence prescribing of key therapies at discharge following acute coronary syndrome

Researchers: Kevin McNamara, Eva Hoff (Monash University's College of Pharmacy), Edward Janus and Harin Karunajeewa

Collaborators: Rochelle Gellatly, Rohan Elliott, Karen Sanders, Melanie Welsh, Danny Lay, Susan Poole and Omar Farouque

An earlier Western Health study led to a collaboration with Monash University's College of Pharmacy on a multi-centre study of prescribing practice for acute coronary syndromes under Cardiology and General Medicine units at four hospitals. This showed a high degree of

compliance to best practice in General Medicine at Western Health. This study has been completed and analysis and reporting is underway.

Number of Researchers & Students: Researchers: 7; Student: 1

OUR RESEARCH OUTPUT

Number of Projects: 7
Publications: 13
Presentations: 12

OUR AWARDS AND GRANTS

NHMRC Partnership Grant

Dunbar JA, Best JD, Janus ED, Carter R, Oats J, Reddy P, Carnie J and Phillips P, Ebeling PR

Preventing Diabetes in Pregnancy from Progressing to Type 2 Diabetes: Macro-Level System Change in South Australia and Victoria: \$1,292,000 (2010-2015)

NHMRC Project Grant

Dunbar JA, Carter RC, Janus ED, Lo SK, Reddy P, Vartiainen E

Lifel vs Usual Care in Diabetes Prevention: a Critical Evaluation: \$833,125 (2009-2014)

NHMRC Career Development Fellowship

Karunajeewa H: \$250,000: (2014-2019)

Western Health Research Grant

Karunajeewa H

Clinical research at Western Health for a study of a novel technology for microbiomic analysis of stool and sputum specimens: \$10,000



Research into aged care is an integral part of the Geriatric Medicine Department's work.

Geriatric Medicine

Head of Department: Associate Professor Jenny Schwarz

SUMMARY OF RESEARCH ACTIVITIES

Research into aged care is an integral part of the Geriatric Medicine Department's work. A particular focus is the area of integrating research into clinical practise, facilitated by reviews of literature and high representation of the department in key clinical committees.

Generating new knowledge in the under-researched field of squalor and hoarding continues in work led by Dr Sook Meng Lee. In 2014, preparatory work on the ASPIVLU study began - led by Monash University, which involves the western wound clinic. Staff were active in professional committees, including the ANZSGM state branch (Dr Schwarz) and the ANZSGM ASM Melbourne, which was an outstanding success, and co-convened by Dr Daparin.

The department welcomed Dr Michelle Lai- an active researcher and recipient of an Australian Post Graduate Award in 2014, and Dr Cila Haywood, who is undertaking pioneering work in management of obesity in the elderly, through her PhD with Austin Health and the University of Melbourne. Dr Stephanie Ward continued work on four NHMRC projects in 2014, including the Western affiliated ASPIVLU and received funding for a fifth project starting in 2015. The range of projects include prevention of cognitive decline, falls and fractures and disability in the elderly.

OUR RESEARCH

Squalor and Hoarding

Researcher: Sook Meng Lee

Dr Sook Meng Lee's work has focused on squalor and hoarding- including characterisation of cognitive profile and strategies to manage. This work into an under-researched field has been directly informed by serving the Western health community.

Mechanical Restraint Use in the Elderly

Researchers: Madeleine Healy, Mark Johannesen

This is an audit of the use of restraints among elderly hospitalized patients at Western Health. Minimizing the use of restraints, and ensuring their use is appropriate and reviewed is an organisational goal aligned with patient safety and patient-centred care. This work will be very helpful in understanding patterns of restraint use among the elderly in our hospital.

Aspirin in venous leg ulceration - an RCT (ASPIVLU)

Researchers: Elizabeth Daparin, Stephanie Ward

Collaborator: Monash University

This study began in 2014. It will be the largest randomised controlled trial to investigate the role of 300mg daily aspirin on time to healing of chronic venous leg ulceration. Chronic venous leg ulcerations with prolonged healing times are a common burden for many people in our community. The ulcerations have a substantial effect on quality of life. Some studies suggest aspirin may promote healing- but this needs to be tested rigorously in a well-designed RCT. The Western Health wound clinic will be involved, and Dr Stephanie Ward is a chief investigator.

OUR RESEARCH OUTPUT

Number of Projects: 8

Publications: 5

Presentations: 5

OUR AWARDS AND GRANTS

NHMRC Project Grants

Elizabeth Dapiran

Aspirin for venous ulceration randomised controlled trial: \$750,000 (2014-2017)

Western Region Aged Care Foundation

Sook Meng Lee

Hoarding and Squalor project: \$40,000 (2014)

NHMRC Project Grants

Stephanie Ward

Study of Neurocognitive Outcomes Radiological and Retinal Effects of Aspirin in Sleep Apnoea: \$850,000(2012-2016)

Other Collaborations

ASPREE Fractures and Falls Substudy: \$1,200,000 (2014-2017)

Aspirin for venous ulceration randomised controlled trial: \$750,000 (2014-2018)

ASPREE NEURO study: Aspirin and Cerebral Microhaemorrhages: \$875,000 (2015-2018)

Statins in reducing Events in the Elderly (STAREE): \$5,100,000 (2014-2018)

Infectious Diseases

Head of Department: Associate Professor Garry Lane

SUMMARY OF RESEARCH ACTIVITIES

Research has been undertaken by junior staff within the unit (supervised by senior staff) as well as by senior staff in collaboration with other units and other institutions. Research has focused on clinical areas of interest frequently encountered by the unit, as well as having a safety and quality aspect. Inter-unit and external research has been collaborative but directly related to the interests of Western Health patients.

Research projects have investigated diabetic feet, febrile neutropenia management and management strategies of invasive fungal infections. Several audits have been done relating to antimicrobial stewardship within the health service. Clinical initiatives from these projects include a new febrile neutropenia management pathway (procedure) incorporating an outpatient-based pathway for low risk persons, review of the diabetes foot service care provisions, and evaluation and introduction of several initiatives regarding antimicrobial stewardship.

Future research objectives include involvement in more collaborative research with external parties offering direct benefit to infection-related problems that Western Health patients experience. Opportunities exist in antimicrobial stewardship, management of MRSA bacteremias, and several areas of research by the national ID Society (ASID) - including TB management, diabetic foot infection management and treatment of resistant gram negatives and urosepsis.

OUR RESEARCH

A review of Right sided Infective Endocarditis in Injecting Drug Users

Researchers: Ohide Otome, Garry Lane, Stephen Guy, Adrian Tramontana

Collaborator: Harin Kuranajeewa

Introduction of an Interdisciplinary Diabetes Foot Service and the effect on Inpatient Length of Stay

Researcher: Stephen Guy

Collaborators: WH Podiatry, Endocrine & Vascular Surgical units.

CAMERA-2 - Combination Antibiotic therapy for Methicillin Resistant Staphylococcus Aureus - Australian multi-site study for management of MRSA infection

Researchers: Stephen Guy, Adrian Tramontana

Collaborators: ASID CRN, Dr Steven Tong and Josh Davies

Number of Researchers & Students: Student: 1

OUR RESEARCH OUTPUT

Number of Projects: 9

Publications: 5

Presentations: 3

Joseph Epstein Centre for Emergency Medicine Research

Head of Department: Professor Anne-Maree Kelly

SUMMARY OF RESEARCH ACTIVITIES

The Joseph Epstein Centre for Emergency Medicine (JECEMR) conducts clinical research in emergency medicine and pre-hospital care, with the primary aim of informing or changing the management of emergency department patients. Its research interests are broad with key themes of acute cardiology, blood gases in clinical care, clinical therapeutics and knowledge translation. The Centre works closely with the three emergency departments of Western Health at the Footscray, Sunshine and Williamstown Hospital campuses. We also host Scholarly Selective research students from The University of Melbourne undertaking the Doctor of Medicine course.

As well as local projects we act as the co-ordinating centre for collaborative projects with research partners in most Australian states, New Zealand, Singapore, Malaysia, Hong Kong and Europe.

In 2014 our projects focused on:

1. Asia, Australasia and New Zealand Dyspnoea in the Emergency Department Study (AANZDEM Study)
2. Arterial and venous blood gas agreement in ICU patients with hypotension
3. Peripheral intravenous catheters in the emergency department: Rates of insertion, use and infection
4. Sensitivity of proposed clinical decision rules for subarachnoid haemorrhage
5. Validation Of Criteria To Predict 30-day Intervention In Emergency Department Patients With Renal Colic

OUR RESEARCH

The Australia, Asia and New Zealand Dyspnoea in Emergency Departments Study (AANZDEM)

Researchers: Anne-Maree Kelly, Sharon Klim and the AANZDEM Study Steering Group

Collaborators: National and International Health Services

The AANZDEM study is a multinational study of shortness of breath in adult patients presenting to emergency departments. This study is coordinated by the JECEMR and the Chief Investigator is Professor Anne-Maree Kelly. More than 40 sites from Asia, Australia and New Zealand are participating in the study.

The study takes the novel approach of looking at a problem from the point of view of a symptom (dyspnoea) rather than a diagnosis. It collected data on all adult patients presenting with shortness of breath as their main symptom in three, 72-hour time windows in May, August and October 2014. We will be able to explore the epidemiology and outcome of dyspnoea, inter-regional variation and compliance with treatment guidelines. We also hope to compare our data with similar European data to further explore variations in practice and outcome.

