UNSW in the South West
2011-2013

Never Stand Still  Faculty of Medicine  South Western Sydney Clinical School
Acknowledgment of Country

We would like to acknowledge the traditional custodians of the lands on which the south western Sydney UNSW campuses are located including the Darug, Gandangara and Tharawal peoples. We offer our sincere respect to Elders both past and present.

Acknowledgments

Thank you to all the staff, students and patients who have contributed content to this report.


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UNSW in the South West 2011-2013

EMERITUS PROFESSOR IAN WEBSTER
UNSW established its presence in south western Sydney in 1989 following an agreement signed by the Vice Chancellor of UNSW and the Chairman of the Board of the South Western Sydney Area Health Service (SWSAHS). The agreement was to create a teaching Area Health Service and not simply a teaching hospital. It included the public hospitals of Liverpool, Fairfield, Bankstown, Campbelltown and Bowral as well as the associated community and public health services.

In 1990, the first students commenced terms in south western Sydney as an integral part of their fourth year program involving community medicine and general medicine and surgery. All of UNSW’s medicine students rotated for a period of six weeks and were accommodated on the campuses across the south west. In 1991, approximately 20 students were allocated for all of their clinical teaching in fourth, fifth and sixth years. Up to one hundred students were accommodated in facilities at any time in the south west.

UNSW made a number of appointments including professorships in community medicine, pathology (conjoint), psychiatry, medicine, surgery, obstetrics and gynaecology and intensive care. The first UNSW Chair in General Practice was established in an academic unit at Fairfield Hospital. This was followed by appointments of senior lecturers in medicine and surgery and conjoint appointments at senior academic levels in all the disciplines.

The initial organisational steps involved joint planning and management committees with the Area Health Service and within the Clinical School and establishment of a Clinical School Committee, a committee for teaching, a Board of Medical Studies and a Research Advisory Committee. The Board of Medical Studies was responsible for oversight of undergraduate and postgraduate education and the Overseas Doctors Training Program.

In the early period, Clinical School meetings were held on different hospital campuses of the Area Health Service so that the whole of the health service in the south west of Sydney could be part of the new academic enterprise.

The transition from purely clinical services to an environment of teaching, research and clinical endeavour was achieved harmoniously. The leadership and collaboration of senior clinicians was outstanding as they welcomed the new academics and specialists to this part of Sydney.

One of the most important early tasks was to promote resources to support research development. This was achieved through collaboration of academics with the Area Health Service in founding the Health Research Foundation Sydney South West and the Ingham Institute. There were other initiatives in medicine, cancer, trauma, epidemiology, general practice, health services research and psychiatry.

The Area Board of Directors were enthusiastic about research and sponsored many community events to raise funds for research. Also, there were joint arrangements with the University of Western Sydney to share teaching areas and to support research. The teaching efforts were supported by the establishment of an excellent medical library, a Clinical Skills Centre and audiovisual resources.

Since this time, the presence of UNSW in the south west has grown significantly with numerous research groups based at the Ingham Institute for Applied Medical Research and a number of academic positions hosted by the hospitals across south western Sydney. Staff from south western Sydney play an expanding role in the research output of UNSW Medicine.

In 2014, the South Western Sydney Clinical School will celebrate 25 years since the initial agreement and continues to work with the South Western Sydney Local Health District to further develop academic medicine in south western Sydney including large infrastructure investments in the Ingham Institute, clinical skills and simulation and videoconferencing equipment to connect the campuses at Kensington and across south western Sydney.
Senior UNSW appointments have been made across a range of disciplines in the south west of Sydney. Here are a few of their stories and a complete list is available on page 152.

**Associate Professor MEERA AGAR**

Meera Agar leads a research team in south west Sydney in palliative care, delirium in advanced illness and clinical trials. Her delirium research programme will contribute significantly to the evidence base for delirium care in any health care setting; exploring delirium identification and prediction, role of psychoactive medication in delirium causation, and also will provide platform to understand clinical decision-making and delirium therapeutics.

Meera completed her doctoral thesis in the area of delirium in advanced cancer in July 2013. She has published 60 papers in the peer-reviewed literature, and has had 50 peer-reviewed conference abstracts accepted in the last seven years. She has received 26 peer reviewed competitive grants since 2008, which include NHMRC, Department of Health and Ageing, Cancer Council NSW and Queensland, and Cancer Institute NSW funding. She is a chief investigator for the recently announced NHMRC Partnership Centre - dealing with cognitive and associated functional decline in the elderly with funding of $25m. She is the Chief Investigator A for 11 of those projects with grants totalling approximately $32m.

Meera is the chief investigator and Chair for ImPACCT: “Improving Palliative Care Through Clinical Trials” (NSW Palliative Care Clinical Trials Collaborative Group). She has several roles as part of the national Palliative Care Clinical Studies Collaborative (PaCSCC): Chair of the Trial Management Committee, and member of both the Scientific Committee and Management Advisory Board; and is the site investigator for one of the national clinical sites.

In 2011 the South West Sydney Palliative Care Clinical Trials Unit that Meera leads won the New South Wales Premier’s Cancer Research Award for Innovation in Clinical Trials. She won the Palliative Care New South Wales Award for significance in palliative care research in 2011, and a project for which she was the chief investigator won the Palliative Care NSW Innovation in Palliative Care Award. In 2013 she was awarded the Early Career Researcher Award from the European Association for Palliative Care for her work in delirium.

**Associate Professor ANDERS ANEMAN**

Anders Aneman is the Director of ICU Research, Liverpool Hospital. His research interests include monitoring and management of cardiorespiratory failure in critically ill patients as well as splanchnic physiology and pathophysiology. He is involved in several national and international studies as a clinical investigator, steering committee member and data and safety monitoring board member. He has authored and co-authored 95 papers to date that have attracted in excess of 1500 citations and he has written seven book chapters. He is a regular reviewer for major international journals in the field of intensive care medicine and has been external reviewer for NHMRC and university grants outside UNSW.

**Professor MINOTI APTE OAM**

Minoti Apte OAM is the Director of the Pancreatic Research Group which has received consistent research support from the National Health and Medical Research Council (NHMRC)/Department of Veterans Affairs (DVA) for over 25 years. The Group has also received funding from the Australian Research Council (ARC) and the NSW Cancer Council.

Minoti is internationally acknowledged as a leading researcher in the field of alcohol-induced pancreatic injury, and is particularly recognised for her pioneering work in pancreatic fibrogenesis and stromal-tumour interactions in pancreatic cancer. She was the first in the world to develop a method to isolate and culture pancreatic stellate cells (PSCs), a technique which provided a much needed research tool for studying the pathogenesis of pancreatic
PURPOSE: The anesthetic ketamine is widely used for pain related to cancer, but the evidence to support its use in this setting is weak. This study aimed to determine whether ketamine is more effective than placebo when used in conjunction with opioids and standard adjuvant therapy in the management of chronic uncontrolled cancer pain. Ketamine would be considered of net benefit if it provided clinically relevant improvement in pain with limited breakthrough analgesia and acceptable toxicity.

PATIENTS AND METHODS: In this multisite, dose-escalation, double-blind, randomized, placebo-controlled phase III trial, ketamine or placebo was delivered subcutaneously over 3 to 5 days.

RESULTS: In all, 185 participants were included in the primary analysis. There was no significant difference between the proportion of positive outcomes (0.04; 95% CI, -0.10 to 0.18; P = .55) in the placebo and intervention arms (response rates, 27% [25 of 92] and 31% [29 of 93]). Pain type (nociceptive v neuropathic) was not a predictor of response. There was almost twice the incidence of adverse events worse than baseline in the ketamine group after day 1 (incidence rate ratio, 1.95; 95% CI, 1.46 to 2.61; P < .001) and throughout the study. Those receiving ketamine were more likely to experience a more severe grade of adverse event per day (odds ratio, 1.09; 95% CI, 1.00 to 1.18; P = .039). The number of patients needed to treat for one additional patient to have a positive outcome from ketamine was 25 (95% CI, six to ∞). The number needed to harm, because of toxicity-related withdrawal, was six (95% CI, four to 13).

CONCLUSION: Ketamine does not have net clinical benefit when used as an adjunct to opioids and standard coanalgesics in cancer pain.
Her key interest in mental health is early intervention, prevention and health promotion to enhance the well-being of infants, children and their parents. To that end, she has established various collaborative programs and services aiming to identify problems and promote resilience in primary care and then to provide relevant secondary specialised services.

Her research program, developed since her MD thesis on ‘Maternal Anxiety and its Effects on Parenting and Child Development’, continues to focus on developing our understanding of the place of anxiety and depression in women’s lives; attachment and intergenerational transmission of patterns of behaviour, and early intervention strategies.

Bryanne was for many years a Director and then Chair of the Board at Karitane. She is a foundation member and Past President of the Australian Association for Infant Mental Health, the Australian Society for Psychosocial Obstetrics and Gynaecology and the Australian Branch of the Marcé Society. She has also been President of the International Marcé Society. She established the Department of Infant, Child and Adolescent Psychiatry in Sydney’s south west.

In 2007, Bryanne was awarded Membership of the Order of Australia in recognition of her services to women, families and the profession.

**Professor MICHAEL BARTON OAM**

Michael Barton OAM is Professor of Radiation Oncology at UNSW, and Research Director of the Collaboration for Cancer Outcomes Research and Evaluation (CCORE) at Liverpool Hospital. He is the Research Director of the Ingham Institute of Applied Medical Research which has constructed a new five-storey research building, clinical skills and simulation centre and one of the world’s first MRI-guided research linear accelerators at Liverpool.

Professor Barton has been involved in state, national and international strategic planning projects for cancer services. These studies have included the Victorian Cancer Services Framework Report, the Papua New Guinea Cancer Services Report and feasibility studies for radiotherapy services in Darwin and in Burnie Tasmania. He currently chairs the National Brain Tumour Guidelines Committee of the Australian Cancer Network which published the first Australian guidelines for professionals in 2009 and a patient and carer version in 2011.

Michael has a strong track record in undergraduate and postgraduate education. He has developed a distance learning course in the Applied Sciences of Oncology for the International Atomic Energy Agency that has been downloaded over 2500 times.

In 2000, Michael received a Professional Excellence Award from the New South Wales Cancer Council, Australia, for his work in professional education. During 2007, he was appointed as the Rohan Williams Traveling Professor by the Royal College of Radiologists, London, completing a month long lecture tour of the United Kingdom in September of that year. Michael Barton was awarded a Medal in the Order of Australia in June 2007 for his service to medicine, particularly radiation oncology, through a range of clinical, research, education and professional development roles. In 2012, he received the Medical Oncology Group of Australia-Novartis Oncology Cancer Achievement Award.

In 2014 he was appointed the Rouse Travelling Fellow by the Royal Australian and New Zealand College of Radiologists.

**Professor CHRISTOPHE BERNEY**

Christophe Berney is a general surgeon with wide expertise in minimally invasive surgery, especially in groin hernia repairs. Since his appointment as a Visiting Medical Officer at Bankstown-Lidcombe Hospital in 2002, Christophe has continued to develop and implement new techniques in the field of advanced laparoscopic surgery and has been at the forefront of practice in a number of areas including the laparoscopic mesh repair of complex abdominal wall or paraoesophageal hernias, but also in the successful implementation of routine laparoscopic appendectomies since 2003, emergency laparoscopic adhesiolysis for small bowel obstruction, laparoscopic Hartmann’s procedure for perforated diverticulitis or laparoscopic repair of perforated peptic ulcer, to name a few.

Christophe has one of the world’s largest series on laparoscopic repair of inguinal hernia using exclusively fibrin glue for mesh fixation, with over 900 cases successfully completed. As Supervisor of Surgical Education and Training for General Surgery, and Committee Member of the New South Wales Regional Board in General Surgery, he has a strong interest and commitment to the teaching of laparoscopic skills to our surgical trainees, but also internationally.

Since being awarded a PhD from UNSW in 1999 for research into predictors of liver metastasis in sporadic colorectal cancer, Christophe has maintained strong links with the academic world of surgery. He still offers his services to UNSW through his role as Coordinator of Undergraduate
Surgical Teaching at Bankstown-Lidcombe Hospital, and also with his ongoing contribution to publications in peer-reviewed journals and national and international surgical conferences.

He is an associate member of the Australian and New Zealand Endocrine Surgeons, and serves as a member of several societies including General Surgeons Australia, European Hernia Society, European Association for Transluminal Surgery, European Association for Endoscopic Surgery and the Obesity Surgery Society of Australia and New Zealand.

**Professor DANIEL CHAN**

Daniel Chan is the Director of Aged Care and Rehabilitation at Bankstown-Lidcombe Hospital and a conjoint Professor of Geriatrics with the South Western Sydney Clinical School as well as School of Public Health and Community Medicine. Daniel has multiple qualifications which support his current roles – as a manager, a staff specialist and an enthusiastic medical researcher.

He has broad research interests ranging from basic science to health care service related topics. One of Daniel's main interests is investigating molecular aspects of the neurobiology of Parkinson's disease and vascular dementia. He is one of the lead investigators for an international drug trial on vascular dementia. The pilot study was conducted at Bankstown with promising results. Other national and international collaborations have been established for studies of stroke, falls and dementia. International research links include China and Hong Kong. He has over 130 peer reviewed publications and have published two books. The third edition of his textbook on geriatrics is underway and the first two editions have been translated and published in Chinese by Peking University Medical College Press.

**Associate Professor ELIZABETH COMINO**

Elizabeth Comino is a leading community and primary health care (PHC) researcher in Australia. She is an epidemiologist with the Centre for Health Equity Training Research and Evaluation (CHETRE), a member of the Ingham Institute for Applied Medical Research, and part of the Centre for Primary Health Care and Equity (CPHCE), UNSW.

Elizabeth leads or participates in a wide range of research and evaluation activities within CHETRE; provides supervision, mentoring and support in research, statistical, and epidemiological methods to undergraduate and postgraduate students, paediatric registrars, health service employees and research staff. She has made a significant contribution to the development of the Centre’s research profile. She has strong methodological and statistical expertise in longitudinal, interventional and cross-sectional research methods, in the use of population health data collections for research, and in record linkage using both probabilistic and deterministic linkage.

Elizabeth’s research program ‘access to quality PHC’ is the overarching focus of her personal research. She works with population health data collections to develop methodological approaches, identify measures of quality PHC, and identify barriers and facilitators to access to PHC with a strong focus on equity and the social determinants of health.