Peripheral intravenous catheters in the emergency department: Rates of insertion, use and infection

Researchers: Daniel Rawicki, Anne-Maree Kelly, Sharon Klim, Peter Ritchie

Peripheral intravenous catheters (PIVC) are commonly used in emergency departments (ED). A recent study reported that approximately 50% of PIVC are not used in the ED and overall 44% of PIVC are not used for a clinical purpose within 72 hours of insertion.

Our aim was to validate those findings, explore predictors of PIVC insertion and use and determine the rate of Staph. Aureus bacteraemia (SAB) associated with PIVC insertion in ED.

Sixty six per cent of patients had a PIVC inserted, of whom 36% were not used within 48 hours. No SAB infections were identified.

Arterial and venous blood gas agreement in ICU patients with hypotension

Researchers: Daniel Hynes, Anne-Maree Kelly, Craig French, Sharon Klim, Samantha Bates

This study aims to evaluate arteriovenous (AV) agreement of blood gas parameters (pH, bicarbonate, base excess, lactate) in patients with varying degrees of circulatory failure. In critically ill patients with varying degrees of hypotension under ICU treatment, there is clinically acceptable AV agreement for the values of pH and bicarbonate. AV agreement for base excess and lactate deteriorate in hypotensive patients.

Number of Researchers & Students:

Researchers: 3; Students: 2

OUR RESEARCH OUTPUT

Number of Projects: 5

Publications: 28

Presentations: 18

OUR AWARDS AND GRANTS

QEMRF Project Grant

Anne-Maree Kelly, Gerben Keijzers

The Australia, Asia and New Zealand Dyspnoea in Emergency Departments Study: 90,000(2014)

Nephrology

Head of Department: Associate Professor Craig Nelson

SUMMARY OF RESEARCH ACTIVITIES

In 2014, the Department of Nephrology at Western Health began the start-up process for several multicentre international trials exploring new therapies for diabetic nephropathy, and anaemia complicating kidney disease.

Researchers in the department have continued to participate in national trials co-ordinated by the Australasian Kidney Trials Network.

The Primary Care project eMAP CKD:VIC a collaborative project between WH/KHA/NHV/MRNWML/DOH-Vic funded by the Department of Health in Victoria Renal Health and Aboriginal Health Clinical Networks, continued in 2014 with 22 Primary Care practices recruited and more than 300,000 patients. Progress presentation of the interim results at the 50th ASM of ANZSN, was the runner-up for the Kidney Health Australia Research Award. Collaboration with the University of Queensland, using the tools developed in this pilot, has resulted in a successful NHMRC Grant application to establish a National Chronic Kidney Disease Centre for Research Excellence.

A/Prof Solomon Cohny received the 2014 Ian McKenzie Prize for Outstanding Contribution in Transplantation by the Transplantation Society of Australia and New Zealand, recognising his outstanding contribution to the field of Renal Transplantation; we congratulate him for this achievement.

OUR RESEARCH

EMAP-CKD VIC: Electronic Mapping and Assistance to Primary Care in CKD Detection and Management in Victoria - A Pilot project

Researcher: Craig Nelson

Collaborators: Department of Health Victoria/KHA and HNV/KHA/MRNWML

This project aims to detect unrecognised CKD in the community and provide management strategies via outreach from the health service to primary care using electronic processes, to improve CKD care in Primary Care.

HUG Project - Home dialysis Utilizing Telehealth Guidance

Researcher: Craig Nelson

Collaborator: Department of Health Victoria

This project aims to increase support and monitoring of patients by using telehealth solutions to enable patients to safely perform home dialysis.

The IMPROVE-CKD trial: A randomised, double-blind, placebo-controlled trial to assess the effect of phosphate reduction with lanthanum carbonate on arterial compliance and vascular calcification in patients with chronic kidney disease stages 3-4

Researcher: Craig Nelson

Collaborator: Australasian Kidney Trials Network

This project aims to test if phosphate binders not containing calcium have an impact on vascular calcification before the start of dialysis therapy.

Number of Researchers & Students: Researchers: 13

OUR RESEARCH OUTPUT

Number of Projects: 10

Publications: 7

Presentations: 4

OUR AWARDS AND GRANTS

NHMRC Centre for Research Excellence

A/Prof Craig Nelson

Chronic Kidney Disease Centre for Research Excellence: \$2,500,000 (2014-2020)

Department of Health Victoria - RHCN Enhancing Home Dialysis Project Grant

A/Prof Craig Nelson

HUG Project - Home dialysis Utilizing Telehealth Guidance: \$250,000 (2010-2014)

Roche Research Grant

A/Prof Craig Nelson

EMAN-Anaemia Pilot Project: An Open Labelled Randomised Control trial of the synchronized Electronic Management of Anaemia in Chronic Kidney Disease (CKD) compared to Usual Care Anaemia Management: \$385,000 (2010-2014)

Department of Health Victoria - RHCN and Aboriginal Health Project Grant

A/Prof Craig Nelson

EMAP-CKD VIC: Electronic Management and Assistance to Primary Care in CKD Detection and Management in Victoria - A Pilot project: \$560,000 (2013-2015)



In 2014, the Department of Nephrology at Western Health began the start-up process for several multicentre international trials exploring new therapies for diabetic nephropathy, and anaemia complicating kidney disease.

Neurology

Head of Department: A/Prof Zelko Matkovic

SUMMARY OF RESEARCH ACTIVITIES

In 2014 the Western Health Neuroscience Research Unit has been very active in clinical research including stroke and multiple sclerosis. It has been a busy recruitment period for many international, randomised, double blind trials, including 14 acute stroke clinical trials.

We have and continue to pursue strong collaborations with units in the Asia Pacific region, Sri Lanka and India in particular. The research unit received distinguished scientists from Harvard Medical School Stroke Unit, Yale University (USA), Victoria University, University of Melbourne and University of Colombo, Sri Lanka. These visits have given genesis to new collaborative projects.

We plan to embark on several research projects in the Western region in 2015. Stroke Trigger factor study; Post Stroke Sexual Dysfunction Survey; University of Melbourne-University and Colombo Stop Stroke Study; TIA and minor strokes and the feasibility of a shared management in the primary care setting; Western young stroke survey; Study of central neuropathic pain; Peripheral neuropathic pain; Seizures in the elderly; Neurologic deterioration after stroke.

We are in the process of beginning an innovative research collaboration with the biomedical research group which includes Faculty of Engineering, University of Melbourne, Department of Neurosciences, La Trobe University, Department of Physics, La Trobe University with a view to designing a tool set to detect irregular heart beat with a low cost accelerometer device and to design a low cost system to study the retina by a retinal photography.

We are one of the leading stroke research groups in Australia in the field of neuropsychology in acute and post-acute stroke through our strong collaborative network with neuropsychology researchers. We plan to systematically study the effects of cognition after mini-stroke, and its correlation with arterial stiffness through our collaboration with a lead research group at Swinburne University, Victoria.

A neuroimmunology Fellowship was established in 2014 to facilitate research in this field.

We will continue to foster local collaborations with the leading academic institutions so that clinical research in neurosciences in the western region is further enhanced.

OUR RESEARCH

Stroke imAging pRevention and Treatment (START) - EXTEND & PREPARE STUDY

Researchers: Tissa Wijeratne, Zelko Matkovic, Hans Tu, Cynthia Chen, Anthony Fok, Trudy Tran

Collaborators: Geoff Donnan, Stephen Davis, Bruce Campbell, Mark Parsons

We are looking at ways to treat more patients with acute ischemic stroke by using new brain imaging in order to further reduce the disability and to promote better brain health among stroke patients.

Tenecteplase versus Alteplase for Stroke Thrombolysis Evaluation (TASTE) Trial

Researchers: Tissa Wijeratne, Zelko Matkovic, Hans Tu, Cynthia Chen, Anthony Fok, Trudy Tran

Collaborators: Mark Parsons, Chris Levi, Geoff Donnan, Stephen Davis, Bruce Campbell

A new thrombolytic agent, TNK has more clot specificity and is likely to canalise more blocked blood vessels in acute ischaemic stroke. It is being studied in a large randomizing study.

AFFINITY STUDY

Researchers: Tissa Wijeratne, Zelko Matkovic, Hans Tu, Cynthia Chen, Anthony Fok, Trudy Tran

This is the only pharmacological trial in acute stroke rehabilitation that aims to improve long-term outcome after stroke.

Number of Projects: 11
Publications: 10
Book Chapters: 4
Presentations: 9
Number of Researchers & Students: 5

OUR AWARDS AND GRANTS

Novartis Neuroimmunology Fellowship Grant

Professor Tissa Wijeratne: \$33,000.00: To establish the MSBase arm at Western Health

Young Investigator Award:

Dr Sandra Petty: Epilepsy Society of America

Nursing and Midwifery

Associate Professor Denise Patterson
Professor Paul Bennett (Western Health Deakin Nursing Research Centre)

SUMMARY OF RESEARCH ACTIVITIES

Our nursing and midwifery research program has grown strongly during 2014 with an increased number of research projects and outputs. Clinical nursing research has continued with partnerships from Victoria University, Deakin University and Melbourne University.