Professor Comino is also the foundation leader of the Gudaga Research Program a nationally significant study of healthy early childhood among urban children living in an urban community. This research has received continuous research funding from the NHMRC and ARC as well as infrastructure support from SWSLHD and Tharawal Aboriginal Corporation since 2003. The research began as a result of community concerns about the health needs of their children, identified through discussions with the community about the issues they needed addressed to provide opportunities for themselves and their families. The program began life as a cohort study, and has flourished to now include the first study of the impact of early life events on transition to school, an intervention study exploring impact of sustained nurse home visiting and a dissemination and implementation program. The study demonstrates the importance of engaging the Aboriginal community in the research process from the early beginnings.

Elizabeth is the inaugural Director of the Primary and Community Health Research Unit (PCHRU) in south west Sydney. PCHRU was established in 2010 and aims to generate research evidence for community health services and translate this evidence into policy and practice.

She contributes her expertise to the academy as a reviewer for competitive grants such as the NHMRC and regularly reviews contributions to the scholarly literature for a number of national and international journals. She has widely published in the academic literature. During 2002 Elizabeth was awarded a Churchill Fellowship and used this opportunity to study primary care research networks and research methods in the United Kingdom. She continues to participate in the Churchill Trust activities and is currently the president of the Churchill Fellows Association in NSW.
David Davies is currently Director Teaching and Training for New South Wales Health Pathology having taken up this position from 1st January 2014 and has been a conjoint Professor of Pathology at UNSW since 1995. From February 1990 until December 2004 he was Director of the South-Western Area Pathology Service (SWAPS) and from January 2005 until December 2013 he was Co-director of Sydney South West Pathology Service. He continues as Senior Staff Specialist in Pathology concurrently with his new position in New South Wales Health Pathology.

Having studied medicine at the University of Liverpool in the United Kingdom (UK), David has held a number of academic and clinical appointments in the UK, Victoria and NSW. David is a member of the Panel of Advisers for the Health Care Complaints Commission (HCCC) of NSW and a councillor on the Australian Council on Healthcare Standards (ACHS). He has also made a significant contribution to the development of the pathology elements of Phase 3 in the New Medicine Program at UNSW.

David has a number of research interests including the pathogenesis of renal medullary necrosis and its relationship to the cortical lesion of chronic interstitial nephritis; mechanisms of proteinuria with particular reference to protein overload proteinuria; and immunopathology, particularly that of necrotising glomerulonephritis and small vessel vasculitis. In 1981, David was the first to recognise cytoplasmic anti-neutrophil cytoplasmic antibody (cANCA) in microscopic polyarteritis nodosa. This has now become a test in general use internationally for diagnosis of small vessel vasculitis.

Since 2004 he has been Chair of the National Quality Assurance Program in Anatomical Pathology provided by RCPA Quality Assurance Programs Pty Ltd and has retired from this position in September 2014. As a consequence of this activity he was responsible for introduction of Whole Slide Imaging (Digital microscopy) for use in quality assurance and has developed methods for evaluation of professional performance in in diagnostic histopathology.

In recognition of his efforts, David was awarded the Centenary Medal in 2003 for services to Australian society and medicine, in 2011, the UNSW Faculty of Medicine named David the Overall Conjoint Tutor of the Year in recognition of his commitment to training medical students, junior doctors and senior staff. In 2012 he received the Distinguished Fellow Award of the Royal College of Pathologists of Australasia for his activities in teaching, research, professional practice and administration.

Geoff Delaney is the Director of Cancer Services for the South West Sydney Local Health District and conjoint Professor of Radiation Oncology at UNSW. Geoff has also been a member or Chair of many committees involved with radiotherapy service delivery at a national and international level.

Geoff also chaired the NSW Cancer Institute Clinical Cancer Registry Steering Committee. His main clinical and research interests include breast and lung cancer, effective models in radiotherapy treatment service delivery, patterns of care and the role of information technology in radiation oncology.

Hugh Dickson is Director of Ambulatory Care (PIXI) at Liverpool Hospital, a service supporting outpatient and domiciliary medical procedures, investigations and infusions. He has a particular interest in neuropathic foot disease and lower limb ulceration.

He is a collaborating researcher with the Braeside Rehabilitation Research Group which focuses on basic measurement in rehabilitation and the psychometric properties of measurement scales. He is currently assisting in a project with the WHO to develop a core set for amputees using the International Classification of Functioning, Disability and Health.

He has served two terms as President of the Australian Faculty of Rehabilitation Medicine and as a member of the Board of Directors of the Royal Australasian College of Physicians. He has been Chairman of the Human Research Ethics Committee of the South Western Sydney Local Health District, as well as being a member of Hospital and District administrative committees.

Rebecca Dignan is a senior staff specialist in Cardiothoracic Surgery and Supervisor of Training with an active practice at Liverpool Hospital. She has supervised medical students during their cardiothoracic surgery rotation since 2004, including supervision of a student independent learning projects into pain and chronic pain after cardiothoracic surgery and tests to predict bleeding after cardiac surgery.
Professor VALSAMMA EAPEN

Valsamma Eapen is Professor & Chair of Infant, Child and Adolescent Psychiatry at the University of New South Wales (UNSW) and Head of the Academic Unit of Child Psychiatry, South West Sydney (AUCS) based at Liverpool.

Valsa is known internationally for her research on neurodevelopmental disorders such as Tourette Syndrome and autism. As a child psychiatrist, her other areas of research interest include neurobiological underpinnings of attachment and separation anxiety disorder as well as metabolic syndrome in adolescents.

She is a member of the Executive Committee of the International Neuropsychiatric Association (INA), Founding member of the Australasian Society for Autism research (ASfAR); member of the bi-national committee of the Australia New Zealand Society of Social Psychiatry, Scientific Advisor to Rett Syndrome Association, India, Medical Publicity Liaison Officer for the Tourette Syndrome Association Australia, Member of the Editorial Board of the Journal "Autism Research and Treatment", Deputy Editor for Asian Journal of Psychiatry and Academic Editor for PLOS ONE; Member of the Working Party on Early Developmental Impairment (McGill University, Canada), Member of the Cochrane Developmental, Psychosocial and Learning Problems Group, and Sentinel Reader for the McMaster Online Rating of Evidence.

Valsa is also a member of several research consortia including the Obsessive Compulsive Foundation Genetics Collaborative, Psychiatric Genomics Consortium, and Autism Homozygosity Mapping Collaborative.

Professor Eapen holds both Australian Research Council (ARC) and National Health & Medical Research Council (NHMRC) grants and is a project theme leader for the Cooperative Research Centre for Living with Autism. She has published over 150 peer reviewed journal articles as well as 5 books, 15 book chapters and over 100 conference abstracts.

Associate Professor JOHN EASTWOOD

John Eastwood is the Area Director of Community Paediatrics for the Sydney Local Health District (SLHD); Chair of the Early Years Research Group; Conjoint Associate Professor of Community Child Health, School of Women's and Children's Health, UNSW; Adjunct Associate Professor, Menzies Centre for Health Policy, School of Public Health, Sydney Medical School, Adjunct Associate Professor, School of Public Health, Griffith University, Queensland, Visiting Paediatrician at the Children's Hospital at Westmead and Visiting Academic at the Sydney Children's Hospital.

For the last 20 years John has worked as a Senior Health Executive, Public Health Physician, Development Advisor, and Population Child Health Specialist. As Principal Public Health Advisor to the New Zealand Ministry of Health and Director of Public Health Programmes for the New Zealand Public Health Commission, John provided national level policy advice on public health matters including: general practice and primary care, maternity services, health system reform, legislative reform, nutrition and food administration, health promotion, injury prevention, cancer control, crime prevention, screening and immunisation.

John has represented New Zealand at the World Health Assembly and provided technical advice to the WHO on health promotion and child health and development. His international development work has included primary healthcare, reproductive health, health system institutional strengthening, and maternal, child and youth programme delivery in China and the Pacific.

Since 2003 John has provided leadership to the design, implementation and evaluation of a number of child public health initiatives including: four sustained nurse home visiting programmes, perinatal coordination services, place-based initiatives in disadvantaged communities, and parenting education and support programmes.

John's medical training was at the University of Auckland and he has postgraduate diplomas of community health and child health from the University of Otago and Masters of Public Health and Health Management from the University of New South Wales. John is a Fellow of the Royal Australasian College of Physicians, Fellow of the Australasian Faculty of Public Health Medicine, and Foundation Fellow of the New Zealand College of Public Health Medicine. He serves on several professional college committees including: as
John has recently been invited to be on the Executive Board of the International Society of Social Paediatrics. John's research interests are in realist research methods, social epidemiology, and public health policy and programmes including injury prevention and primary preventative child youth and family health. His doctoral and postdoctoral research is in the field of critical realist mixed method social epidemiology with a focus on the intergenerational, developmental and social determinants of disadvantage and psychopathology.

**Professor JOHN FRENCH**

John French has been Director of Cardiovascular Research since 2004, and is the director of the Coronary Care Unit at Liverpool Hospital; he is a conjoint Professor at UNSW. After basic physician training, he undertook a PhD at the University of Adelaide, further cardiology training at Green Lane Hospital New Zealand and a Welcome Trust Postdoctoral Fellowship at University College London, UK. Prior to arriving in Sydney, John was appointed to Green Lane Hospital and the University of Auckland from 1992-2003. He has been an investigator and co-investigator in numerous randomised controlled trials and was on the steering committees of the SHOCK, OAT, HERO-2 and CRISP-AMI trials. He has also served on the clinical endpoints committees (CECs) of several major trials.

Professor French is the medical co-Chair of the ACI cardiac network of NSW, and has just finished his 3 year term as Chair of the clinical trials council of The Cardiac Society of Australia and New Zealand (2011-4). He has co-authored more than 170 peer-reviewed publications and over 250 short communications. John's current research interests include the acute coronary syndromes especially ST elevation MI, diabetes and coronary heart disease, and cardiac biomarkers especially high sensitivity troponins.

**Associate Professor JEFF FLACK**

Jeff Flack is a Senior Staff Specialist Endocrinologist and Director, Diabetes Centre Bankstown-Lidcombe Hospital.

Jeff’s main area of clinical research interest is in information technology applications in Medicine, especially data sets and quality audit initiatives involving diabetes data collection, analysis and reporting. He developed (with Professor Stephen Colagiuri) the Australian National Diabetes Information Audit and Benchmarking initiative (ANDIAB), that collated diabetes data from specialist diabetes services in Australia and benchmarks results for participants to review their process and outcomes data with peers. ANDIAB ran as a pilot in 1998 and again in 1999, 2000, 2002, 2004, 2006, 2009 and 2011. ANDIAB2 (a more ‘education and patient self-care focussed’ initiative than the ‘medically focussed’ ANDIAB), ran as a pilot in 2005, and subsequently in 2010 and 2012.

Jeff chaired the National Diabetes Data Working Group (NDDWG) until 2012, the Advisory Committee to the National Centre for Monitoring Diabetes (incorporating the National Diabetes Register) at the AIHW and is a former President of the Australian Diabetes Society (2004-2006).

**Professor AFAF GIRGIS**

Aaf Girgis is the Director of the Psycho-Oncology Research Group, Ingham Institute for Applied Medical Research, South Western Sydney Clinical School, UNSW; and Conjoint Professor at the University of Western Sydney, Honorary Professor in the School of Medicine at the University of Queensland and Adjunct Professor in the School of Psychology at Griffith University.

Aaf has worked for more than 25 years as a Behavioural Scientist in cancer control and psycho-oncology. Her national and international standing in behavioural science and psycho-oncology was acknowledged in 2012 with the award of the Clinical Oncology Society of Australia (COSA) Inaugural Psycho-oncology Award.

Aaf has published 157 peer-reviewed papers; 80 peer-reviewed abstracts since 2003, three book chapters, co-edited one book and 83 commissioned reports. Many of her publications are in leading psycho-oncology and public health journals, with more than 5760 citations of her research. Other key publications include psychosocial chapters of a number of national clinical practice guidelines; the first national Palliative Care Needs Assessment Guidelines; and communication skills training modules for national training programs.

Aaf has attracted more than $38.1 million of research funding, successfully applying for 126 grants (including 14 NHMRC grants) and consultancies. Her work has increasingly focused on health service research, translation of evidence into policy and practice and improving needs based care. She also has a demonstrated track record of effective engagement with service providers, end-users of research and the community, to ensure the relevance and acceptability of interventions aimed at improving cancer care and outcomes.
Our People

**Professor Girgis** has a very strong commitment to teaching, student supervision and mentoring junior researchers; and she has supervised eight PhD and five masters students to completion. Early to mid-career researchers whom she has mentored have been awarded Postdoctoral Research Fellowships.

Her contribution to the broader research community includes appointments to undertake independent scientific reviews of cancer control programs and behavioural research centres in Australia and New Zealand.

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**Professor IAN HARRIS**

Ian Harris is a Clinical Academic based at Liverpool Hospital and the South Western Sydney Clinical School of UNSW. He is the Professor of Orthopaedic Surgery and holds other area-wide administrative, research and clinical positions. Professor Harris’ research activities are based at Liverpool Hospital and involve clinical research in the field of surgery and clinical epidemiology including multi-centre randomised trials, systematic reviews and patient outcome studies.

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**HIGH IMPACT PUBLICATION**


**CONTEXT:** Intra-aortic balloon counterpulsation (IABC) is an adjunct to revascularization in patients with cardiogenic shock and reduces infarct size when placed prior to reperfusion in animal models.

**OBJECTIVE:** To determine if routine IABC placement prior to reperfusion in patients with anterior ST-segment elevation myocardial infarction (STEMI) without shock reduces myocardial infarct size.

**DESIGN, SETTING AND PATIENTS:** An open, multicenter, randomized controlled trial, the Counterpulsation to Reduce Infarct Size Pre-PCI Acute Myocardial Infarction (CRISP AMI) included 337 patients with acute anterior STEMI but without cardiogenic shock at 30 sites in 9 countries from June 2009 through February 2011.

**INTERVENTION:** Initiation of IABC before primary percutaneous coronary intervention (PCI) and continuation for at least 12 hours (IABC plus PCI) vs primary PCI alone.

**MAIN OUTCOME MEASURES:** Infarct size expressed as a percentage of left ventricular (LV) mass and measured by cardiac magnetic resonance imaging performed 3 to 5 days after PCI. Secondary end points included all-cause death at 6 months and vascular complications and major bleeding at 30 days. Multiple imputations were performed for missing infarct size data.

**RESULTS:** The median time from first contact to first coronary device was 77 minutes (interquartile range, 53 to 114 minutes) for the IABC plus PCI group vs 68 minutes (interquartile range, 40 to 100 minutes) for the PCI alone group (P = .04). The mean infarct size was not significantly different between the patients in the IABC plus PCI group and in the PCI alone group (42.1% [95% CI, 38.7% to 45.6%] vs 37.5% [95% CI, 34.3% to 40.8%], respectively; difference of 4.6% [95% CI, -0.2% to 9.4%], P = .06; imputed difference of 4.5% [95% CI, -0.3% to 9.3%], P = .07) and in patients with proximal left anterior descending Thrombolysis in Myocardial Infarction flow scores of 0 or 1 (46.7% [95% CI, 42.8% to 50.6%] vs 42.3% [95% CI, 38.6% to 45.9%], respectively; difference of 4.4% [95% CI, -1.0% to 9.7%], P = .11; imputed difference of 4.8% [95% CI, -0.6% to 10.1%], P = .08). At 30 days, there were no significant differences between the IABC plus PCI group and the PCI alone group for major vascular complications (n = 7 [4.3%; 95% CI, 1.8% to 8.8%] vs n = 2 [1.1%; 95% CI, 0.1% to 4.0%], respectively; P = .09) and major bleeding or transfusions (n = 5 [3.1%; 95% CI, 1.0% to 7.1%] vs n = 3 [1.7%; 95% CI, 0.4% to 4.9%]; P = .49). By 6 months, 3 patients (1.9%; 95% CI, 0.6% to 5.7%) in the IABC plus PCI group and 9 patients (5.2%; 95% CI, 2.7% to 9.7%) in the PCI alone group had died (P = .12).

**CONCLUSIONS:** Among patients with acute anterior STEMI without shock, IABC plus primary PCI compared with PCI alone did not result in reduced infarct size.
Associate Professor LIZ HARRIS

Elizabeth Harris was the Foundation Director of the Centre for Health Equity Training, Research and Evaluation (CHETRE) at Liverpool from 2000-2011 and is currently the Director of the Sydney Local Health District Health Equity Research and Development Unit that also sits within the Centre for Primary Health Care and Equity at UNSW.

She has a strong interest in understanding the causes of health inequity and action that can be taken to reduce their impact. This includes work on health impacts of unemployment, Aboriginal child health, working in disadvantaged communities and use of health Impact assessment. She has held $4.5m in Category A funds and $5.5m in Public Health Research Capacity Building funds. She published extensively in peer review journals. Her co-authored book ‘Theory in a Nutshell: a guide for Health Promotion Practitioners’ is in its fourth edition and translated into at least four languages.

For five years she led the NSW Health Impact Assessment (HIA) Development Project and is currently the convenor of the International Union of Health Promotion and Education’s Global Working Group on HIA. Liz is recognised nationally and internationally for her work on the use of Equity Focussed Health Impact Assessment and recently completed a bibliography on health equity for Oxford University Press.

Professor KEN HILLMAN

Ken Hillman is Professor of Intensive Care at the South Western Sydney Clinical School, UNSW and Director of the Simpson Centre for Health Services Research.

Ken remains a practising Intensive Care clinician which complements his main research interest which is health services research – developing and evaluating new and innovative ways of practising health care. Ken has active research interests in areas such as recognising and responding to seriously ill hospitalised patients in a timely fashion and improving the end-of-life care in acute hospitals. He has published over 140 peer reviewed papers, written 59 chapters, co-written and co-edited four textbooks, written a book – Vital Signs: Stories from Intensive Care and has received over $18 million in peer-reviewed grants.

HIGH IMPACT PUBLICATION


PURPOSE: Few studies have examined psychological adjustment for cancer survivors in late treatment and early survivorship stages. Our study investigated the prevalence and short-term trajectories of anxiety, depression, and comorbid anxiety-depression among adult cancer survivors, and identified the individual, disease, health behavior, psychological, and social predictors of chronic and late psychological morbidity.

METHODS: A heterogeneous sample of adult cancer survivors was recruited from two state-based cancer registries. A total of 1,154 survivors completed self-report questionnaires at 6 (Time 1) and 12 months (Time 2) postdiagnosis. Anxiety and depression were assessed by the Hospital Anxiety and Depression Scale with cases identified by a subscale cutoff score ≥ 8. Logistic regression analyses identified Time 1 characteristics associated with anxiety and/or depression at Time 2.

RESULTS: The point prevalence of anxiety (Time 1, 22%; Time 2, 21%), depression (13% at both timepoints) and comorbid anxiety-depression (9% at both timepoints) was similar at 6 and 12 months postdiagnosis. The most prevalent Time 1 to Time 2 trajectory was noncase for anxiety (70%), depression (82%), and comorbid anxiety-depression (87%). While psychological morbidity at Time 1 was the strongest predictor of psychological morbidity at Time 2, being diagnosed with lung cancer and health risk behaviors (smoking, insufficient physical activity) were also strong predictors.

CONCLUSION: Targeted psychological screening of vulnerable survivors and early intervention may prevent the onset and/or reduce the severity of psychological morbidity in early survivorship. Trials of risk reduction interventions targeting psychological functioning and health risk behaviors seem warranted.
ABSTRACT: Musculoskeletal injuries are the most common reason for operative procedures in severely injured patients and are major determinants of functional outcomes. In this paper, we summarise advances and future directions for management of multiply injured patients with major musculoskeletal trauma. Improved understanding of fracture healing has created new possibilities for management of particularly challenging problems, such as delayed union and non-union of fractures and large bone defects. Optimum timing of major orthopaedic interventions is guided by increased knowledge about the immune response after injury. Individual treatment should be guided by trading off the benefits of early definitive skeletal stabilisation, and the potentially life-threatening risks of systemic complications such as fat embolism, acute lung injury, and multiple organ failure. New methods for measurement of fracture healing and function and quality of life outcomes pave the way for landmark trials that will guide the future management of musculoskeletal injuries.

Professor BIN JALALUDIN

Bin Jalaludin holds a medical degree and a doctorate in air pollution epidemiology, both from the University of Sydney and is currently the Director, Epidemiology, Healthy People and Places Unit. He has a conjoint Professorial appointment in the School of Public Health and Community Medicine at UNSW Australia, is an Honorary Senior Research Fellow at the Woolcock Institute of Medical Research, University of Sydney, and is the Stream Leader, Population and Health Services Stream, Ingham Institute for Applied Medical Research.

Bin is on the scientific committee of the Australian Paediatric Surveillance Unit, Deputy Chair of the SWSLHD Human Research Ethics Committee, a member of the Scientific Advisory Committee of the Ingham Institute for Applied Medical Research, a member of the NSW Chief Health Officer’s Air Pollution Expert Advisory Committee, an investigator in the Centre for Air quality and health Research and evaluation (an NHMRC Centre for Research Excellence) and on the Editorial Board of Environmental Health.

Professor Jalaludin is also currently a member of an expert panel convened by the WHO Western Pacific Regional Office to advise on air pollution control in Asia and the Pacific region. His research interests are in air pollution and environmental epidemiology, use of linked administrative datasets, spatial epidemiology, neighbourhoods and social determinants of health, as well as in translating research into policy. He has published over 170 papers in the peer reviewed scientific literature and has been successful in attracting significant competitive funding for research from the ARC and the NHMRC, as well as from a range of government and non-government agencies.

Associate Professor CRAIG JUERGENS

Craig Juergens is an interventional cardiologist at Liverpool hospital where he is Head of Department and is a conjoint Associate Professor with UNSW.

After basic cardiology training at Royal Prince Alfred Hospital in Sydney, he completed an Interventional Fellowship at Stanford University, California and returned to Australia in 1997 to establish the coronary interventional service at Liverpool Hospital. This service has subsequently become a centre of training for interventional cardiologists with numerous Australian Fellows and doctors from China, England, Singapore, Malaysia, Myanmar and New Zealand learning coronary interventional
techniques under the supervision of Craig and his colleagues. In addition Craig has demonstrated PCI techniques in centres in Taiwan, China, Myanmar and Vietnam.

Apart from his interest in Interventional Cardiology, Craig has a major interest in acute coronary syndromes and has been involved in a large number of multicentre, multinational clinical trials. He has been invited to speak at a number of local and international meetings. He has been author of over 55 peer reviewed papers in local and international Journals and he continues to be an active clinician in the Department of Cardiology at Liverpool Hospital, in addition to providing support for the interventional cardiology program at Orange Base Hospital.

**Associate Professor LYNN KEMP**

Lynn Kemp is Associate Professor and Director of the Centre for Health Equity Training Research and Evaluation, part of the UNSW Centre for Primary Health Care and Equity. Lynn is a nurse researcher who seeks to develop and implement effective and sustainable interventions to improve outcomes for children living in socioeconomic disadvantage. Lynn led the Australian randomised trial of the Maternal Early Childhood Sustained Home-visiting (MECSH) program. She is recognised as one of the leading primary health care early childhood researchers in Australia and is a member of several key Australian and international committees on early childhood.

**Associate Professor NORBERT KIENZLE**

Norbert Kienzle is the Manager and Strategic Development Executive for translational cancer research at the Ingham Institute for Applied Medical Research.

Norbert has over ten years of leadership and management experience in medical research and biopharmaceutical drug development, based on a scientific research track record in cancer biology, immunology and virology. He has authored more than 40 peer-reviewed publications and is an inventor on two PCT patent applications in therapeutic drug development.

Norbert holds a PhD in Biology from the Albert-Ludwigs University (Freiburg, Germany); he has a Conjoint Associate Professor appointment with the South Western Sydney Clinical School, UNSW.

**Associate Professor MURRAY KILLINGSWORTH**

Murray Killingsworth is principal hospital scientist of the Electron Microscopy Laboratory, Sydney South West Pathology Service. He completed his PhD in 1990 in the School of Pathology (now School of Medical Sciences) and his research interests are in the pathobiology of chronic inflammation in macular degeneration of the retina, renal disease and cancer. Murray’s research tools include electron microscopy, immunocytochemistry and computer-based morphometry. He contributes morphological and ultrastructural data to research groups from the University and has more than 1900 citations for his papers.

Since 2011 Murray has been using nanoparticles to probe cellular function in pathology tissue. His use of quantum dot nanocrystals as cell markers has demonstrated the potential of these probes to extract the maximum amount of information from a single tissue sample by allowing analysis by several different microscopy modalities. Previously, each modality required a dedicated sample and correlation of results from each source was difficult. The success of this approach has led Murray to establish the Correlative Microscopy Group at the new Ingham Institute of Applied Medical Research to further explore the application of nanotechnology to cell visualisation in pathology.

Murray is currently a member of the Board of Education of the Royal College of Pathologists of Australasia (RCPA) and is Principal Examiner for Anatomical Pathology in the College’s Faculty of Science.

**Professor RUPERT LEONG**

Rupert Leong is a leading figure in the field of bowel disease research. He has published a wide range of ground-breaking research and has pioneered new endoscopic diagnostic techniques. Rupert has been conducting cutting-edge research into IBD biomarkers to translate this into a point-of-care tool. He is currently a senior staff specialist gastroenterologist, conjoint Professor at Bankstown Hospital and the Director of Endoscopy at Concord Hospital, Sydney.
Rupert completed his advanced training in Clinical Immunology and Gastroenterology in 2000 in Western Australia and was awarded the Amy and Athelstan Overseas Research Fellowship of University of Western Australia to conduct 2 years’ research as Visiting Scholar at The Prince of Wales Hospital, Shatin, Hong Kong. He completed his MD thesis (2004) on the Epidemiology of Inflammatory Bowel Diseases in the Chinese Population – the first comprehensive series of epidemiological studies of IBD in an Asian population. The novel research subsequently awarded Rupert the Gastroenterological Society of Australia Researcher on the Rise, the Young Achiever Award of the Australian Chinese Medical Association and the American Gastroenterological Association Fellowship by invitation. Leong conducted the first genetic research of IBD genes on the Chinese population.

Rupert is currently an NHMRC Career Development Fellow (Clinical Level 2). His research interest and clinical practice is synergistically focused on IBD. In total he has over 100 peer-reviewed publications. He has published on a number of occasions in the top ranked gastroenterology specialty journal and has been awarded the UNSW Paper of the Year Award. In addition he has received research awards including the Gastroenterological Society of Australia Career Development Award, AstraZeneca Emerging Leader, the Abbott IBD Research Award, and the RACP Career Development Award.

Dominic is an internationally acknowledged expert in echocardiography and cardiac imaging and has published more than 2400 citations of his papers and frequent invitations to speak at major national and international meetings of the American College of Cardiology, American Heart Association, European Society of Cardiology, World Congress of Cardiology and the Cardiac Society of Australia and New Zealand.

Dominic is a regular reviewer for international journals including the Journal of the American College of Cardiology, Circulation, Cardiovascular Imaging, American Journal of Cardiology, Heart, American Heart Journal, Eurointervention and the Journal of American Society of Echocardiography. His current research interests include valvular heart disease, heart failure, exercise physiology, exercise echocardiography, diabetic heart disease, microvascular dysfunction, coronary artery disease, acute coronary syndrome and interventional cardiology. In addition to his busy clinical service as a staff cardiologist, he is actively involved in undergraduate and postgraduate medical education and supervises a number of Masters and PhD students.

Dominic has also been able to attract research funding from the National Health and Medical Research Council, National Heart Foundation and other funding bodies.

**Professor SIAW-TENG LIAW**

Siaw-Teng Liaw is UNSW Professor of General Practice and Director of the Academic General Practice Unit based at Fairfield Hospital.

Teng’s research program ‘Information-enhanced integrated care of chronic disease’, funded by a range of agencies including the NHMRC, revolves around primary and integrated care informatics and information quality and clinical decision support, focusing on chronic disease management and safety and quality use of medicines in mainstream, CALD and Aboriginal communities. The NHMRC funded project on safety of general practice systems has delivered an online critical incident reporting system (TechWatch) for computer system related incidents in clinical care. The NHMRC-funded Cultural Respect Program and Toolkit project, with additional funding from NSW Health and GP Synergy, has delivered a Cultural Respect toolkit.