Significantly, Western Health and the Deakin University School of Nursing and Midwifery initiated the Deakin University – Western Health Nursing Research Centre with Foundation members Professor Paul Bennett, Associate Professor Cate Nagle and Dr Wei Wang. The Centre will involve a five-year partnership and it will build on Western Health’s strong nursing and midwifery research achievements. The Centre will enhance Western Health’s nursing and midwifery research capacity, develop new knowledge and translate knowledge into clinical practice.

OUR RESEARCH

Development of a Breastfeeding Resource for Vietnamese speaking women

Researchers: Cate Nagle, Christine Kerr, Marieta Pring

Collaborator: Deakin University

The need for culturally and linguistically appropriate resources to support Vietnamese women to breastfeed is well recognised and consumer participation is integral to this process. A resource package has been developed as a 30-minute film with 10 modules that can be hosted on a variety of platforms. The film is in Vietnamese with English subtitles and there is an accompanying booklet written in Vietnamese with English on the opposing pages.

An evaluation of the Phase 3 STRIPE Simulation Based Education Program

Researchers: Debra Kerr, Janet Beer, Clare Holdsworth

Collaborator: Victoria University

This program was part of a larger ‘Achieving the Best in the West’ project, in which Western Health participated in 2012. STRIPE 3 was an inter-professional education program developed as a pilot for professional-entry students and new graduates from nursing and physiotherapy using the SLE. The primary aim of this project will be to explore the opinions of undergraduate students from nursing and physiotherapy regarding their experiences while enrolled in the ‘Stripe 3 Program’. Analysis is in progress.

Linking sub-acute care to community support services: A carer focused intervention

Researchers: Anita Panayiotou, Kath Gosetti, Debra Kerr

Collaborators: Victoria University, Carers Victoria

Given the ageing population and age-related increased level of disability along with growth in numbers of older people living in the community, there is a great deal of strain being placed on the healthcare system and informal supports. Improved awareness of government-funded support programs and community care entry points will ensure formal services continue to play an effective role in early intervention and coordinated support for growing numbers of carers.

Primary Aims:

- › To improve the awareness of community support programs for people providing care to Western Health sub-acute inpatients.

- › To increase access and engagement with community support programs by carers.

Number of Researchers & Students:
 Researchers: 13; Students: 5

OUR RESEARCH OUTPUT

Number of Projects: 33
Publications: 17
Presentations: 22

OUR AWARDS AND GRANTS

Diabetes Australia (DART)

PMary Carolan-Olah, Cheryl Steele

Lord Mayor Charitable Fund

Food for thought: Eating for your baby (2014): \$59,000 (2012-2015)

Mary Carolan-Olah, Cate Nagle, Nigel Stepto, Cheryl Steele, Padaphet Saykahot

Growing a healthy baby: getting the balance right in pregnancy: \$49,849 (2015-2017)

Deakin University Alfred Deakin Postdoctoral Research Fellowship

Paul Bennett, Chair Translational Nursing

Improving the physical function of people with end stage kidney disease on dialysis: \$75,000

Deakin University Quality Patient Safety Grants

Paul Bennett, Chair Translational Nursing

Patient and family experience of participation in inter-professional rounds on acute inpatient medical wards: \$46,716

Oncology/Haematology

Head of Department: Professor Michael Green

SUMMARY OF RESEARCH ACTIVITIES

As a founding member of Cancer Trials Australia and a partner in the Victorian Comprehensive Cancer Centre in Parkville, Western Health has long been recognised as an important provider of Cancer Care to Victorians. We hold partnerships across industry and with collaborative research groups representing a number of cancer streams.

2014 was a year marked by growth and transition for the team in Cancer Research across to Sunshine Hospital. With 35 studies open to accrual over 2014, covering the spectrum from Pilot through Phase 1-3b and across diverse tumour streams, we recruited 109 patients to clinical trials.

Thanks to the hard work and rising national and international profiles of our investigators we have seen a marked increase in the availability of front-line targeted therapy trials for our patients.

The on-going, ground-breaking research being driven out of Associate Professor Peter Gibbs' laboratory at the Walter and Eliza Hall Institute and led by Dr Jeanne Tie, has continued to prove that Western Health is a leader in the field, in terms of recruiting to trials that have the potential to change practice in the field of colorectal cancer medicine and the larger oncology domain.

From a governance perspective, Cancer Research at Western Health has led the way in the move to a "paper-free" trial unit by participating in the testing of the new SiteDocs Portal. Therefore, we became one of the first research units in Australia to introduce this portal to manage our essential research documentation. The process will speed up the routine governance activities related to trial administration and greatly reduce the use of paper and associated consumables.

OUR RESEARCH

XGEVA - A Randomized, Double-blind, Multi-Centre Phase 2 Trial of Denosumab in Combination with Chemotherapy as First-Line Treatment of Metastatic Non-Small Cell Lung Cancer

Researcher: Dishan Gunawardana

Collaborator: Amgen

This study will assess whether the addition of Denosumab (normally used to treat bone disease in cancer patients) provides any additional benefit to survival when given in combination with standard chemotherapy to patients with metastatic lung cancer.

Gilead 125 - A Phase 3, Randomized, Double-Blind, Placebo-Controlled Study Evaluating the Efficacy and Safety of Idelalisib (GS-1101) in Combination with Bendamustine and Rituximab for Previously Treated Indolent Non-Hodgkin Lymphomas (Gilead 125)

Researcher: William Renwick

Collaborator: Gilead

This study will evaluate whether adding in Idelalisib and Bendamustine to Rituximab provides clinical benefit to patients that have already had many different lines of treatment for their lymphoma.

CLASSIC - a prospective randomised study of ctDNA in guiding adjuvant therapy for stage II colon cancer

Researcher: Jeanne Tie

Collaborator: WEHI

This study will assess whether measuring circulating DNA from peripheral blood samples can assist in making decisions about treatment for newly diagnosed patients with colorectal cancer.

Number of Researchers & Students: 29

OUR RESEARCH OUTPUT

Number of Projects: 44

Publications: 34

Presentations: 41

OUR AWARDS AND GRANTS

WCMICS Funding Program

Catherine Oakman

Oral Chemotherapy Clinic - improving education and care for cancer patients: \$131,004.65 (2014)

WCMICS Funding Program

Meron Pitcher

Partnering with local community health organisations to provide rehabilitation to cancer survivors: \$120,868.52 (2014)

NHMRC Project Grant

Gibbs P, Tie J, Vogelstein B

Circulating tumour DNA (ctDNA) to guide adjuvant chemotherapy and surveillance strategies in patients with stage II colon cancer: \$1,184,000 (2015-2019)

NHMRC Project Grant

Putocski T, Luwor R, Griffin M, Gibbs P, Vogelstein B

Improving targeted therapy for colorectal cancer: \$936,199(2014)

Victorian Cancer Agency Early Career Seed Grant

Jeanne Tie

Circulating Cancer DNA as a Blood Biomarker of Prognosis and of Chemotherapy Benefit in Patients with Advanced Colorectal Cancer: \$200,000(2014-2016)

Orthopaedics

Head of Department: Mr Phong Tran

SUMMARY OF RESEARCH ACTIVITIES

This year the aim of the research team has been focused on building research proficiencies by producing high impact research. This has been achieved by fully integrating research into the day to day patient care, mentoring and educating the medical staff and focusing on producing robust research results that are published in peer reviewed journals.

We have a productive, collaborative unit focused on embracing research and its infinite value to improving patient care. The Orthopaedic unit has the benefit of research-active consultants and medical staff. This has resulted in us supporting many projects and five scholarly selective medical students. The results have been very positive. Fourteen papers were presented at the Annual Orthopaedic Scientific meeting, some papers were presented at international meetings and several other projects were presented at state orthopaedic meetings. Three papers have been published and several more are in draft for paper review early next year.

The team is led by the head of Unit Mr Tran and his research team, research intern Tina Pham, Co-ordinators Shelley Nugent-Westgarth, Sabah Saad and Research Manager Rebecca Cordingley. In 2015 we look forward to the addition of a Research Data Manager Oren Tirosh.

The focus for 2015 is to continue to build high impact research projects, improve data quality and productivity, which will produce a robust research reputation for Orthopaedic clinical care in the West.

OUR RESEARCH

RCT: Tranexamic acid use in total hip replacement.

Researchers: Andrew Fraval, Phong Tran

Collaborators: Nursing staff, Theatres and anaesthetics

Postoperative complications can cause severe long-term problems for a patient's quality of life. They can also lead to large financial costs. We are looking for clinical pathways to improve positive patient outcomes and quality of life.

RCT: Chronic Scaphoid Fractures

Researchers: Cameron Muirhead, Andrew Fraval, Joseph Paiva, Vahid Master, Adrian Talia, Duy Thai

Collaborator: Northern Health

This trial analyses two rehabilitation techniques for non-union scaphoid fractures and their impact on early mobilisation and union.

RCT: The use of CAM walker following ORIF of lateral malleolar ankle fractures

Researchers: Alex Beath, Sasha Roshan- Zamir, David Shepard

This research aims to compare removable orthosis over rigid plaster cast for immobilisation post ORIF. It will also examine other impacts including the patient's return to work, range of motion, and patient-reported outcomes and pain.

Number of Researchers & Students:
Researchers: 49; Students: 12

OUR RESEARCH OUTPUT

Number of Projects: 25

Publications: 2

Presentations: 14

OUR AWARDS AND GRANTS

Western Research Foundation

Commercial Grants: \$125,000

Paediatric Emergency Medicine

Head of Department: Dr David Krieser

SUMMARY OF RESEARCH ACTIVITIES

The number of children managed in the Paediatric Emergency Department at Sunshine Hospital has increased by approximately 16% over the last two years. According to a study conducted by Professor Freed from the Melbourne School of Global and Population Health, in Victoria, the greatest number of ED patients for any age band is in children 0-4 years. Sunshine has undertaken research with Professor Freed during 2014 as a follow up to the above study. This has included a study of the parents/carers of children in Triage Categories 3-5 describing why they had attended.

This study will lead to educational resources targeting the needs of our population.

Dr Cara Lacey has completed data entry on an international snapshot of the management of infants with bronchiolitis undertaken with Paediatric Emergency Research Networks (PERN). Dr Victoria Heaton has contributed to an Australia and New Zealand audit of children with Bell's (Facial Nerve) palsy via the PREDICT network. Ms Lee-att Green and Dr John Fitzgerald have collaborated on a case report to be submitted for publication. Dr Heather Deane is currently starting a collaborative Delphi study in order to establish the research priorities for Paediatric Emergency Medicine via the PREDICT network.

OUR RESEARCH

PREDICT research priorities: Establishing the Research Priorities of Paediatric Emergency Medicine Clinicians in Australia and New Zealand

Researchers: Heather Deane, David Krieser

Collaborators: John Cheek (Monash), Cate Wilson (PREDICT & MCRI), Franz Babl (RCH), Stuart Dalziel (Starship, NZ)

The importance of collaboration in acute care research has led to the development of a Delphi study that will explore research questions of paediatric emergency clinicians (consultants and fellows) across Australia and New Zealand. Although in the early stages, this study is already fulfilling some of its aims. It has brought together an "editorial team" from four centres in Australia and New Zealand. Modelled on similar processes in the USA, the UK and locally for general paediatricians, this study has the potential to set up the next 5-10 years of PEM research.

The diagnosis and management of children presenting with anaphylaxis to a metropolitan Emergency Department: A two-year retrospective case series

Researchers: Claire Nogie, Julie Belousoff, David Krieser

A retrospective case series was developed from January 2012 to December 2013 in the Emergency Department (ED) at Sunshine Hospital. Patient characteristics, potential causes, features of their presentation, treatment given and discharge destination were recorded. Ninety-five per cent of patients were classified correctly (according to definition by the Australian Society for Clinical Immunology and Allergy) as having anaphylaxis, and 94% were managed in the ED appropriately. Of the remaining children that were classified incorrectly, all were identified as having anaphylaxis prior to arriving in ED and were treated accordingly. A total of 77% of cases were related to food, and rash was the most common sign.

Presentation of children with conditions of low to moderate urgency at hospital emergency departments: Parental decision-making

Researcher: David Krieser

Collaborators: Caroline Nicolas; Gary Freed

This collaboration between the Melbourne School of Population Health, RCH, Northern Hospital, Box Hill and Sunshine Hospital (SH) is undergoing data analysis now. The data for SH are complete and are now being collated for comparisons. In our local

data, we found that two out of three children with non-urgent triage codes presented with illnesses rather than injury and that 45% presented with fever. 81% of 362 responses indicated that the parents/carers "trusted SH to take care of my child". 86% reported that "Sunshine Hospital ED can handle almost anything for children" although demonstrating our need for developing self-sufficiency. 78% of parents/carers stated that "for a serious condition I will take my child to the Royal Children's or Monash". This study also identified that a \$7 co-payment at either the GP or the ED would not alter presentations. 69% of the non-urgent presenters

were referred by a GP suggesting that they were not comfortable in managing the child in the general practice setting.

Number of Researchers & Students: Researchers: 5
Students: 5

OUR RESEARCH OUTPUT

Number of Projects: 6
Publications: 4
Presentations: 3

The number of children managed in the Paediatric Emergency Department at Sunshine Hospital has increased by approximately 16% over the last two years.



Pharmacy

Head of Department: Mr Kent MacMillan

SUMMARY OF RESEARCH ACTIVITIES

The Western Health Pharmacy Department has been actively involved in several important initiatives within the organisation. Several journal articles were published in 2014 about the safe handling by healthcare personnel of monoclonal antibodies for cancer treatment. This project between WCMICS and Peter MacCallum Cancer Centre aimed to develop and implement safe handling and distribution guidelines for hospital personnel.

The Senior Oncology Pharmacist received the Occupational Health and Safety award for her contributions towards the implementation of the Hazardous Drug-Cytotoxic Procedure. Working in the Day Oncology Unit, she identified the risk to staff when handling cytotoxic drugs and recognised the need for a written procedure for the health network. In collaboration with the Cytotoxic working party, the Hazardous Drug-Cytotoxic Procedure was implemented and successfully rolled out at Western Health in 2014.

The pharmacy department and Medication Safety Committee have been working together in identifying various medication related issues and implemented strategies in preventing medication errors. One of the significant achievements was the 'Time for Change – Safety Improvement to the Labelling and Packaging of Neuromuscular Blocking Agents' – a collaboration between the Quality Use Medicines Pharmacist and Western Health Department of Anaesthesia. This project has received endorsement from key state-wide and national medication safety bodies (see collaborators) that are fundamental in driving this imperative change.

Looking forward there are also several Pharmacy research projects that have been approved by Western Health Low Risk Ethics Committee and will be undertaken in 2015.

OUR RESEARCH

Time for change: Proposed safety improvements to the labelling and packaging of Neuromuscular Blocking Agents in Australia

Collaborators: The Victorian Therapeutic Advisory Group Quality Use of Medicines (Vic TAG QUM) group, Victorian Therapeutic Advisory Group (VicTAG), Australian & New Zealand College of Anaesthetists (ANZCA) Quality & Safety Committee, The Council of Australian Therapeutic Advisory Groups (CATAG), The Australian Commission on Safety and Quality in Health Care (ACSQH)

The aim of this research is to address concerns regarding the unsafe labelling and packaging of Neuromuscular Blocking Agents (NMBA's) and propose recommendations to the Therapeutic Goods Administration (TGA) to standardise packaging of this high-risk drug class in Australia.

Hazardous Drugs - Cytotoxic

Researcher: Karen Court

Collaborator: Cytotoxic Working Party

The document provides Western Health staff with the procedure for the safe handling of cytotoxic drugs and their waste. This procedure is important to ensure appropriate management and protection of the environment, staff involved in the handling, preparation and administration of the drugs and the person receiving the drugs.

OUR RESEARCH OUTPUT

Number of Projects: 2

Publications: 4

Presentations: 1

OUR AWARDS

Western Health Occupational Health and Safety Award

Karen Court

Hazardous Drugs- Cytotoxics Procedure

Rehabilitation Medicine

Head of Department: Dr Michael Ponsford

SUMMARY OF RESEARCH ACTIVITIES

The Department of Rehabilitation Medicine, a key member of the Division of Subacute and Aged Care Services, focuses on service development and clinical excellence through active participation in the Subacute Executive Peak Body Meeting, Health Round Table (HRT) and Australasian Rehabilitation Outcomes Centre (AROC). Other established partnerships include the National Ageing Research Institute (NARI), Registered Training Organisations (RTO), local programs and institutes such as Limbs4Life and community agencies including Medicare Locals.

Focusing on the prevention and reduction of functional loss, activity limitation and participation restriction arising from impairments, the management of disability in physical, psychosocial and vocational dimensions, and improvement of function, Rehabilitation Medicine utilises numerous clinical practice guidelines to inform service planning and optimise patient outcomes including:

- › Veterans Affairs/Department of Defence Clinical Practice Guideline for Rehabilitation of Lower Limb Amputation
- › Australian and New Zealand Guideline for Hip Fracture Care
- › Clinical Guidelines for Stroke Management - National Stroke Foundation

- › Improving the environment for older people in Health Services - an audit tool
- › Best care for older people everywhere - The toolkit
- › Australasian Faculty of Rehabilitation Medicine - Standards for Rehabilitation Service

As members of AROC and the Subacute Group within the HRT, Rehabilitation Medicine submits data to these external benchmarking bodies to facilitate review of service provision and comparison with peers in the region. Given this, an area of focus within the department is participation within, and contribution to, research. Research within Rehabilitation Medicine reflects the multidisciplinary nature of the service and its commitment to providing care that is evidence-based and person-centred while supporting patient flow and organisational access pressures. A focus on academic research and contribution to the body of knowledge in rehabilitation medicine will be a key objective in 2015 and beyond.

OUR RESEARCH

A review of an Amputee Rehabilitation Service to describe patient outcomes and evaluate its effectiveness in reducing acute length of stay at Western Hospital Footscray

Researchers: Ngoc Le, Melanie Reed, Hannah Furlong, Laurinda Ndenzako, Catherine Davey, Candice Poupard, Catherine Giuliano, Erin Mullins, Niloufar Mahdavi, Sian Cole

Sexuality after Stroke: Implementing Guideline 8.5

Researchers: Anne Renshaw

The effect of goal setting tools on the number and experience of goal setting in in-patient stroke rehabilitation.