Teng is a Chief Investigator at the NHMRC-funded Centre for Research Excellence (CRE) on eHealth (2012-2016), APHCRI-funded CRE on Obesity in Primary Health Care (2013-2017) and WHO Collaborating Centre in eHealth (2013-). He is nationally and internationally recognised as a leading general practice and health informatics researcher and has published extensively in his field. He is also an elected International Fellow of the American College of Medical Informatics, a Foundation Fellow of the Australasian College of Health Informatics (ACHI) and was President of AHCI from 2005-2007.

**Professor DOMINIC LEUNG**

Dominic Leung is a senior staff cardiologist and the Director of Echocardiography at Liverpool Hospital. Dominic is a Fellow of the Royal Australasian College of Physicians, the Royal College of Physicians (Edinburgh), the American College of Cardiology, European Society of Cardiology, the Hong Kong College of Physicians, and the Cardiac Society of Australia and New Zealand.

Dominic is an internationally acknowledged expert in echocardiography and cardiac imaging and has published more than 100 papers in peer-reviewed journals, book chapters, editorials, reviews and invited articles in major national and international journals. The international recognition of his work is reflected in more than 2400 citations of his papers and frequent invitations to speak at
Teng sits on the NSW Health Acute Care Taskforce and is currently involved in promoting and standardising activities on clinical handover between general practice, community based and hospital-based facilities. He also sits on the Research and Teaching Subcommittee and a number of service-related committees in South Western Sydney Local Health District and Medicare Local.

Professor Liaw is a Board member of GP Synergy and the Health Informatics Society of Australia. He sits on the Royal Australian College of General Practitioners National Research Committee and is the current Chair of the RACGP National Research and Evaluation Ethics Committee.

Internationally, Teng is a member of the editorial boards of a number of family/general practice and health informatics journals, a number of peer-review panels for national and international competitive grants and scientific conferences. He is a Section Editor of the Informatics in Primary Care journal. He is a member of the International Medical Informatics Association (IMIA) Academy Task Group and co-chairs the IMIA Primary Health Care Informatics Working Group. He sits on the American Medical Informatics Association (AMIA) International Affairs Committee and Ethics Committee.

Professor PATRICK MCNEIL

Patrick McNeil is Professor of Rheumatology at SWSCS based at Liverpool Hospital. He heads a research group exploring the role of mast cells in non-allergic inflammatory rheumatic conditions, as well as novel inflammatory pathways in rheumatoid arthritis and autoimmune connective tissue diseases. He is an author on more than 90 scientific publications in biomedical science, clinical medicine and medical education which have been cited more than 5000 times to date, with 20 papers cited more than 50 times including nine papers with over 100 citations.

Since 2012, Patrick has been the Executive Clinical Director of Liverpool Hospital in which position he provides strategic clinical leadership to the Hospital General Manager and Executive Team. He currently chairs the Faculty’s Program Evaluation and Improvement Committee.

Patrick is recognised as a national leader in academic rheumatology in Australia and he currently Chairs the Board of Arthritis Australia, the peak national body for consumers with arthritis. He has been a long-standing member of Scientific Assessment Committees for Arthritis Australia, the Australian Rheumatology Association Research Trust, and NHMRC Grant Review Panels.

Professor GUY MARKS

Guy Marks is a respiratory physician at Liverpool Hospital and a respiratory epidemiologist, based at the Woolcock Institute of Medical Research and the Ingham Institute. His research interests include obstructive lung disease (asthma and COPD), health effects of air pollution and tuberculosis as well as epidemiological research methods. He is

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**HIGH IMPACT PUBLICATION**


**AIMS:** Evaluate changes in aortic annular dimensions in relation to severe aortic stenosis (AS) and left ventricular (LV) dysfunction.

**METHODS AND RESULTS:** Mean aortic annular diameters and geometries were compared between 90 severe AS patients and 111 controls by multi-detector row computed tomography (MDCT). All severe AS patients were also dichotomized into two groups based on the presence of preserved (≥ 50%) or impaired (<50%) LV ejection fraction (EF). The influence of LV geometry and function on changes in aortic annular dimensions was examined. Patients with severe AS had similar aortic annular dimensions and geometries compared with controls even after correcting for baseline differences in age and body surface area (BSA). However, severe AS patients with LV dysfunction (LVEF <50%) had significantly larger mean aortic annular diameter (26.4 ± 1.9 vs. 24.5 ± 2.1 mm, P < 0.001) compared with patients with preserved LVEF. The presence of LV dysfunction, male gender, and larger BSA were independent determinants of a larger aortic annulus on MDCT.

**CONCLUSION:** In severe AS patients, the presence of LV dysfunction, not the presence of severe AS, was an independent determinant of a larger aortic annular diameter.
Our People

the Director of the Australian Centre for Asthma Monitoring, a collaborating unit of the Australian Institute of Health and Welfare (AIHW) responsible for collating, reporting and interpreting national data on asthma trends and outcomes.

Guy is the chief investigator on the Childhood Asthma Prevention Study (CAPS), a long-term study investigating risk factors for asthma in children born in south western and western Sydney. His interest in tuberculosis has included policy-related epidemiological studies of tuberculosis in NSW and international collaborations, particularly involving Vietnam. He is also a Chief Investigator in the Centre for Research Excellence in Tuberculosis.

He has undertaken a number of studies investigating health effects of various air pollution sources including road traffic and unflued gas heaters. He is Chief Investigator in the Centre for Air quality and health Research and evaluation (CAR, an NHMRC Centre for Research Excellence).

Guy is Chair of the NSW Tuberculosis Advisory Committee and of the NSW Chief Health Officer’s Expert Advisory Committee on Air Pollution.

Associate Professor BIN ONG

Bin Ong is Director of the Ambulatory Care Unit and Medical Assessment Unit in Bankstown Hospital. He is also practising as a staff specialist in geriatric and general medicine. He is actively involved in the medical undergraduate programs linked with general medicine, Society and Health and geriatric medicine in Bankstown-Lidcombe Hospital.

Bin’s main research interests are in acute geriatric medicine, thromboembolic disease and models of care including hospital in the home, ambulatory care.

HIGH IMPACT PUBLICATION


BACKGROUND: We aimed to identify novel genetic variants affecting asthma risk, since these might provide novel insights into molecular mechanisms underlying the disease.

METHODS: We did a genome-wide association study (GWAS) in 2669 physician-diagnosed asthmatics and 4528 controls from Australia. Seven loci were prioritised for replication after combining our results with those from the GABRIEL consortium (n=26,475), and these were tested in an additional 25,358 independent samples from four in-silico cohorts. Quantitative multi-marker scores of genetic load were constructed on the basis of results from the GABRIEL study and tested for association with asthma in our Australian GWAS dataset.

FINDINGS: Two loci were confirmed to associate with asthma risk in the replication cohorts and reached genome-wide significance in the combined analysis of all available studies (n=57,800): rs4129267 (OR 1·09, combined p=2·4×10(-8)) in the interleukin-6 receptor (IL6R) gene and rs7130588 (OR 1·09, p=1·8×10(-8)) on chromosome 11q13.5 near the leucine-rich repeat containing 32 gene (LRRC32, also known as GARP). The 11q13.5 locus was significantly associated with atop status among asthmatics (OR 1·33, p=7×10(-4)), suggesting that it is a risk factor for allergic but not non-allergic asthma. Multi-marker association results are consistent with a highly polygenic contribution to asthma risk, including loci with weak effects that might be shared with other immune-related diseases, such as NDFIP1, HLA-B, LPP, and BACH2.

INTERPRETATION: The IL6R association further supports the hypothesis that cytokine signalling dysregulation affects asthma risk, and raises the possibility that an IL6R antagonist (tocilizumab) may be effective to treat the disease, perhaps in a genotype-dependent manner. Results for the 11q13.5 locus suggest that it directly increases the risk of allergic sensitisation which, in turn, increases the risk of subsequent development of asthma. Larger or more functionally focused studies are needed to characterise the many loci with modest effects that remain to be identified for asthma.
care and medical assessment units. He has published in national and international peer reviewed journals on these topics. He is a member of the Australian and New Zealand Society of Geriatric Medicine, Hospital in the Home Australia and American Academy of Home Care Physicians. Bin is also actively involved in the NSW Health Alternatives to Acute Hospital Admission Program.

**Associate Professor MICHAEL PARR**

Michael Parr is Director of Intensive Care at Liverpool Hospital and trained in Anaesthesia and Intensive Care in the UK, New Zealand, USA and Australia. Michael is author of two books, numerous book chapters and scientific papers, and maintains Liverpool Hospital Intensive Care Unit as a lead research unit within the Australian and New Zealand Intensive Care Society Clinical Trials Group.

Michael is an Editor of the journal Resuscitation, an executive member of the Australian Resuscitation Council, a member of the International Liaison Committee on Resuscitation (ILCOR) Advanced Life Support committee and Past President of International Trauma Care.

**Associate Professor CHRIS POKorny**

Christopher Pokorny is a practicing gastroenterologist and Visiting Medical Officer at Liverpool and Sydney hospitals. He also holds a conjoint appointment as Associate Professor at UNSW. His clinical and research interests include inflammatory bowel disease, coeliac disease and iron deficiency anaemia.

Chris is also actively involved in both undergraduate and postgraduate education and currently is a member of the senior examining panel of the Royal Australasian College of Physicians, the College’s Joint Divisional Continuing Professional Development Committee and the Specialist Advisory Committee in Gastroenterology. In addition, he is on the editorial boards of the Internal Medicine Journal and Medicine Today.

**Professor DERRICK SILOVE**

Derrick Silove was appointed to the Foundation Chair in Psychiatry in 1990 soon after the establishment of the UNSW Clinical School in the south west of Sydney. He established the Psychiatry

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**HIGH IMPACT PUBLICATION**


**BACKGROUND:** It is unclear whether decompressive craniectomy improves the functional outcome in patients with severe traumatic brain injury and refractory raised intracranial pressure.

**METHODS:** From December 2002 through April 2010, we randomly assigned 155 adults with severe diffuse traumatic brain injury and intracranial hypertension that was refractory to first-tier therapies to undergo either bifrontotemporoparietal decompressive craniectomy or standard care. The original primary outcome was an unfavorable outcome (a composite of death, vegetative state, or severe disability), as evaluated on the Extended Glasgow Outcome Scale 6 months after the injury. The final primary outcome was the score on the Extended Glasgow Outcome Scale at 6 months.

**RESULTS:** Patients in the craniectomy group, as compared with those in the standard-care group, had less time with intracranial pressures above the treatment threshold (P<0.001), fewer interventions for increased intracranial pressure (P<0.02 for all comparisons), and fewer days in the intensive care unit (ICU) (P<0.001). However, patients undergoing craniectomy had worse scores on the Extended Glasgow Outcome Scale than those receiving standard care (odds ratio for a worse score in the craniectomy group, 1.84; 95% confidence interval [CI], 1.05 to 3.24; P=0.03) and a greater risk of an unfavorable outcome (odds ratio, 2.21; 95% CI, 1.14 to 4.26; P=0.02). Rates of death at 6 months were similar in the craniectomy group (19%) and the standard-care group (18%).

**CONCLUSIONS:** In adults with severe diffuse traumatic brain injury and refractory intracranial hypertension, early bifrontotemporoparietal decompressive craniectomy decreased intracranial pressure and the length of stay in the ICU but was associated with more unfavorable outcomes.
Professor LIZA THOMAS

Liza Thomas is a staff specialist cardiologist at Liverpool Hospital and conjoint Professor at UNSW. Her research interest is in non invasive cardiology, in particular echocardiography with a focus on the evaluation of atrial dynamics and function. She was the recipient of the Gustav Nossal NHMRC scholarship for her PhD studies on the echocardiographic evaluation of atrial function in health and disease.

Liza is an established investigator who has published extensively and her work has been cited in the program highlights at various meetings including of the American Heart Association, the American Society of Echocardiography and the European Society of Cardiology. Professor Thomas has over 65 original publications, book chapters, editorials and invited reviews with eight papers cited more than 50 times.

More recently, Liza has taken a leading role as a member of the Executive and Steering committees of the international EchoNormal collaboration that is undertaking an individual patient meta analysis of over 29,000 subjects. She leads the EchoNormal analysis of atrial chamber size and function. Liza has been an invited speaker at international, national and Local meetings, including the American Heart Association, American Society of Echocardiography, the Echocardiography Societies of India and several Asian Pacific nations. Her research has been funded by the NHMRC, the National Heart Foundation, Cardiovascular Lipid research grants, and other investigator initiated grants.

Liza is on the Editorial Board of the Journal of the American Society of Echocardiography and in 2013 was nominated one of its top 20 reviewers. She is also on the editorial board for Heart, Lung and Circulation and is a regular reviewer for several journals including JACC Cardiovascular Imaging, European Heart Journal, and Heart.

Liza is integrally involved in teaching and training and supervises several PhD, Masters and ILP students. Additionally, she has been involved with teaching and non-invasive cardiology training in several Asian countries including in Indonesia and India.

Professor Thomas has a special interest in Women's Cardiovascular Health at a Community level and has been an active participant and supporter of the Heart Foundation's "Go red for Women" program. She is involved in The Healthy Heart Forum for Women" in the Liverpool area. She is actively involved in fundraising for charitable medical services for the Christian Medical College in Vellore, India.

Associate Professor SHALINI VINOD

Shalini Vinod is a senior radiation oncologist at the Liverpool Cancer Therapy Centre. Her clinical interests are in lung and gynaecological cancers. She leads the Lung Cancer Multidisciplinary Team at Liverpool & Macarthur Cancer Therapy Centres. The prospective data collection she initiated for this group since 2005 has formed the basis for many research projects.

Since 2010 she has chaired the MRI simulation group charged with the procurement and implementation of a MRI scanner for radiotherapy simulation. The MRI was finally installed within the radiotherapy department in June 2013, the first of its kind in Australia. This group is currently supervising a research program evaluating the use of MRI in radiotherapy planning and treatment.

Shalini has a strong commitment to education and is an examiner for the final specialist exams in radiation oncology and an assessor of overseas trained specialists for RANZCR. She is an
advocate for evidence-based medicine and has been involved in writing updated Australian NHMRC Guidelines for the management of lung cancer.

Shalini continues to be active in research and has published on many topics including lung cancer, gynaecological cancers, the use of PET and MRI scans in radiotherapy and multidisciplinary care. She is currently supervising research undertaken by medical students, radiation oncology registrars and a PhD student.