Researchers: Anne Renshaw



*Rehabilitation Medicine
utilises numerous clinical
practice guidelines to inform
service planning and optimise
patient outcomes.*

Respiratory Medicine and Sleep Disorders

Head of Department: Dr Anne-Marie Southcott

SUMMARY OF RESEARCH ACTIVITIES

The Department of Respiratory and Sleep Disorders Medicine is a busy clinical service dealing with the diagnosis and management of patients with a broad range of respiratory and sleep disorders. It provides the state service for review of immigrants issued with Tuberculosis Health Undertakings by the Commonwealth Government.

Our research areas examine the services that we provide and seek to evaluate their effectiveness and efficiency, with the aim of improving our services and comparing them against others. We also undertake clinical trials sponsored by pharmaceutical companies to help develop new therapies for the treatment of respiratory diseases.

OUR RESEARCH

Treatment of latent tuberculosis (TB) in migrants to Victoria, Australia

Researcher: Michael Flynn

The objective of this research is to determine the proportion of eligible persons in the Migrant Screening Clinic who were tested for latent TB, offered treatment of latent TB, and completed treatment of latent TB during the years 1996-2006.

BAL in diagnosis of suspected pulmonary TB

Researchers: Anne-Marie Southcott, James Bartlett, Sanjeevan Murugunandan

Collaborators: John Hunt, Matthew Rodrigues, Shavita Kuckreja

This research is investigating the comparison of BAL vs bronchial washing in the diagnosis of suspected pulmonary TB at bronchoscopy.

Reliability of DLCO measurements at 2,4 and 6 minute time intervals in healthy normal subjects

Researcher: Lynnette Reid-Price

Collaborators: Georgette Mchaleh, Ceilito Samson, Lata Jayaram, Anne Marie Southcott

Currently the requirement to wait four minutes between each measurement when assessing gas transfer in the lung function laboratory lengthens the duration of the test. The aim is to see whether testing intervals impact on the test result.

Number of Researchers & Students: Researchers: 21

OUR RESEARCH OUTPUT

Number of Projects: 20

Publications: 6

Presentations: 6

OUR AWARDS AND GRANTS

Western Health Research Grant

A/Prof Lata Jayaram

Asthma Model of Care: \$10,000 (2014)

Rheumatology

Head of Department: Associate Professor Keith Lim

SUMMARY OF RESEARCH ACTIVITIES

The unit continues to study Osteoarthritis (OA) of the knees and hips through longitudinal follow up at the St Vincent's and Western Health campuses. We have analysed a section of the cohort, the original OMERACT cohort, looking at outcomes and progression to surgery. This is being submitted for presentation, and we hope to publish the results soon. We also completed our prospective study on epidural injections for radiculopathy. This will be presented at a regional meeting.

We completed a study with Matthew Jiang on anti TNF therapy in Rheumatoid Arthritis (RA), a database of patients has been completed. We are presenting the results of our pilot study in Knee OA using QST looking at the role of the placebo response in association with Prof Paul Dieppe.

Other projects awaiting completion are the Vietnamese translation of HOOs and KOOs questionnaires and the costing of rheumatology tests in inpatients and at outpatients.

We are finalising our protocols for management of knee and hip OA based on our study. We are working with our physiotherapy and orthopaedic counterparts to improve the management of patient flow with OA at Western Health. Clinical trials we were involved in include, RA and cimzia (use of questionnaires vs electronic record, UCB), IA hyalgan (Synvisc) in knee OA (Sanofi, Nick Bellamy).

Future research activities include the following:

1. Use of unloader bracing in medial compartment OA (grant from St Vincent's foundation \$10000)
2. RA and biological therapy
3. Ultrasound and knee OA
4. Role of cytokines and inflammatory molecules in synovial fluid in RA and OA to be conducted in collaboration with Prof John Hamilton, RMH
5. Clinical trials: Biosimilar infliximab in RA (ethics approved, pending local ethics Pfizer) , anti NGF in OA.

OUR RESEARCH

OA knee and Hip cohort

Researchers: K Lim, C Page, A Leung, C Dabere, K Le Marshall, T Pham

Collaborators: C Page, D Liew

Longitudinal outcome of OA managed conservatively. Understanding of progression, response to conservative therapy. Differences between knee and hip OA.

QST, IA placebo in Knee OA

Researchers: K Lim, A Leung, T Pham

Collaborators: C Page, P Dieppe

The research will examine the role of placebo injections in knee OA, and neuropathic pain. It aims to help us understand why and who responds to certain treatments, and why others don't do as well.

Epidural injections and radicular pain

Researcher: A Leung

Collaborator: D Liew

There is indication that it is worthwhile doing, and that we can help predict responses.

Number of Researchers & Students:

Researchers: 4; Students: 5

OUR RESEARCH OUTPUT

Number of Projects: 7

Publications: 1

Presentations: 4

Melbourne Neuropsychiatry Centre

Head of Department: Professor Christos Pantelis

SUMMARY OF RESEARCH ACTIVITIES

The Melbourne Neuropsychiatry Centre (MNC) is a clinical research centre of The University of Melbourne and Melbourne Health. It is based at three sites: (1) the National Neuroscience Facility (NNF), Alan Gilbert Building, Parkville; (2) the Neuropsychiatry Unit, Royal Melbourne Hospital, Parkville; (3) the Western Centre for Health Research & Education (Western CHRE), Sunshine Hospital.

The centre was established in 2004 and focuses on understanding the neurobiology of mental disorders from childhood to adulthood. More than 80 people work at the centre, including research staff, students and professional staff. The centre receives support from major grants from NHMRC and ARC (including, Program, Project, Enabling and collaborative grants with the EU, and Fellowships), as well as other national and international funding agencies. In 2014, the centre at WCHRE held \$10 million in direct grant funding from a total of 30 collaborative grants and has produced 68 publications.

The Psychosis and Developmental Neuropsychiatry stream seeks to understand the neurobiology of disorders emerging in childhood and adolescence, including autism and psychotic disorders, particularly schizophrenia and bipolar disorder. Our studies investigate these disorders longitudinally, and within the context of brain maturation. We seek to identify neurobiological and genetic markers of these illnesses related to onset of the illness or its progression. A major component of this work is undertaken

at Western CHRE, involving recruitment of patients with psychotic illnesses (including severe unremitting forms of schizophrenia), and studies in children with developmental disorders (including autism spectrum and children with schizotypal features).

The Affective Neuropsychiatry stream is interested in how the brain supports complex human emotional experiences and behaviours. This research is primarily focused on how alterations in normal function may contribute to common mood and anxiety disorders. We use fMRI in combination with experimental psychological approaches to study changes in the activity of brain networks. Since 2012, the group has established a base at Western CHRE and Sunshine Headspace, involving recruitment and treatment of young people with affective disorders and with brain imaging using the latest MRI scanning at Sunshine Hospital.

The Clinical Neuropsychiatry stream at RMH investigates the link between psychiatric and neurological disorders. A focus has been on the relationship of schizophrenia to frontal-temporal dementia (FTD), including recruitment of patients in the West.

Systems Neuropsychiatry is focused on the application of new methods to map the human connectome, to examine brain connectivity organisation and maturation and how brain connectivity is disrupted by mental illness. This is computationally demanding, requiring computer clusters for analysis.

OUR RESEARCH

Identifying neuroimaging biomarkers of psychosis onset and relapse

Researchers: Christos Pantelis, Vanessa Cropley, Andrew Zalesky, Bernhard Baune, James Olver, Paul Amminger, Andrew Scott, Christina Phassouliotis, Richard Banati, Graeme O'Keefe, Alex Fornito, Cynthia Shannon Weickert, Ian Everall, Sashin Kumar, Naveen Thomas, Dennis Velakoulis, Mario Jimenez-Alvarez, Barnaby Nelson, Uwe Ackermann, John Sachinidis, Gordon Chan

Collaborators: Austin PET Centre & Austin Hospital, Orygen Youth Health, Psychiatry Units at Sunshine Hospital, Murdoch Childrens Research Institute, Brain & Mind Research Institute, NSW, Department of Psychiatry, University of Adelaide, Neuroscience Research Australia (NEURA), Albert Road Clinic

This study uses sophisticated brain imaging to investigate brain inflammation. We are using positron emission tomography (PET) to label the brain's inflammatory cells, the microglia. We seek to understand if the progressive brain changes we first identified over a decade ago (with a seminal paper published in 2003 - Pantelis et al, Lancet) are explained in part by neuroinflammation.

To date, we have scanned over 55 participants, including patients at all stages of psychosis and schizophrenia as well as healthy controls.

The CRC Psychosis study - part of CRC for Mental Health; study examining patients with treatment-resistant schizophrenia

Researchers: Christos Pantelis, Ian Everall, Chad Bousman, Suresh Sundram, Christoffer Rahm, Samuel Lieblich

Collaborators: Neuroscience institutes involved in schizophrenia and neurodegenerative disorders in Melbourne (Florey Institute for Neuroscience & Mental Health) and Perth (QEI Medical Centre).

Patients with the most severe forms of schizophrenia are often referred to as having treatment-resistance. Many will be treated with clozapine, our most effective medication for this disorder and which is the drug of choice for TRS. However, this medication has a number of side-effects and only about 50% of TRS patients will respond to this drug. We are assessing a number of brain imaging, cognitive and blood biomarkers with the goal of identifying those who will respond to treatment.

Neural predictors of treatment response in youth depression

Researchers: Ben Harrison, Christopher Davey, Christos Pantelis, Patrick McGorry, Rebecca Kerestes, Chad Bousman, Katerina Stephanou, Sarah Whittle

Collaborator: Orygen Youth Health

In this study, we are using functional magnetic resonance imaging (fMRI) to characterise novel brain-based biomarkers of treatment response in young people with depression participating in a 12-week randomised clinical trial (RCT) of psychotherapy + medication versus psychotherapy + placebo. In doing so, this project will represent the largest cross-sectional study of brain function in young people with depression; the largest longitudinal study of treatment effects on the brain in this patient group; and the first neuroimaging study in depression to assess predictors of psychotherapy and medication in the context of a placebo-controlled RCT.

Number of Researchers & Students: Researchers: 22; Students: 12

OUR RESEARCH OUTPUT

Number of Projects: 10
Publications: 68
Presentations: 24

OUR AWARDS AND GRANTS

NHMRC Project Grant

Christopher Davey, Patrick McGorry, Andrew Chanen, Sarah Hetrick, K Yuen

Youth depression alleviation: a randomised controlled trial of cognitive behavioural therapy with fluoxetine or placebo: \$1,200,000 (2012-2017)

NHMRC-EU Grant

Patrick McGorry, Christos Pantelis

Gene - environment interactions as predictors of clinical outcome in the At Risk Mental State: \$997,875 (2010-2014)

NHMRC-EU Grant

Christos Pantelis, Patrick McGorry, Marc Seal, Chad Bousman, Aswin Ratheesh, Sashin Kumar.

Optimising current therapeutic approaches to schizophrenia: The OPTiMiSE consortium: \$979,375 (2010-2015)

NHMRC Project Grant

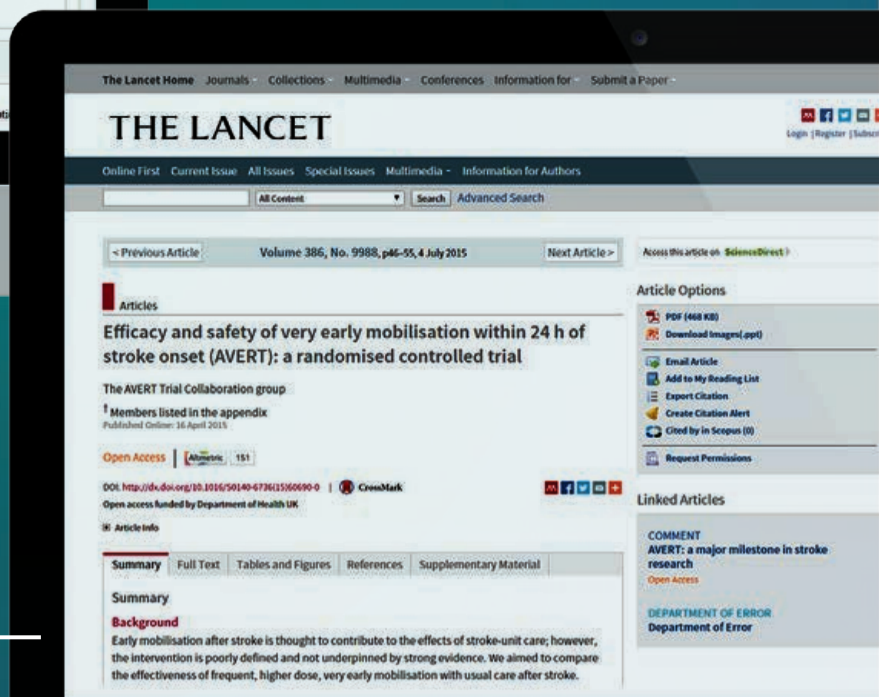
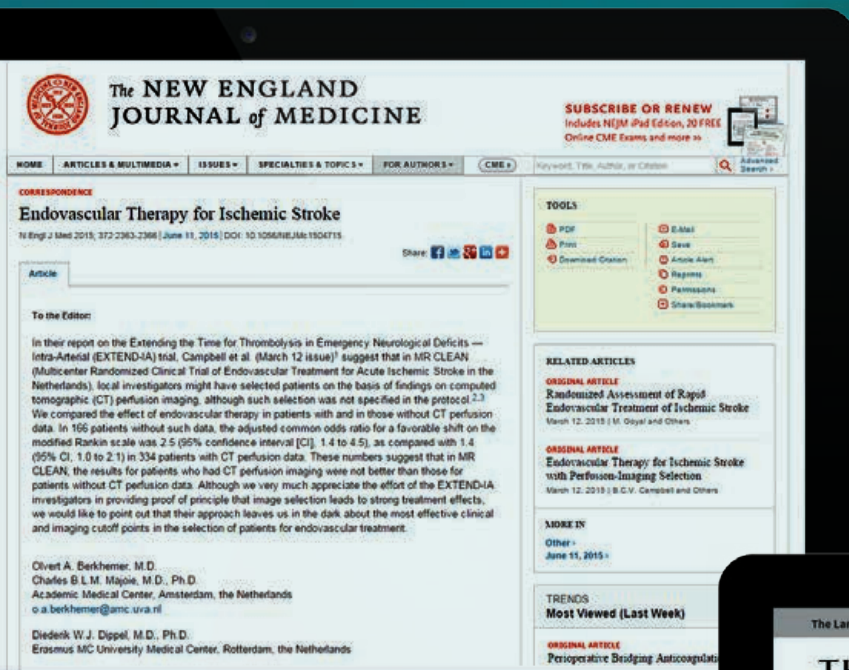
Fornito A, Bousman C, Zalesky A, Harrison BJ, Cropley V, Velakoulis D.

Dopamine, fronto-subcortical circuits and risk for schizophrenia: \$828,633(2013-2017)

Senior Principal Research Fellowship

Christos Pantelis

Understanding Brain Changes in Adolescence and Neuropsychiatric Disorders: \$841,250(2010-2014)



Research involving Western Health clinicians has received international recognition in the past year in prestigious journals including The Lancet and the New England Journal of Medicine.

University of Melbourne

FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES MELBOURNE MEDICAL SCHOOL - WESTERN CAMPUS

Head of Department: Professor Peter Ebeling (Jan-May 2014)

The University of Melbourne presence within the Centre for Research and Education (CHRE) at Western Health comprises the Melbourne Medical School - Western Campus who have responsibility for the care of medical students who come to Western Health for their clinical rotations. Students rotate through all specialty areas over three years, which follow some preclinical teaching at the Parkville campus. Clinical School staff work closely with medical and ancillary staff at both Sunshine and Footscray to ensure the curriculum is delivered. Students attend tutorials, are involved in ward rounds, theatre sessions, outpatient clinics and spend time on wards clerking patients. The other departments located at CHRE are the Department of Medicine and the Department of Surgery.

The Department of Medicine conducts high quality research into metabolic bone diseases, and chronic diseases common in the western suburbs of Melbourne, in particular osteoporosis and diabetes prevention. We are a multidisciplinary group who have extensive experience in the design and conduct of large-scale, clinical randomised controlled trials, and public health and translational research. Until the second half of 2014, the Department (and NWAC) was under the leadership of Professor Peter Ebling.

The Department of Surgery is involved in clinical teaching, research and post-graduate teaching programs. The teaching undertaken involves programs for Semesters 8, 9 and 12 students from the University of Melbourne. The fields of research in the Department of Surgery has mainly been in tumour biology of the gastrointestinal tract under the direction of Professor Steven Chan, who retired from his post at the end of 2014.

OUR RESEARCH

Dynapenic Obesity, Musculoskeletal and Cardiometabolic Health in Older Adults

Researchers: David Scott, Peter Ebeling

The Associations Between Characteristics of Sarcopenia, Vitamin D and falls in Community-Dwelling Older Adults

Researchers: David Scott, Peter Ebeling, Kerrie Sanders

Collaborators: Terry Haines (Monash), Pazit Levinger (VU), Elizabeth Skinner (Western Health)

Dynapenic Obesity, Musculoskeletal and Cardiometabolic Health in Older Adults

Researchers: David Scott, Peter Ebeling

Sarcopenia in Hip Fracture Patients

Researchers: David Scott, Peter Ebeling

Collaborators: Gordon Lynch (UoM), Noni Frankenberg (UoM), Phong Tran (Western Health)

FRACP Project undertaken for advanced training in general paediatrics

The VINE study: vitamin D in newborns: *A randomized controlled trial comparing daily and bolus supplementation in breastfed infants of vitamin D deficient mothers*

This study is now completed and has been presented as an oral presentation nationally. It will be presented internationally in June 2015, and manuscript preparation for publication is near completion.

Researchers

Dr Julie Huynh, Paediatric Advanced Trainee (WH); Dr Thao Lu, Neonatologist (WH), Professor Danny Liew, Epidemiologist and statistician, (UoM), Dr James Doery, Chemical Pathologist (Monash Health), Dr. Ronald Tudball R, Biochemist (Monash Health), Dr. Madeleine Jona, Paediatric HMO (WH), Dr Rosie Bhamshree, Paediatric HMO (WH), A/Professor Christine Rodda, Paediatric Endocrinologist (WH), Department of Paediatrics (UoM)

Collaborators

- › Clinical Trials Pharmacy Department, Western Health, Sunshine Hospital, St Albans Victoria, Australia. Ray Kong, Nhi Dinh and Lei Wei Ching
- › Women's and Children's Division, Sunshine Hospital, St Albans Victoria Australia
- › Dr Martin Wright (Head of Paediatrics)
- › Assoc Prof Glyn Teale (Head of Obstetrics and Gynaecology).
- › Prof Peter Ebeling, Former head of North West Academic Centre, Director, Department of Medicine, Monash University, Monash Medical Centre, Clayton Australia.