Professor JEREMY WILSON

Jeremy Wilson founded the Pancreatic Research Group and has been involved in pancreatic research for over 25 years. He has more than 120 publications and over 138 abstracts predominately on the subject of the pathogenesis of pancreatitis.

Jeremy is recognised as an international authority on the pathogenesis of alcoholic pancreatitis and pancreatic stellate cells. He is a member of the Editorial Board of the journal Pancreatology. His work has received more than 3500 citations attesting to his international recognition in the field. In 2001, he was awarded a Fellowship by the Royal College of Physicians, UK on the basis of his distinguished achievements in pancreatology. In 2007, Jeremy was made a Fellow of the American Gastroenterological Association (AGA) and was one of the first non-American researchers to be awarded this honour.

HIGH IMPACT PUBLICATION


BACKGROUND AND AIMS: Administration of repeated lipopolysaccharide (LPS) injections in alcohol-fed rats leads to significant pancreatic injury including fibrosis. However, it remains unknown whether alcoholic (chronic) pancreatitis has the potential to regress when alcohol is withdrawn. The aims of the study were (1) to compare the effect of alcohol withdrawal/continuation on pancreatic acute injury and fibrosis; and (2) to assess the effects of alcohol ± LPS on pancreatic stellate cell (PSC) apoptosis in vivo and in vitro.

METHODS: Rats fed isocaloric Liebere-De-Carli liquid diets ± alcohol for 10 weeks were challenged with LPS (3 mg/kg/week for 3 weeks) and then either switched to control diet or maintained on an alcohol diet for 3 days, 7 days or 3 weeks. Pancreatic sections were assessed for acute tissue injury, fibrosis, PSC apoptosis and activation. Cultured rat PSCs were exposed to 10 mM ethanol 6 1 mg/ml LPS for 48 or 72 h and apoptosis was assessed (Annexin V, caspase-3 and terminal deoxynucleotidyl transferase dUTP nick end labelling (TUNEL)).

RESULTS: Withdrawal of alcohol led to resolution of pancreatic lesions including fibrosis and to increased PSC apoptosis. Continued alcohol administration perpetuated pancreatic injury and prevented PSC apoptosis. Alcohol and LPS significantly inhibited PSC apoptosis in vitro, and the effect of LPS on PSC apoptosis could be blocked by Toll-like receptor 4 small interfering RNA.

CONCLUSIONS: Induction of PSC apoptosis upon alcohol withdrawal is a key mechanism mediating the resolution of pancreatic fibrosis. Conversely, continued alcohol intake perpetuates pancreatic injury by inhibiting apoptosis and promoting activation of PSCs. Characterisation of the pathways mediating PSC apoptosis has the potential to yield novel therapeutic strategies for chronic pancreatitis.
As Clinical Associate Dean of SWSCS and Professor and Director of Medicine at Liverpool Hospital, Jeremy has major responsibilities in the area of administration, clinical service, teaching (undergraduate and postgraduate) and research at SWSLHD and UNSW.

In 2004, he led the development of ‘The Way Forward’, the strategic plan for the development of clinical services for the south west of Sydney.

He is currently involved in a range of strategic projects for SWSLHD and NSW Health including as a member of the Clinical Council of the Clinical Excellence Commission and as Co-chair of the Acute Care Taskforce of the NSW Agency of Clinical Innovation which has responsibility for advising the Ministry on matters relating to best practice and efficient care of acute medical patients in the NSW Health system. He is also the Chair of the SWSLHD Human Research Ethics Committee and oversaw the accreditation of that committee as a Lead HREC with particular expertise in dealing with research in culturally and linguistically diverse populations in 2013.

Dr Wong is committed to promoting diabetes research in south western Sydney and he is keen to collaborate with other research groups in the future.

Associate Professor JOHN WORTHINGTON

John Worthington is a lead investigator on two current NHMRC research projects as well as on research studies funded by the NSW Office of Health and Medical Research, the BUPA Foundation, Clinical Excellence Commission (CEC) and UNSW. He is a practising neurologist with training in sleep and thoracic medicine, and has worked at Liverpool Hospital for the past 16 years. Together with Dr Melina Gattellari, John has established the Heart and Brain Collaboration, a research group at the Ingham Institute for Applied Medical Research.

John’s current research spans randomised control trials to improve stroke prevention in atrial fibrillation and neuro-epidemiology studies using routinely collected data and data linkage to examine stroke and TIA attack rates, outcomes and health service performance. Current projects include DESPATCH (NHMRC), OASIS (NHMRC), PRISM (CEC and UNSW), STOP-STROKE (Bupa), Home to Outcomes (OHMR) and CARERA, a study of innovative bedside monitoring in critical brain injury. These projects are carried out under the auspices of the South Western Sydney Clinical School, UNSW and the Ingham Institute. The research itself involves extensive collaboration with cardiologists, general practitioners, neurosurgeons, biostatisticians, academic nurses, epidemiologists and public health specialists.

Dr Worthington is currently the Medical co-Chair of Stroke Services NSW, the NSW clinical stroke network, a member of the CEC’s eChartbook Advisory Group, and provides clinician governance for the Agency of Clinical Innovation’s response to unwarranted clinical variation in stroke. He has provided educational materials and advice on safe and effective use of antithrombotics in stroke prevention for both the National Stroke Foundation and the National Prescribing Service and has given over 40 invited talks on evidence based stroke care and prevention. He is an active academic reviewer for international scientific journals including BMJ, New England Journal, Hypertension, Stroke, Neurology, MJA and the Journal of Neurology, Neurosurgery and Psychiatry (JNNP) and has written invited editorials for both Stroke and JNNP.

Associate Professor VINCENT WONG

Vincent Wong is the Director of Diabetes and Endocrinology at Liverpool Hospital and a conjoint Associate Professor at UNSW Australia. He completed his medical degree at University of Sydney and graduated with first class honours in 1994. He undertook his endocrine training at Westmead Hospital and pursued his PhD studies in the field of diabetes and cardiovascular disease. Under the supervision of Professor Wah Cheung and Dr Susie Mihailidou, he was involved in the Hi-5 study that examined the role of insulin therapy following acute myocardial infarction, and he also developed an in-vitro model of regional acute ischaemia on rabbit hearts.

Over the years Vincent has received the Cardiovascular Lipid Research Grant, Novo Nordisk Regional Diabetes and Research Grant and Novo Nordisk-ADIPS Grant. He was the recipient of the Young Researcher Award, International Diabetes Federation – Western Pacific Region in 2002.

Since he arrived at Liverpool Hospital in 2006, Vincent has developed a new research focus in diabetes in pregnancy, mainly as a result of the high prevalence of gestational diabetes in south west Sydney. He maintains a strong interest in cardiovascular disease and works closely with the Department of Cardiology on a number of studies. He is also involved in research projects with the Department of Nuclear Medicine and the Epidemiology Group, Healthy People and Places Unit.

Dr Wong is committed to promoting diabetes research in south western Sydney and he is keen to collaborate with other research groups in the future.
TEACHING IN THE SOUTH WEST

Undergraduate Coursework

UNSW in the south west of Sydney provides learning opportunities across all Phases of the Medicine Program to more than a fifth of all UNSW medical students. Students undertake placements at Liverpool, Bankstown-Lidcombe, Fairfield, Braeside, Campbelltown and the 1st Health Support Battalion hospitals and at a range of primary care and population health services.

In addition a number of south west Sydney based UNSW academics and conjoint appointees contribute to teaching on the Kensington campus in Phase 1 Scenario Facilitation, Phase 2 case method tutorials and the Year 4 biomedical science program.

Medicine and Surgery

At any given time, Medicine and Surgery have approximately 80 Phase 2 and 70 Phase 3 students allocated across the Liverpool, Bankstown and Fairfield campuses.

Phase 3 teaching consists of student integration into the clinical team, weekly therapeutic and technique lectures, professorial viva tutorials, specialist viva tutorials, bedside tutorials, presentation at Grand Rounds and attendance at team meetings. Phase 3 students also undertake a variety of skills sessions during their medical and surgical terms.

All final year students also undertake PRINT (Preparation for Internship) which allows students to integrate into a team of their chosen discipline and operate at a sub-intern level. During the PRINT term, various case method tutorials are facilitated and these are aimed at providing students with experiences they can expect to encounter as an intern. Case method tutorials include topics such as postoperative conditions, medication charts, communication with nursing and senior medical staff and dealing with unexpected deaths.

Phase 2 sees students undertaking various medical and surgical activities during their adult medicine terms. Weekly themes include exercise and health, respiratory medicine, cardiology, nephrology, gastroenterology and trauma. Students gain broad exposure to medicine and surgery during these structured weeks.

Aged care and oncology terms also give students exposure to the broad spectrum of medicine, oncology, rehabilitation medicine, palliative care, allied health and general surgery. The Adult Medicine component of the course also incorporates several skills sessions for students.

The number of Phase 1 students placed in the south west of Sydney has increased to more than 140 in 2013. These students, as part of their introduction to the clinical environment, undertake fortnightly tutorials as part of placements at Liverpool, Bankstown-Lidcombe and Fairfield hospitals.

Critical Care

The Critical Care term encompasses emergency medicine, intensive care and anaesthetics with students allocated across the hospitals of south western Sydney. Each year approximately 46 Phase 3 students undertake four weeks in the Emergency Department, two weeks of intensive care and two weeks of anaesthetics. Students are expected to integrate into the team and perform at sub-intern level. Teaching within the term includes a weekly tutorial timetable and several clinical skills sessions. Emergency and anaesthetics exams are held at the end of the term. This level of integration ensures that SWSCS critical care terms are highly sought after by students.
Obstetrics and Gynaecology

The Discipline of Obstetrics and Gynaecology facilitates teaching for students across all Phases. In 2013, more than 60 Phase 3 students undertook an eight week term in south western Sydney. These terms included clinical attachments, attendance at antenatal clinics, clinical skills sessions, attendance at the birthing unit and an end of term objective structured clinical examination (OSCE).

Approximately 80 Phase 2 students also undertook a two and a half week term within SWSLHD in 2013.

Paediatrics

The number of students allocated to south western Sydney for Phase 3 paediatrics attachments remains steady at an average of 71 per year. With the implementation of Phase 2, there are also 12 additional students per term allocated to SWSLHD hospitals. During this term, students spend one week at the Neonatal Intensive Care Unit (NICU), a general paediatrics ward, Fairfield Hospital and a community health setting.
Pathology

Pathology and Therapeutics teaching continues to occur at the south western Sydney hospital sites, facilitated mainly by conjoint staff. Alongside weekly tutorials delivered to the hospital sites via videoconference from Liverpool Hospital, students also attend diagnostic laboratories, dissection of surgical specimens and autopsies in the Department of Anatomical Pathology, as well as scheduled visits to the NSW Institute of Forensic Pathology.

Primary Care

Since the introduction of Phase 2, students undertaking primary care terms through Society and Health have been allocated to Braeside Hospital, 1HSB at Holsworthy, community health and general practices across the south west of Sydney for community clinical attachments and course tutor sessions. The GP Unit at Fairfield Hospital also makes a very significant contribution to teaching of Phase 1 Clinical and Communication groups allocated to the Hospital.

Psychiatry

The School of Psychiatry allocates approximately 45 Phase 3 students per year for an eight week psychiatry term in the south western Sydney hospitals. During these eight weeks, students undertake a full time clinical attachment, receive weekly tutorials and perform supervised patient interviews. Viva and written examinations are held at the end of the term.

Examinations

Liverpool Hospital continues to host a range of student examinations throughout the year including the Phase 1 Integrated Clinical Examination (ICE), Phase 2 ICE and the Phase 3 Clinical, Viva and Portfolio examinations.

The staff at SWSCS thank the academics and conjoint appointees who have contributed to these examinations by acting as examiners and supervisors and by helping to recruit patients.

The School is also grateful to the patients and volunteers who have acted as surrogates and the patients who have given their time to assist in the execution of exams in the south west.
Ingham Institute Clinical Skills and Simulation Centre

The Ingham Institute Clinical Skills and Simulation Centre is an interprofessional, state of the art simulation centre that opened in January 2013 and was officially launched by the Federal Minister for Health on the 11th June 2013. The Centre is utilised by a wide range of stakeholders including staff employed by the South Western Sydney Local Health District, health professional students from UNSW Australia and the University of Western Sydney and trainees from a range of professional colleges and associations.

2013 UTILISATION OF THE CENTRE

- **32%** SWSLHD/CEWD programs
- **31%** Liverpool Hospital clinical teams and services activities
- **18%** UNSW activities across phases and UITCT
- **12%** Others
- **7%** UWS medical and allied health students

FUNDING SUPPORT FOR THE CENTRE

- **17%** SWSLHD cleaning, utilities and maintenance
  - Cleaning and utilities for building; Allied Health contribution to simulation educator staffing
- **83%** UNSW staff, resources and equipment
  - Reception; managing bookings; set up/tear down; specialist expertise to users on use of simulation; technical support to events
  - Basic consumables and ongoing enhancement of the equipment pool and audiovisual resources
The Clinical Skills and Simulation Centre is a teaching resource for the Liverpool Hospital and is represented on the hospital Patient Safety and Resuscitation Committees. This enables the utilisation of simulation as a tool to improve patient care and identify health system issues that may need to be improved. The Centre works in partnership with the South Western Sydney Local Health District Centre for Education and Workforce Development to deliver high quality simulation and skills based programs to staff across the LHD.

The Centre is managed day-to-day by the South Western Sydney Clinical School in line with funding agreements with the Health and Hospitals Fund and Health Workforce Australia. A Governance, Planning and Management Committee with representation by the many stakeholders in health professional education in south western Sydney oversees the strategic direction of the Centre.

High fidelity equipment facilitates the delivery of complex clinical scenarios via immersive simulation and facilitated debriefs. Mannequins available in the centre include SimMan 3G, Megacode Kelly, Resusci Anne Simulator, Ambu Airway SmartMan and a variety of part task trainers and models for procedural skills training.

Innovation in education delivery within the Centre includes the Anatomage Table, a technologically advanced anatomy visualisation system for anatomy education. The Anatomage Table is a combination of unique hardware and software that resembles an operating table or hospital bed and is able to digitally display 3D gross body male and female contents, 3D High Resolution regional anatomy with a digital anatomy library with over 120 pathological examples. The data are from real patient scans or cadavers, and thus highly accurate. The Anatomage Table is the only system that can display true human gross anatomy in real life size, it can be used for radiology, surgery case review, patient consultation, and research purposes as well as anatomy education.

The Centre has a focus on interdisciplinary team and communication skills training in the Simulated Learning Environment particularly for high stakes emergency teams. The Centre Educators are available for consultation on simulation scenario development and delivery. There is an Allied Health Simulation Educator and there are a variety of Allied Health specific simulation based learning programs.

The Centre received funding from Health Workforce Australia, in 2013, to develop, deliver and evaluate an undergraduate interprofessional team communication training program, U-UTCT. This funding has supported the employment of a part time Medical Simulation Educator, part time Nurse Simulation Educator and part time Allied Health Simulation Educator for the duration of 2014 for program delivery.

The Australian National Trauma Team Training Program is delivered by an Interprofessional faculty in the Centre and the venue is used by the Royal Australian College of Surgeons for the EMST – Early Management of Severe Trauma Program. Emergency Medicine Trainees participate in interprofessional team training days consisting of 5–6 highly immersive clinical scenarios with themes ranging from trauma through paediatric emergencies, medical emergencies and toxicology emergencies. The National Simulation Educators Training Program, NHET-Sim is also taught in the centre.

UNSW Australia has supported the purchase of the majority of equipment. It supports the permanent staffing at the Centre and funds more than 80% of the running costs of the Centre.
Two fully simulated Operating Theatre setups, including anaesthetic bays and scrub bays, are available. These two rooms can be reconfigured to represent Resuscitation Bays or Intensive Care Unit bed bays or a combination of all of these clinical spaces.

There are two clinical skills labs for procedural skills teaching that incorporate video recording and videoconferencing. These skills labs can also be opened up for large group teaching or a multiple casualty scenario. Large screen televisions are available in each skills lab and simulation room for power point/multimedia presentations.

There are eight Outpatient Consultation rooms set up for patient assessment and communications training and these spaces are also used for exams and formal assessments. The consultation rooms have video and audio capability.

There are four debrief/classroom spaces with video live streaming and replay capability as well as videoconference capability and interactive whiteboards.
Prizes and Awards

Between 2011-2013 a number of prizes and awards have been distributed to UNSW staff and students.

### Ian Webster Medal

This medal, named in honour of the inaugural SWSCS Clinical Associate Dean, Professor Ian Webster, was instituted in 2007 as a means of recognising outstanding performance by a student studying medicine, surgery and critical care terms in south western Sydney.

Each year this medal is presented to the student who achieves the highest grades in the final year barrier examinations. Recipients of the award in the period of this report were:

<table>
<thead>
<tr>
<th>Year</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>Benjamin Nham</td>
</tr>
<tr>
<td>2012</td>
<td>Joanna Connolly</td>
</tr>
<tr>
<td>2013</td>
<td>Mico Chan</td>
</tr>
</tbody>
</table>

### Tom Gibian Prize

The Tom Gibian Prize, named in honour of the foundation warden of the Bankstown campus of South Western Sydney Clinical School recognises student leadership amongst final year students.

Recipients of this prize during this period were:

<table>
<thead>
<tr>
<th>Year</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>Saissan Rajendran</td>
</tr>
<tr>
<td>2012</td>
<td>Geoffrey Lee</td>
</tr>
<tr>
<td>2013</td>
<td>Patricia Ly</td>
</tr>
</tbody>
</table>

### Prize in Surgery

Awarded for the top result in Surgery component of course:

<table>
<thead>
<tr>
<th>Year</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>Pratik Rastogi</td>
</tr>
<tr>
<td>2012</td>
<td>Jared Millican</td>
</tr>
<tr>
<td>2013</td>
<td>Greg Kalogeropoulos</td>
</tr>
</tbody>
</table>

### Prize in Medicine

Awarded for the top result in Medicine component of course:

<table>
<thead>
<tr>
<th>Year</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>Benjamin Nham</td>
</tr>
<tr>
<td>2012</td>
<td>Michael Krigstein</td>
</tr>
<tr>
<td>2013</td>
<td>Greg Kalogeropoulos</td>
</tr>
</tbody>
</table>

### Teacher of the Year/Denise Lonergan Teaching Prize

Each year students are asked to vote to reward tutors whom they believe have taken innovative and exciting approaches to enhance their tutorials. During this period, teaching awards were presented to:

<table>
<thead>
<tr>
<th>Year</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>Denise Lonergan</td>
</tr>
<tr>
<td>2012</td>
<td>Ricardo Hamilton</td>
</tr>
<tr>
<td>2013</td>
<td>Navin Niles</td>
</tr>
</tbody>
</table>

### Clinical Dean’s Awards

The Clinical Dean’s Awards are designed to recognise excellence amongst teaching and research staff in the south west. During this period, Clinical Dean’s Awards were presented to:

<table>
<thead>
<tr>
<th>Year</th>
<th>Recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>David Davies, Ricardo Hamilton, Hamish Russell</td>
</tr>
<tr>
<td>2012</td>
<td>Ken Liu, Michael Maley, Scott Mackenzie, Kent Robinson, Saissan Rajendran</td>
</tr>
<tr>
<td>2013</td>
<td>Triet Bui, David Quang Phu Ho, Angela Kwong, Jessica Lai, Jyothi Marry, Carlos Pilasi, Ben Taylor, James Toh, May Wong</td>
</tr>
</tbody>
</table>

### Tutor of the Year Awards

Each year students are asked to vote to reward tutors whom they believe have taken innovative and exciting approaches to enhance their tutorials. During this period, teaching awards were presented to:

<table>
<thead>
<tr>
<th>Year</th>
<th>Recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>Christophe Berney, Ken Liu, Navin Niles, Eddy Thientosapol, Sanjyot Vagholkar</td>
</tr>
<tr>
<td>2012</td>
<td>Joel Lasschuit, Phillip Malouf, Christian Mussap, Benjamin Nham, Priyantha Wettasinghe</td>
</tr>
<tr>
<td>2013</td>
<td>Seymour Atlas, Andrew Knight, Blair Munford, Hajir Nabi, David Prince</td>
</tr>
</tbody>
</table>

### Distinguished Research Prize

In 2013, the South Western Sydney Clinical School established a distinguished research prize. Recipients include:

<table>
<thead>
<tr>
<th>Year</th>
<th>Recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>Minoti Apte, Liz Harris</td>
</tr>
</tbody>
</table>
Associate Professor Denise Lonergan is remembered in the South Western Sydney Clinical School Teaching Prize as a result of the significant contribution made by Denise to teaching across south western Sydney.

Associate Professor Lonergan graduated from the University of New South Wales in 1976 and after working at Sydney and Prince of Wales Hospitals, moved to south western Sydney to take up a position working at the Macarthur Cancer Therapy Centre in 2006. During her time working at Campbelltown, Liverpool and Bankstown Hospitals, Denise made a significant contribution to oncology teaching in both the UNSW and University of Western Sydney (UWS) programs and held the role of coordinator of oncology teaching at our Clinical School.

Denise was the foundation network director for radiation oncology training in the Southern NSW and ACT network and developed an excellent training program in this role. She was also a member of the Faculty of Radiation Oncology Education Board, the chair of the Faculty of Radiation Oncology Training Network Directors Forum, a member of the working party developing standards for the accreditation of training networks in NSW and a member of the working party for the evaluation of the new curriculum for radiation oncology training.

Denise also won several teaching awards, including the UNSW Clinical Associate Dean's Teaching Award, the UWS Clinical Dean's Award and the Royal Australian and New Zealand College of Radiologists (RANZCR) Faculty of Radiation Oncology Excellence in Teaching Award. In 2012, the School named the teaching award which Denise received in 2011 in her honour.

Denise is remembered by the School staff and her colleagues as a caring, thoughtful person, with a keen sense of humour. Her strengths included her holistic, compassionate patient care and the kindness, support and wisdom she gave to her colleagues and the students who trained with her.
Building Academic Infrastructure

The South Western Sydney Clinical School has undertaken an ambitious program to improve the educational infrastructure in south western Sydney hospitals by attracting funding of more than $12.8m for capital works and major research equipment. This is in addition to a significant direct investment by UNSW in staff and resources to support teaching and research across south western Sydney.

AARNet and Videoconference

In 2010, the South Western Sydney Clinical School was successful in gaining funding from the Department of Education, Employment and Workforce Relations (DEEWR) to expand the UNSW videoconference and data network to hospitals across south western Sydney using the Australian Academic and Research Network (AARNet).

This $3.66m project included the installation of high-speed fibre links to Liverpool, Bankstown-Lidcombe, Fairfield and Braeside Hospitals and the establishment of a network of videoconferencing facilities using this network. A total of eighteen new videoconference units have been connected via this network, along with five additional units being purchased for installation on the University of Western Sydney (UWS) network at Campbelltown and the South Western Sydney Local Health District (SWSLHD) network at Camden and Bowral.

During this report period the videoconference network has been expanded to incorporate a full digital operating theatre at Liverpool Hospital including a camera to broadcast the surgical field; a mobile unit for use in procedural facilities such as cardiac catheter suites, ultrasound facilities and endoscopy; and incorporate of videoconference capacity into the Ingham Institute Clinical Skills and Simulation Centre.

In addition to the videoconferencing network, UNSW has installed wireless access points for the UNSW network in a range of educational and research facilities at each of the south western Sydney hospitals. This network also includes eduroam which makes it possible for students and staff from any university who is a member of the eduroam consortium to access the UNSW network while on any of these campuses.

Anatomage and Clinical Skills

The South Western Sydney Clinical School has been responsible for obtaining the majority of the funding for the construction, fit out and staffing of the new Ingham Institute Clinical Skills and Simulation Centre which opened in 2013 (see page 26). Funding was obtained from the Health and Hospitals Fund (HHF) and Health Workforce Australia (HWA) based on applications for clinical skills and simulation infrastructure authored by UNSW.

Along with additional support from UNSW and the Ingham Institute, the $10m facility now includes key teaching resources for south western Sydney. In 2013, the School also added the Anatomage table, a 3D digital dissection table, as a resource at the Centre. The table provides a unique opportunity for teaching staff to enhance the anatomy knowledge of students in the clinical setting.
UNSW is part of the global eduroam network, so visitors can connect to the internet via eduroam at UNSW and UNSW staff and students can use the eduroam service at participating campuses both in Australia and overseas.

As eduroam is a roaming service, there is no need to register at a particular campus, simply select the eduroam wireless network on your device and use your username in the format z1234567@unsw.edu.au and zPass credentials to log on.

More information on eduroam is available via the UNSW IT Service Desk.
UNSW in the South West 2011-2013

The South Western Sydney Clinical School continues to support the Ingham Institute Clinical Skills and Simulation Centre. Approximately 80% of the operating costs of the Centre are met by UNSW with an annual contribution of more than $0.46m to support staffing, planning and teaching resources.

**Ingham Institute for Applied Medical Research**

UNSW continues to be a key partner in the Ingham Institute for Applied Medical Research. During the last three years UNSW has made a significant contribution to the Institute. This includes a more than $2m contribution to the establishment of the Institute precinct along with more than $1.5m in in-kind support to the Institute’s operation and more than $4m in direct contributions to the research groups that operate in the Institute.

**Libraries**

The South Western Sydney Clinical School continues to provide support to each of the medical libraries at Liverpool, Bankstown- Lidcombe and Fairfield Hospitals through the allocation of block grants each year to support the purchase of new books or other resources. In consultation with the School and local medical staff, the libraries utilise these funds to propose resources for inclusion as part of this allocation. UNSW also contributed to the Campbelltown Hospital library through the allocation of computers for use by the small number of UNSW students who undertake placements at Campbelltown.

**Student Amenities**

In addition to the expansion of the UNSW network to the major south western Sydney campuses, the South Western Sydney Clinical School has also invested significantly in the enhancement of student facilities at Liverpool and Bankstown. Renovation of both the Liverpool and Bankstown student common rooms occurred during 2011-2012. UNSW contributed new computers, managed print and furniture to these spaces. UNSW also made a considerable investment in keypad operated lockers which ensured that all health professional students at the south western Sydney campuses had access to secure locker facilities.
## INFRASTRUCTURE GRANTS

**Capital Development Pool DEEWR 2010-2011**

**University of New South Wales $3.66 million**  
Funding for a major information technology upgrade at the south western Sydney teaching hospitals of UNSW including the installation of direct AARNet fibre optics to connect the hospitals to the main campus of Kensington, renovate the Liverpool Hospital auditorium and install an 18 site videoconference network across south western Sydney.

**Health and Hospitals Fund DOHA 2010-2013**

**Ingham Institute Clinical Skills and Simulation Centre $6.38 million**  
As part of a broader Ingham Institute for Applied Medical Research ($50.5m) project, funds to develop a 900m² clinical skills and simulation centre at Liverpool Hospital. This facility incorporates seminar and tutorial space, simulated operating, critical care and outpatients space and skills laboratories.

**University of New South Wales 2011**

**Major Research Equipment and Infrastructure Initiative $99 500**  
Senior research coordinator for Ingham Institute for Applied Medical Research.

**University of New South Wales 2011**

**Major Research Equipment and Infrastructure Initiative $115 000**  
Applied Biosystems ViA7 Real-Time PCR System for Ingham Institute for Applied Medical Research.

**University of New South Wales 2011**

**Major Research Equipment and Infrastructure Initiative $95 250**  
Guava easyCyte 8HT Flow Cytometry System for Ingham Institute for Applied Medical Research.

**Health Workforce Australia 2011-2012**

**University of New South Wales $720 999**  
As part of a strategy to increase the capacity of south western Sydney hospitals to undertake clinical placements for MBBS students, successfully applied for $721,000 to install an integrated videoconferencing solutions for Liverpool Hospital theatres and the infrastructure for audiovisual control of the Clinical Skills and Simulation Centre.

**Health Workforce Australia 2012-2013**

**University of New South Wales $582 907**  
Successfully applied to HWA for funds to furnish, purchase high fidelity mannequins and expand the audiovisual capacity for the Clinical Skills and Simulation Centre at Liverpool Hospital.

**Health Workforce Australia 2012-2013**

**University of New South Wales $457 673**  
Successfully applied to HWA for funds to construct three additional teaching spaces at the Ingham Institute Clinical Skills and Simulation Centre.

**University of New South Wales 2012**

**Faculty IT Infrastructure Grants $30 000**  
Expansion of Uniwide network to the Ingham Institute Clinical Skills and Simulation Centre.