Number of Researchers & Students:

Researchers: 11; Students: 33

Number of Projects: 30

Publications: 83

OUR AWARDS AND GRANTS

Ian Potter Foundation

\$50,000 research equipment grant

A/Professor Peter Pivonka

Australian Defence Health Foundation

Computer game technology for calculating muscle and knee joint forces following knee reconstructive surgery: \$50,000.

Kingsley Mills Research Grant

Neuroplasticity and motor recovery following traumatic brain injury: \$50,000.

Western Region Aged Care Grant Scheme, Western Region Aged Care Inc.

Sanders K, Scott D, Vandelanotte C. - "Using technology to improve bone health in older people: A Pilot and Focus Group Study": \$15,000.00.

NHMRC Centre for Research Excellence in Sun and Health

M Klim, D Whiteman, R Lucas, C Sinclair, R Neale, P Ebeling, P Youl, L Gordon, MJada

NHMRC: \$2,379,750 (2010-2015)

NHMRC Project Grant(1022660)

A Carr, J Holy, P Ebeling, N Pocok

Strategic Biphosphate Therapy with Zoledronate or Tenofovir Switching to Improve Low Bone Mineral Density in HIV-Infected Adults: a Randomised Trial. NHMRC \$687,807 (2012-2014)

NHMRC Project Grant (1030371)

P Ebeling, G Borromeo, J Seymour

Does Teriparatide Reverse Osteonecrosis of the Jaw in Patients with Cancer? NHMRC: \$385,000 A RCT (2012-2014)

NHMRC Project Grant (104952)

J Said, P Murthi, P V Ignjatovic, PM Monagle

Understanding How Proteglycans in the Placenta Cause Restriction of Fetal Growth

NHMRC Project Grant (1042239)

J Said, P Murthi, P V Ignjatovic, PM Monagle, JM Whitelock, J Kingdom

Understanding the Role of Endogenous and Pharmacologic Glycosaminoglycans in Preventing Pre-Eclampsia NHMRC: \$500,146(2013-2015)

Faculty research Development Grant- University of Auckland

J said

The EPPI Trial. Exoxaparin for the Prevention of Pre-Eclampsia and Intrauterine Growth Restriction- A Pilot Randomised Controlled Trial. University of Auckland: \$109,372(2011-2014)

Saskatchewan Canadian Institute of Health Research Health research regional Partnership Program.

P Pivonka, J Clement, D Thomas, D Cooper

Age- and Sex- Related Changes in Cortical Bone Cellular Organisation across the Human Lifespan. SK-CIHR. Regional Partnership Program. \$100,000 (2013-2014)

OUR SCHOLARLY SELECTIVE MEDICAL STUDENT PROJECTS

CURRENT RESEARCH PROJECTS:

Chronic Disease Management for Addiction with related Co-morbidity.

Department: Addiction Medicine and Toxicology
Supervisor: A/Prof Mike McDonough
Student: Joshua Geraghty

Thiamine utilisation in undernourished patients at risk for Wernicke's encephalopathy: A review of clinical practice

Department: Addiction Medicine and Toxicology
Supervisor: A/Prof Mike McDonough
Student: Samuel Law

Peripheral intravenous lines in the Emergency Department setting, what percentage of lines end up being used?

Department: Emergency Medicine
Supervisor: Prof Anne-Maree Kelly
Student: Daniel Rawicki

Arteriovenous differences for pH, pCO₂ and HCO₃ in circulatory failure

Department: Emergency Medicine
Supervisor: Prof Anne-Maree Kelly
Student: Daniel Hynes

The accuracy of use and interpretation of urine culture analysis

Department: Infectious Diseases Unit
Supervisor: Dr Stephen Guy
Student: Andra Desra

Absolute or change in muscle mass and strength: predicting age-related decline in function

Department: Australian Institute of Musculoskeletal Science & Sports & Department of Medicine, NWAC
Supervisor: Dr David Scott
Student: Garang Dut

The supraspinal contribution of central sensitisation in shoulder impingement syndrome - a functional magnetic resonance imaging study.

Department: Department of Medicine, NWAC
Supervisor: Prof Peter Ebeling
Student: Sebastian Belfrage-Maher

The link between low bone density and vascular calcification

Department: Department of Medicine, NWAC
Supervisor: Prof Peter Ebeling
Student: Christopher Preston

Prevalence of Vitamin D deficiency in children and teenagers presenting with fractures to Sunshine Hospital

Department: Paediatrics
Supervisor: A/Prof Christine Rodda
Student: Dae Kwon

Investigation of differences in circulating thrombin generation in normal and pre-eclamptic patients by calibrated automated thrombogram (CAT).

Department: Obstetrics & Gynaecology
Supervisor: A/Prof Joanne Said
Student: Qin Qin

Evaluation of Cast-wedging in Paediatric both-bone forearm fractures

Department: Orthopaedics
Supervisor: Mr Abhay Khot
Student: Arun Bilgi

Glenoid position and associated complications following total shoulder arthroplasty

Department: Orthopaedics
Supervisor: Mr Richard Dallalana
Student: Ryan McMahon

The hospital cost of treating intracapsular neck of femur fractures: the Victorian experience

Department: Orthopaedics
Supervisor: Dr Lucas Annabell
Student: Danielle Matic

Intracapsular neck of femur fractures: the affect of premorbid status of hospital costs

Department: Orthopaedics
Supervisor: Mr Audi Widjaja
Student: Lillian Coventry

Retrospective review of outcomes of total knee replacements with development of prospective hospital registry

Department: Orthopaedics
Supervisor: Mr Simon Talbot
Student: Bulungo Mwilambwe

Clinically suspected intra-articular hip pathology confirmed with intra-articular injection despite normal MRI findings - What is the underlying pathology confirmed with arthroscopic surgery?

Department: Orthopaedics
Supervisor: Mr Phong Tran
Student: Joel Buikstra

Victoria University Centre for Chronic Disease

Head of Department: Professor Maximillian De Courten

SUMMARY OF RESEARCH ACTIVITIES

Service provided by our department is primarily teaching based and research orientated. Our research projects align with the mission of the Centre for Chronic Disease to understand major diseases such as cancer to enable improved treatments and outcomes for patients. Our primary focus of basic and preclinical cancer research aims to address these goals.

OUR RESEARCH

Development of Novel Therapeutics for Cancer Metastasis

Researchers: John Price, Chau Nguyen

Collaborators: Jackie Wilce (Monash University), Kara Britt (Peter MacCallum Cancer Centre)

This research aims to identify novel compounds that will inhibit the action of the transcription factor HSF1 in cancer cells thereby killing metastatic tumour cells.

Role of Stress Pathways in Bone Metabolism

Researcher: John Price

Collaborators: Jon Gooi (Melbourne Uni), Peter Pivonka (Melbourne Uni), Natalie Sims (SVI), Julian Quinn (Garvan Medical Research Institute)

This study aims to identify the impact of therapeutic agents upon bone metabolism and how stress pathways play a role.

Identification of Novel Molecular Mediators of Cancer Metastasis

Researchers: John Price, Chau Nguyen, Anthony Albiston, Greg Blatch

Collaborators: Kara Britt (Peter Mac)

The research aims to identify genes that are fundamental to the process of cancer metastasis and to determine their mechanism of action.

Number of Researchers & Students:

Researchers: 5 Students: 3

OUR RESEARCH OUTPUT

Number of Projects: 8

Publications: 3

Presentations: 0

OUR AWARDS AND GRANTS

AIMSS Seed Grant

John Price, Jonothon Gooi, Peter Pivonka, Natalie Sims

Impact of Molecular Stress upon Osteoblast Lineage Cell Function; Identification of HSF1 as a Novel Therapeutic Target in Pathological; Bone Loss: \$10,000(2014)

CRGS Victoria University

John Price

Blocking Stress Pathways to Improve Treatment for Metastatic Breast Cancer: \$26,820(2014)

OTHER RESEARCH PROJECTS

A Randomized, Double-Blind, Placebo-Controlled, Clinical Trial to Assess the Efficacy and Safety of 12 Weeks of Satiereal® Supplementation on Food Cravings and Preferences, Body Composition, Satiety and Appetite Regulatory Hormones, and Clinical Safety Markers in Overweight/ Obese Individuals

Researchers: Matthew Cooke, Christos Stathis

Collaborator: Nutraveris

The role of Fat Mass and Obesity-Association Gene on Metabolic Function

Researchers: Matthew Cooke and Christos Stathis

Collaborators: Metabolomics Australia

Role of Pak1/Rac1 in contraction-stimulated glucose uptake: interactions with nitric oxide.