**University of New South Wales 2012**

**Major Research Equipment and Infrastructure Initiative $99 990**  
Olympus microscope system.

**Health Workforce Australia 2013-2014**

**University of New South Wales $300 000**  
Medical, nursing and allied health educator staff to support the pilot of an interdisciplinary communication program amongst health professional students.

**University of New South Wales 2013**

**Major Research Equipment and Infrastructure Initiative $250 000**  
Circulating tumour cell system for Ingham Institute for Applied Medical Research.

**University of New South Wales 2013**

**Major Research Equipment and Infrastructure Initiative $80,000**  
Near-Infrared Cerebral Oxygination and Non-Invasive Continuous Blood Pressure Monitoring Equipment for Liverpool Hospital.
UNSW Australia is a research intensive university and member of the Group of Eight (Go8). The university is host to groundbreaking research in a number of areas and researchers in south western Sydney contribute to this research in a number of ways. UNSW has strong collaborative links with industry and business, consistently performing in the top nationally in Australian Research Council Industry Linkage Grants. UNSW expertise is regularly sought by business and government for a wide variety of consultancy and training services.

A number of UNSW affiliated research groups are based in the south west of Sydney with research interests as diverse as basic science, clinical trials and health systems research. Here are a few of them.

Aged Care - Bankstown

The Aged Care Department of Bankstown-Lidcombe Hospital, led by Professor Daniel Chan, has been actively involved in a range of research related to Parkinson’s disease and vascular diseases including stroke. The main focus of the Department’s Parkinson’s disease research has been in the molecular aspect of the disease. Collaborative studies looking at treatment of vascular dementia with China are also being developed with a pilot study underway at Bankstown showing promising results.

Other research projects include models of care for stroke patients, delirious patients and patients with behavioural disturbance and projects in the area of falls prevention using video education.

Members: Professor Daniel Chan, Dr Nady Braidy, Dr Christina Xu, Dr Iveta Valachova, Dr Anita Ko, Dr Frank Liu, Dr Van Nguyen and Dr Gyeong Stroud

Aged Care Research - Liverpool

Research undertaken by the Unit has focused on multidisciplinary, clinically based research into geriatric syndromes, particularly the evaluation of cognition in culturally diverse populations. Other areas of interest include the evaluation and management of acutely unwell older people in the Emergency Department and inpatient settings, long-term outcomes of service provision, dementia care in culturally and linguistically diverse (CALD) communities, advance care planning and end-of-life care. Projects include large-scale externally funded studies and unit-based quality improvement projects.

Highlights during the report period include:

- Completion of an NHMRC-funded grant on dementia in CALD communities, focusing on the perspectives of family carers and health service providers. The project targeted four CALD populations in south western Sydney (Arabic, Spanish, Chinese and Italian). Results from the project were reported in six peer-reviewed journal papers.
- Securing a $324,000 grant from Alzheimer’s Australia that involved initiating and leading a consortium of researchers and practitioners from across Australia to develop a nationally-focused website and campaign to promote advance care planning.
- Development of an online education program on behalf of the University of Wollongong to support overseas qualified nurses working in dementia care settings
- Participation in a project with the Clinical Excellence Commission called ‘Top 5’ to improve care of patients with dementia. The Unit is supplying outcome data on falls, complaints, diagnosis of dementia and anti-psychotic use.
- Development of systems – in collaboration with Emergency Department staff – to improve the identification and admission pathways of frail older patients and patients with delirium.
• Analyses from the Unit’s comprehensive patient database including coding and casemix review, falls mapping and review of IIMS data.
• Participation in the Koori Growing Old Well Study – an NHMRC project investigating dementia within Aboriginal communities.

Members: Dr Chris Shanley, Dr David Basic, Dr David Conforti, Dr Angela Khoo, Dr Desiree Leone and Dr Tabitha Hartwell

Arthritis Research Unit

The Arthritis Research Unit within the Rheumatology Department at Liverpool Hospital has three active research programs: inflammation basic science; clinical and health services research relevant to rheumatic and autoimmune diseases and medical education and evaluation research.

The Unit’s research focus is centred on common types of arthritis and related autoimmune diseases, including rheumatoid arthritis (RA), scleroderma, and systemic lupus erythematosus (SLE). It seeks to explore underlying mechanisms operating in these diseases and how they are managed, with the aim of developing new or improved treatments. The Unit has collaborations with basic science researchers in the Inflammation and Infection Research Centre (IIRC) at UNSW and is part of the Asia Pacific Lupus Collaboration (APLC).

Currently, the following research activities are underway:
• Basic science programs studying how mast cell tryptases cause cartilage damage in arthritis; structure/function studies of tryptase variants; the role of leukocyte immunoglobulin-like receptors (LILRs) in RA and SLE; and the significance of autoantibodies to lipoproteins in SLE.
• Clinical research, currently developing a clinically useful low disease activity index for SLE (in collaboration with APLC), examining the place of vertebroplasty as a treatment for osteoporotic crush fractures; health literacy of consumers; and the evidence base underpinning clinical rheumatological practice.

• Health services research studying the impact of electronic medical records on rheumatology outpatient work practices.

Members of the Unit are also involved in educational research stemming from design and evaluation of UNSW’s innovative undergraduate Medicine program.

The Unit’s research program is based in the Ingham Institute with collaborations at the IIRC in the School of Medical Sciences at UNSW’s Kensington campus.

Members: Dr Katherine Bryant, Associate Professor Kathy Gibson, Dr Geraldine Hassett, Professor Patrick McNeil, Dr Sean O’Neill and Dr Vivek Thakkar

Centre for Health Equity Training, Research and Evaluation (CHETRE)

CHETRE’s mission is to achieve better and fairer health for families and communities in south western Sydney, and throughout Australia and internationally, through conducting research that:
• enhances understanding of the needs of vulnerable families and communities; 
• develops and trials interventions to improve health and address health inequities; and
• develops and trials ways to widely and sustainably implement effective interventions and innovations to improve health and health equity in whole populations.
CHETRE conducts world-leading health equity research with programs of work in children and young people research, research with communities and populations, and implementation and translational research to support population and service system uptake of effective interventions and social innovations to improve health equity. CHETRE is part of Population Health South Western Sydney Local Health District, the UNSW Australia Centre for Primary Health Care & Equity and the Ingham Institute for Applied Medical Research.

**Members:** Ms Cheryl Jane Anderson, Ms Fiona Byrne, Associate Professor Elizabeth Comino, Ms Emma Friesen, Dr Rebekah Grace, Ms Fiona Haigh, Associate Professor Elizabeth Harris, Dr Patrick Harris, Dr Iqbal Hasan, Mr Oshana Hermiz, Dr Michiko Hoshiko, Mrs Catherine Kaplun, Ms Elizabeth Kemp, Associate Professor Lynn Kemp, Dr Jennifer Knight, Ms Mary Knopp, Ms Fakhrha Maan, Mr Harrison Ng Chok, Ms Mellanie Rollans, Dr Vanessa Rose, Ms Sheryl Scharkie, Ms Kate Short, Ms Joan Silk, Ms Jaimie Tredoux, Ms Natasha West, Ms Anna Williams, Ms Siggi Zapart, Mr Nicholas Rosser, Ms Karla Jaques, Ms Brehanna Kaplun

**CONCERT TCRC**

The Centre for Oncology Education and Research Translation (CONCERT) embeds translational cancer research into clinical practice, encompassing basic science, clinical, psychosocial and health services research. CONCERT brings together a diverse consortium of 200+ professional members spanning all aspects of cancer research, diagnosis, treatment and care.

CONCERT’s NSW institutional stakeholders include UNSW Australia, the University of Western Sydney, the University of Wollongong, the Ingham Institute for Applied Medical Research, Illawarra Health and Medical Research Institute, and the Illawarra Shoalhaven and South Western Sydney Local Health Districts (LHD), as well as collaborating partner institutions in the ACT (Health Directorate ACT Government, Australian National University and University of Canberra).

CONCERT’s large demographic footprint serves a population of over 1 million, with a large catchment of new cancer cases (16% in NSW), including potentially more vulnerable populations of culturally and linguistically diverse backgrounds or living in rural/remote areas.

CONCERT TCRC is funded by Cancer Institute NSW (CINSW) to the tune of $6.5m for five years and was launched in July 2014. UNSW and Ingham Institute are responsible for administration and management, respectively, of CONCERT TCRC.

CONCERT is building on the success of the South West Sydney Translational Cancer Research Unit (SWS TCRU), established over the past three years through CINSW funding. The proud achievements of the SWS TCRU include:

- Designed the integrated MRI-Linear Accelerator (MRI-Linac), an Australian-first initiative where radiation and imaging of tumours is done both in real-time, more effectively targeting radiation towards the tumour.
- Established the Translational CTC facility, unique to NSW. Measuring CTC and their genetic profile has huge potential for improving prognosis and treatment of cancer patients.
- Built up an inter-regional biobank for cancer tissue, with more than 3200 bio-specimens now available for tumour research in the SWSLHD and Illawarra Shoalhaven LHD.
- Expanded psychosocial research to enhance cancer patients’ and carers’ coping mechanisms.
- Developed new preclinical models that more closely resembled the clinical situation, for testing novel therapies for pancreatic cancer.
- Developed the first Australian evidence-based guidelines for cancer pain management.
- Demonstrated feasibility for smarter decision-making to improve treatment of lung cancer patients.
- Reduced medication side effects in cancer patients through electronic record keeping for chemotherapy prescription in the Illawarra Shoalhaven LHD.
- Trained the next generation of oncologists and medical researchers through clinical and academic programs.

**Collaboration for Cancer Outcomes Research and Evaluation (CCORE)**

The Collaboration for Cancer Outcomes Research and Evaluation (CCORE), established in 1999, is affiliated with the Cancer Therapy Centre, Liverpool Hospital and the Ingham Institute for Applied Medical Research. The Liverpool Hospital Cancer Therapy Centre is a tertiary referral centre for the treatment of cancer patients in south western Sydney.

CCORE aims to improve cancer outcomes through research and the implementation of best practice measures into routine clinical practice in the treatment of cancer. CCORE has particular expertise in radiotherapy but also has broad interests in all areas of cancer management. Staff members include radiation oncologists, a medical oncologist, epidemiologist, data managers and project officers.
CCORE has a wide range of activities that extend from the individual cancer patient to the organisation of cancer services at state, national and international levels. Our research covers the broad spectrum of clinical cancer including surgery, medical and radiation oncology, and is achieving these aims through the following strategies:

- establishment, implementation and evaluation of best practice guidelines and evidence summaries;
- exploration of methods by which best practice guidelines may be implemented locally;
- cancer clinical outcomes research;
- refining of methodologies of clinical research including quality of life, economic and qualitative programs; and
- establishment of partnerships and linkages between clinicians, universities and other clinical research groups locally and internationally.

Many members of CCORE hold conjoint appointments at UNSW and four staff are currently enrolled in PhDs under the supervision of Professor Michael Barton OAM. Three PhDs have been awarded in the last year.

CCORE has been very productive with many peer-reviewed publications, contributions to National Tumour Guidelines and commissioned reports. Following the publication of a report on the optimal utilisation of radiotherapy as a series of papers in Cancer the benchmark developed is currently being used and acknowledged worldwide.

Led by Professor Barton, a number of large collaborative studies that have had a major impact on policy and practice in relation to state, national and international strategic planning projects for cancer services have been completed, including:

- Victorian Cancer Services Framework Report
- Applied Sciences of Oncology Course
- Papua New Guinea Cancer Services Report
- New South Wales Cancer Council’s Radiotherapy Summit and Working Party
- Overview of Cancer Treatment Services in Western Australia
- Optimum radiotherapy utilisation
- A feasibility study of radiotherapy in the Northern Territory
• Radiotherapy in low and middle income countries
• Southern NSW Radiation Oncology Training Network for Registrars
• Optimal chemotherapy utilisation in cancer
• Adult Glioma guidelines

Members: Professor Michael Barton, Professor Geoff Delaney, Dr Gabriel Gabriel, Dr Timothy Hanna, Dr Susanna Jacob, Dr Eng-Siew Koh, Dr Myo Min, Dr Weng Ng, Dr Trang Pham, Dr Jesmin Shafiq, Dr Mei-ling Yap and Dr Karen Wong

Community Paediatrics and Child Health

The Departments of Community Paediatrics and Child Health are active participants and leaders in state-wide, metropolitan, Area and local initiatives for children, young people and their families. The aim of the SWSLHD Departments of Community Paediatrics and Child Health is to ‘Improve and protect the health and development of children, young people and their families in Sydney South West Area Local Health District, through the delivery of population child and youth health programmes, service improvement, and developmental, behavioural, child protection and “high needs” paediatric clinical services.”

The services are committed to clinical innovation and service improvement and achieve this through a number of population health and clinical improvement projects which are cross-cutting and involve collaborations across agencies and sectors of society. These include clinical projects such as the development of clinical practice guidelines for clinicians in Emergency Departments to assist them in their assessment and acute management of crying and unsettled infants; supporting the development of LHD guidelines to support the psychosocial assessment of vulnerable women who are expecting/ have a new baby; working with Families NSW to update the Love Talk Sing Read Play resources and implement and evaluate a social media strategy for this project. More recently, Community Paediatrics and Child Health, together with Families NSW are commenced the re-development of the Aboriginal resource “Deadly Tots” into an interactive phone app which will be subsequently evaluated by our team members. The services are also active in the area of child protection research.

The Departments collaborate with the Centre for Health Equity, Training, Research and Evaluation (CHETRE) on a number of Aboriginal development projects including the Gudaga Goes to School Project and Bulundidi Gudaga – a Closing the Gap study. Additionally, the New Directions project is being conducted in collaboration with the child and family health nurse who run a sustained home visiting program for Aboriginal families living in the Liverpool, Fairfield and Bankstown Local Government Areas.

The Departments are also active in the development of population child and family health initiatives and supports Public Health Medicine trainees and through the supervision of medical student placements by UNSW students.

Early Years research continues to grow across both SWSLHD and SLHD through the Early Years Research Group (EYRG), which was established in 2010 under the leadership of Associate Professor John Eastwood. The group brings together perinatal, paediatric and child health clinical and community health professionals interested in early years research and is focussed on advancing the understanding of early developmental origins of health and disease and to translate research outcomes into clinical practice which improves the prognosis and outcomes of children and the delivery of better health services to children and their families.