Researchers: Andrew Betik, Glenn McConell

Nitric Oxide is Required for Increases in Insulin Sensitivity following ex vivo Contraction of Mouse Skeletal Muscle via cGMP/ PKG Independent Pathway

Researchers: Mary Xinmei Zhang, Danielle Hiam, Yet hoi Hong, Anthony Zulli, Alan Hayes, Stephen Rattigan, Glenn McConell

No effect of a lack of nNOS on the increase in insulin sensitivity after contraction

Researchers: Mary Xinmei Zhang, Glenn McConell

Role of nitric oxide in stretch-induced glucose uptake

Researchers: Jarrod Kerris, Andrew Betik, Mary Zhang, Glenn McConell

The acute effects of nitrate, nitrite and nitric oxide on glucose uptake during ex-vivo muscle contraction

Researchers: Scott Betteridge, Mary Zhang, Glenn McConell

Developing a rat model of dynapenic obesity

Researchers: Alan Hayes, Erik Hanson, John Tarle, David Scott

Neuroprotective effects of resveratrol in colitis

Researchers: Giang Lam, Simona Carbone, Anthony Zulli, Kulmira Nurgali

The role of MasR in mesenchymal stem cell proliferation

Researchers: Braishna Durzada, Anthony Zulli

Effect of Vitamin D on dystrophic muscle

Researchers: Nicola Andreacchio, Erik Hanson, Ronnie Blazev, Emma Rybalka, Alan Hayes

The Effects of Vitamin D on Skeletal Muscle Structure and Function

Researchers: Alan Hayes, Erik Hanson, Ronnie Blazev, Emma Rybalka, David Scott, Kerrie Sanders

Anti cancer chemotherapeutic induced damaged to gastric innervation

Researchers: Phila Masango, Ahmed Rahman, Kulmira Nurgali

Deciphering the role of nox in acute homocysteine induced endothelial dysfunction

Researchers: Renee Smith, Anthony Zulli

The effect of chemotherapeutic agents on mitochondrial myotube activity

Researchers: Beatrice Cheregi, Alan Hayes, Kulmira Nurgali, Emma Rybalka

Mesenchymal Stem Cells from Alternative Sources for the Treatment of Enteric Neuropathy in a Guinea-pig Model of Experimental Colitis

Researchers: Rhian Stavely, Samy Sakkal, Kulmira Nurgali

Gastrointestinal and neurological side-effects of chemotherapy and potential treatments in colorectal cancer

Researchers: Vanesa Stojanovska, Rachel McQuade, Paul Senior, Kulmira Nurgali

Investigating metabolic dysfunction in muscular dystrophy - a new approach for therapeutic targets

Researchers: Cara Timpani, Keryn Woodman, Jason White, Alan Hayes, Emma Rybalka,

The Role of EphB4 Receptors in the Progression and Metastasis of Colorectal Cancers

Researchers: Elif Kadife, Paul Senior, Kulmira Nurgali

Mesenchymal stem cells for the treatment of Inflammatory Bowel Disease

Researchers: Sarah Miller, Ainsley Robison, Samy Sakkal, Kulmira Nurgali

Immune Function and Exercise in Prostate Cancer

Researchers: Erik Hanson, Samy Sakkal, Swati Baidur-Hudson, Alan Hayes

The effects of undercarboxylated osteocalcin on insulin sensitivity of skeletal muscle post-exercise in mice

Researchers: Xuzhu Steve Lin, Xinmei Mary Zhang, Alan Hayes, Glenn McConell, Itamar Levinger

The role of unique Hsp70-Hsp40 partnerships to identify novel drug targets and small molecule inhibitors

Researchers: Eva-Rachele Pesce, Greg Blatch

Effects of Diet and Exercise on Skeletal Muscle Protein Synthesis during Prostate Cancer Treatment

Researchers: Erik Hanson, Andre Nelson, John Violet, Alan Hayes

Number of Researchers & Students: Researchers: 18; Students: 20

OUR RESEARCH OUTPUT

Number of Projects: 24

Publications: 14

Presentations: 1

Our Partners



GLOBAL

- 1 Population Health Research Institute (PHRI) McMaster University, Ontario Canada
- 2 University of Manitoba (Winnipeg Canada)
- 3 University of Saskatchewan
- 4 Mayo Clinic, MN (US)
- 5 University of California, San Francisco (US)
- 6 University of Missouri (Kansas City)
- 7 Harvard University, MA
- 8 National Institute of Mental Health (NIMH), Washington DC
- 9 The Brain and Behavior Research Foundation, New York USA
- 10 Yale University, CT (US)
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- 12 Oxford University (UK)
- 13 The University of Sheffield (UK)
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- 15 Bristol University
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- 17 ETH Zurich
- 18 Instituto de Salud Carlos III. Ministry of Science and Innovation Fondo de Investigación Sanitaria, Spain
- 19 Lund University, Sweden
- 20 Aalborg University, Denmark
- 21 Vienna University of Technology
- 22 Asia Pacific Stroke Association, India
- 23 National Stroke Association of Sri Lanka
- 24 University of Colombo, Sri Lanka
- 25 USM-Universiti Sains Malaysia
- 26 UKM-Universiti Kebangsaan Malaysia
- 27 Changi General Hospital
- 28 Khoo Teck Puat Hospital
- 29 NUH - National University Hospital
- 30 Queen Mary Hospital, Hong Kong
- 31 The University of Hong Kong
- 32 Pamela Youde Nethersole Eastern Hospital
- 33 Prince of Wales HK
- 34 The Chinese University of Hong Kong
- 35 Tuen Mun Hospital
- 36 Kidsfirst Kindergartens, New Zealand
- 37 Starship Children's Health, New Zealand
- 38 Auckland
- 39 Hawkes Bay
- 40 Hutt Valley
- 41 Palmerston North Hospital
- 42 Wellington Regional Hospital
- 43 Auckland Bioengineering Institute

AUSTRALIA

- 44 Queensland Institute of Medical Research (QIMR)
- 45 Queensland University of Technology (QUT)
- 46 Royal Brisbane Hospital (RBH)
- 47 The University of Queensland
- 48 Cairns Hospital
- 49 Greenslopes Hospital
- 50 Gold Coast
- 51 Ipswich Hospital
- 52 Mt Isa Hospital
- 53 Nambour Hospital



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- 55 Princess Alexandra
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- 57 Redcliffe Hospital
- 58 Redlands Hospital
- 59 Townsville Hospital
- 60 University of Newcastle
- 61 The George Institute for Global Health
- 62 The University of Sydney
- 63 Wollongong Hospital
- 64 Youth Health, Brain and Mind Research Institute
- 65 Blacktown / Mt Drutt

- 66 Canterbury
- 67 Dubbo Base Hospital
- 68 Liverpool Hospital
- 69 Nepean Hospital
- 70 Port Macquarie
- 71 RPA Hospital
- 72 Royal North Shore
- 73 St George
- 74 St Vincent's Sydney
- 75 Sutherland
- 76 Princess Margaret Hospital for Children
- 77 Armadale Hospital

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- 80 Flinders University
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- 82 University of South Australia
- 83 Modbury Hospital
- 84 Queen Elizabeth
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- 86 Australian Research Council (ARC)
- 87 Australian Sports Medicine Association
- 88 Cooperative Research Centres (CRC)
- 89 National Health and Medical Research Council (NHMRC)

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ANZ Breast Cancer Trials Group	Knox Private	
ANZ Intensive Care Society Clinical Trials Group	LaTrobe University	
ANZ Intensive Care Research Centre (ANZICRC)	Ludwig Institute of Cancer Research	
Asia Pacific Association of Young Neurologists and Trainees	Macedon Ranges and North Western	
Austin Health	Melbourne Medicare Local	
Australasian College for Emergency Medicine (ACEM) Clinical Trials Group	Melbourne Neuroscience Institute	
Australasian Leukemia and Lymphoma Group	Melbourne Brain Centre	
Australian Medical Association, Victorian Branch	MonashHeart, Southern Health	
Australian Sports Medicine Association	Monash Medical Centre (MMC)	
Australasian Kidney Trials Network	Monash University	
Australian Lung Trials Group	Murdoch Children Research Institute	
Baker IDI Heart and Diabetes Institute	National Stroke Research Institute	
Bendigo Health Care Group	Networking Health Victoria	
Beyond Blue	Neuroscience Trials Australia (NTA)	
Bio21 Cluster	North-East Health Wangaratta	
BioGrid	Nurses Board of Victoria	
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Cochrane Renal Group	Osteoporosis Australia	
College of Intensive Care Medicine of Australia and New Zealand	Peter MacCallum Cancer Centre	
CRC for Mental Health	Royal Australasian College of General Practitioners (RACGP)	
Dorevitch Pathology	Royal Australasian College of Physicians (RACP)	
Deakin University	Royal Melbourne Hospital (RMH)	
Department of Health, Victoria	Royal Melbourne Institute of Technology (RMIT)	
Diabetes Australia (Victoria)	St Vincent Hospital (SVH)	
Diabetes Australia Research Foundation	Stroke Society of Australasia	
Eastern Health	The Cancer Council of Victoria (CCV)	
Florey Neurosciences Institutes	The Heart Foundation	
Geelong Hospital	The Royal Women's Hospital (RWH)	
	The Royal Children's Hospital (RCH)	
	The University of Melbourne	
		Horsham ●
		Warrnambool ●
		The Victorian Forensic Paediatric Medical Service (VFPMs)
		Victorian and Interstate Health Services
		Victoria University
		Victorian Cancer Agency (VCA)
		Victorian Comprehensive Cancer Centre (VCCC)
		Victorian Stroke Clinical Network
		Walter and Eliza Hall Institute (WEHI)
		Wangaratta Hospital
		Western Region Health Centre
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St Albans VIC 3021
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Western Centre for Health
Research and Education
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Sunbury Day Hospital
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211-215 Osborne Street
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