A secondary objective of the EYRG is to strengthen research capacity and promote collaborative research. This is facilitated by the EYRG Research Coordinator, Dr Alexandra Hendry, who supports people interested in conducting early years and child health research in the SWSLHD and SLHD and assists them with project design, ethics applications, project implementation, data analysis and final dissemination. The EYRG ‘flagship’ project is the Maternal and Child Health Outcomes Data Project. The EYRG is undertaking epidemiological and health services research to identify associations between early life experiences and the health, development and welfare of infants born in SWSLHD and SLHD. This project explores in detail the maternal and child health situation in these LHDs, and describes how families with young children engage with the available health services. This is particularly important to know and understand as it will assist with the planning and delivery of effective and dedicated health services to support families with young children, especially the socio-economically disadvantaged and vulnerable.

Members: Dr Sunil Adusumilli, Dr Joanna Alexander, Dr Kate Alexander, Dr Indra Alexander, Dr Roger Blackmore, Dr Margaret Brown, Dr Lenina Chennariyil, Dr Ritu Datta, Associate Professor John Eastwood, Dr Pankaj Garg, Dr Sherly Halim, Dr Alexandra Hendry, Dr Romy Hurwitz, Dr Kalpesh Jain, Dr Paul Joshua, Dr Alaric Koh, Dr Jean Lim, Dr Jenny McDonald, Dr Ross McLeod, Dr Tania May, Dr Justine Nobel, Dr Natalie Ong, Dr Chitra Parab, Dr Jacky Pollack, Ms Tracey Popham, Dr Shanthi Raman, Dr Amy Rogers, Dr Sandra Smith, Dr Douglas Thenuwara, Dr Grace Wong, Dr Suky Yim and Dr Terence Yoong
Diabetes and Endocrinology

The overall aim of the research programme at the Department of Diabetes and Endocrinology at Bankstown-Lidcombe Hospital is to investigate clinical aspects of diabetes management and diabetes education that may result in findings of benefit to those who have diabetes and those who suffer from its many complications. Of particular interest to the Department in this regard are the possible applications of computer technology to the assessment and management of diabetes by patients and the health professionals who care for them.

The Diabetes Centre actively encourages teaching, quality audit and research activity and all members of the Department have undertaken in-house and collaborative clinical audit and research work in many aspects of diabetes care. As a multidisciplinary Department all staff are involved in undergraduate and postgraduate education for medical, nursing and allied health disciplines. The Department actively encourages professional development and several members of the Department have undertaken postgraduate degree courses.

The Diabetes Centre has a longstanding interest in information technology applications and significant expertise in data sets and audit activities with a national and international reputation. The Department functioned (until Dec 2012) as the National Benchmarking Centre for Quality Audit Activities in Diabetes and was involved in the coordination of eight Australian National Diabetes Information Audit & Benchmarking (ANDIAB) surveys since 1998. An ANDIAB survey (2011) and an ANDIAB2 survey (2012) were co-ordinated in 2011-2013.

In 2011-2013, two research funding applications were successful and research work was accepted for presentation at scientific meetings including 37 papers and posters. The unit published nine journal articles and two national reports. Members of the Department have been invited speakers at national and international meetings, and several serve on diabetes advisory boards and committees to SWSLHD and to State and Commonwealth governments.

Members: Dr Sarah Abdo, Ms Robyn Barnes, Ms Nikki Edghill, Associate Professor Jeff Flack, Ms Catherine Finneran, Ms Gael Holters, Dr Min Ling, Ms Jessica MacKenzie, Ms Adedapo Oni, Ms Jane Payne, Dr Glynis Ross, Mr B Sandiforth, Ms Megan Stephens and Dr Tang Wong

Electron Microscopy Laboratory

The Electron Microscopy Laboratory (EML) is primarily responsible for diagnostic examination of surgical specimens in Anatomical Pathology. Research activities include quantification of angiogenesis in prostate cancer, analysis of cell types involved in the pathogenesis of renal fibrosis and ultrastructural characterisation of brain neoplasms.

Members: Professor David Davies, Professor Jim Yong, Dr Yuri Bobryshev and Associate Professor Murray Killingsworth

Emergency Medicine Research Unit

Since its establishment in late 2005 the Emergency Medicine Research Unit has undertaken numerous research and academic activities including participation in several multicentre clinical trials, completion of numerous internal research projects, invitations
HIGH IMPACT PUBLICATION


BACKGROUND: Prospective human studies of anaphylaxis and its mechanisms have been limited, with few severe cases or examining only 1 or 2 mediators.

OBJECTIVES: We wanted to define the clinical patterns of anaphylaxis and relationships between mediators and severity.

METHODS: Data were collected during treatment and before discharge. Serial blood samples were taken for assays of mast cell tryptase, histamine, anaphylatoxins (C3a, C4a, C5a), cytokines (IL-2, IL-6, IL-10), soluble tumor necrosis factor receptor I, and platelet activating factor acetyl hydrolase. Principal component analysis defined mediator patterns, and logistic regression identified risk factors and mediator patterns associated with reaction severity and delayed reactions.

RESULTS: Of 412 reactions in 402 people, 315 met the definition for anaphylaxis by the National Institute of Allergy and Infectious Diseases/Food Allergy and Anaphylaxis Network. Of 97 severe reactions 45 (46%) were hypotensive, 23 (24%) were hypoxemic, and 29 (30%) were mixed. One patient died. Severe reactions were associated with older age, pre-existing lung disease, and drug causation. Delayed deteriorations treated with epinephrine occurred in 29 of 315 anaphylaxis cases (9.2%) and were more common after hypotensive reactions and with pre-existing lung disease. Twenty-two of the 29 delayed deteriorations (76%) occurred within 4 hours of initial epinephrine treatment. Of the remaining 7 cases, 2 were severe and occurred after initially severe reactions, within 10 hours. All mediators were associated with severity, and 1 group (mast cell tryptase, histamine, IL-6, IL-10, and tumor necrosis factor receptor I) was also associated with delayed deteriorations. Low platelet activating factor acetyl hydrolase activity was associated with severe reactions.

CONCLUSIONS: The results suggest that multiple inflammatory pathways drive reaction severity and support recommendations for safe observation periods after initial treatment.
Established projects include the identification and use of protein biomarkers in IBD awarded patents through UNSW, genetic markers in pancreatic cancer, endoscopic ultrasound and fine needle biopsy, confocal endomicroscopy and functional imaging of the gastrointestinal tract, optical biopsies of dysplasia and clinical drug trials for inflammatory bowel diseases in NSW.

Professor Rupert Leong was the supervisor of two finalist Young Investigator Award researchers at the AGW conference of 2014 and two Young Investigator Award finalisters including the eventual runner up at the Institute of Digestive Diseases conference in Hong Kong.

Genomic sequencing of pancreatic cancer research has been completed by PhD student and Gastroenterology VMO Dr Jeremy Humphris. Dr Sam Al-Sohaily and Dr Ken Koo have completed their PhDs on colorectal cancer biomarkers and epidemiology.

Members: Dr Ahmad Alrubai, Dr Sam Al-Sohaily, Professor Andrew Biankin, Dr Rhys Butcher, Dr David Chang, Dr Jeremy Humphris, Dr Ken Koo, Professor Rupert Leong, Dr Chris Meredith, Associate Professor Neil Merrett, Dr Darren Pavey, Professor Shan Rajendran and Ms Diane Redmond

**General Practice Unit**

The academic **General Practice Unit** is an independent teaching general practice situated in Fairfield Hospital, providing services to health service staff, refugees and the local community. The Unit works closely with the Medicare Local to support local general practices and develop, implement and evaluate innovative and culturally appropriate models of care at the primary-secondary care interface.

The GP Unit are an integral part of the UNSW South Western Sydney Clinical School, School of Public Health and Community Medicine (SPHCM) and Centre for Primary Health Care and Equity (CPHCE). We teach in all three Phases of the UNSW Medicine program. The Unit has also completed, with funding from the Sydney ICTN, a pilot study and developed an online resource to support inter-professional teaching and learning at Fairfield.

The Unit has an emphasise on cultural respect in all they do with the communities and as part of undergraduate and GP registrar training. As part of the Primary Health Care Research Unit (PHCRU) the Unit focuses on building the research capacity of primary care professionals.

Research and evaluation activities, with funding from agencies such as the NHMRC and ARC, are focused on the systematic and integrated care of high prevalence chronic illness (including cancer), prevention and management of chronic disease risk factors, health services research and health systems with a focus on health informatics and eHealth. The Unit is also examining multidisciplinary primary care, with a focus on the practice nurse, and multidisciplinary integrated care, particularly across the interface between primary and acute care. Professor Liaw is a chief investigator in the NHMRC Centre of Research Excellence for eHealth, APHCRRI Centre of Research Excellence in Obesity in Primary Care (COMPaRE) and, more recently, the WHO Collaborating Centre in eHealth.

The communities the Unit has particularly interest in include Australians of Aboriginal descent and from CALD backgrounds. With funding from GP Synergy, the GP Unit has developed and pilot-tested a Cultural Respect Program and Toolkit to improve ways of thinking and ways of doing cultural respect in general practice. A cluster randomised controlled trial (RCT) to evaluate this tool definitively.

With funding and other support from the UNSW Faculty of Medicine, MREII and South Western Sydney Local Health District, the Unit has established an eResearch facility (infrastructure and protocols) - the UNSW electronic Practice Based Research Network (ePBRN) - in the Fairfield health neighbourhood.

The ‘community laboratory’ to support translational health services research and clinical trials is currently represented by 10 general practices, Fairfield Diabetes Service and Fairfield Hospital. The ePBRN extracts and links routinely collected data from electronic information systems of participating general practices and health service units. The ePBRN supports our current research program in integrated care research, translational (T2 and T3) research, clinical trials, cohort studies, association studies and longitudinal studies in the context of high prevalence chronic diseases (including cancer) and acute health problems such as infectious diseases. The ePBRN currently also supports the development of ‘virtual case-control studies’ to examine determinants of good diabetes cycle of care as well as the use of the ‘big data’ to develop predictive models, with funding from the HCF Research Foundation, for admission/re-admission of patients with diabetes.

Members: Dr Sarah Dennis, Dr Dayna Griffen, Dr Fatema Khatun, Dr Andrew Knight, Mr Alireza Rahimi Khorzoughi, Professor Siaw-Teng Liaw, Mr M Mohammed, Dr Nala, Ms Jane Taggart, Dr Thi Nguyen, Dr Sanjyot Vagholkar, Dr Hairong Yu
Hepatitis Research Group

The busy clinical hepatitis service at Liverpool Hospital has formed the platform for significant clinical hepatitis research and the establishment of the Hepatitis Research Group (HRG) under the leadership of Associate Professor Miriam Levy.

Research has included investigation of hepatitis B Virus (HBV) infection in pregnancy, where we are international leaders. The HRG has defined, for the first time in Australia, the rate of HBV perinatal transmission despite passive/active immunoprophylaxis and identified that high maternal load is the most significant risk for transmission. The Group has demonstrated that the use of antiviral therapy in the last trimester can reduce the transmission of HBV infection.

The safety and efficacy of different agents is under examination in collaboration with the national virological reference laboratory, VIDRL. The impact of pregnancy, and the postpartum period, because of its unique immunological and hormonal milieu, on HBV replication is under examination. The HRG has examined the rate and character of postpartum flares of hepatitis, to understand their impact on the natural history of HBV infection in pregnancy which is suspected to be different from that described in standard liver clinic cohorts, which are dominated by males. A number of papers have been published and grants secured in this field and work is ongoing.

The Group is very involved in patient health literacy, and has produced novel tools for patients to understand their hepatitis, including YouTube videos and mobile apps. The production and evaluation of these materials forms part of our research.

The Group also utilises cutting edge technology including Fibroscan and Shear Wave ultrasound to non-invasively identify liver fibrosis for clinical and research purposes. We use these tools to further characterise our viral hepatitis B cohort and determine its role in algorithms of chronic HBV.

The HRG is also participating in a number of clinical drug trials using new agents for chronic HBV and HCV infection. This reflects the rapid changes in therapeutics in this field and will allow patients to access new therapies.

A study by Associate Professor John Quin examining the role of immune stimulation in inducing HBV treatment responses is currently underway.

Members: Associate Professor Miriam Levy, Dr Scott Davison, Ms Anne Glass, Ms Heidi Lord, Associate Professor John Quin and all members of the hepatitis allied health team.

HIGH IMPACT PUBLICATION


BACKGROUND AND AIMS: Perinatal transmission of hepatitis B virus still occurs despite immunoprophylaxis in approximately 9% of children from highly viraemic mothers. Antiviral therapy in this setting has been suggested, however with limited evidence to direct agent choice.

METHODS: We conducted a multi-centre, prospective, opt-in observational study of antiviral safety and efficacy in pregnant women with high viral load (≥7logIU/ml); lamivudine was used from 2007 to 2010 and tenofovir disoproxil fumarate (TDF) from late 2010. Outcomes of treated and untreated cohorts were compared.

RESULTS: 120 women with 130 pregnancies used TDF (58), lamivudine (52 including four who switched due to TDF intolerance) and no therapy (20). 96% were HBeAg positive, with baseline viral load mean 7.8logIU/ml (+0.72) and ALT median 25U/L (18.75-33). Duration of antiviral therapy before birth was mean 58days (+19) TDF and 53 (+14) lamivudine. Viral load declined by 3.64logIU/ml (+0.9) TDF and 2.81logIU/ml (+1.33) lamivudine. Virologic failure (birth viral load >7IU/ml) occurred in 3% and 18% respectively. Congenital abnormality rate and neonatal growth centiles were similar across cohorts. Perinatal transmission reduced significantly to 2% and 0% in TDF and lamivudine cohorts, compared with 20% in untreated.

CONCLUSIONS: TDF in this setting is safe, effective and more potent than lamivudine. Antiviral therapy did not adversely impact obstetric or infant parameters. More TDF intolerance occurred than expected. Perinatal transmission was significantly reduced in antiviral therapy cohorts.
Inflammatory Bowel Disease Research Group

The Inflammatory Bowel Disease (IBD) Research group is in its infancy being established following the employment of an IBD nurse in August 2011. The research group has been a member of the Australian and New Zealand IBD (ANZIBD) consortium since 2011 and is working in collaboration with eleven other IBD centres across New Zealand and Australia to accurately genotype and phenotype all IBD patients under our care.

Research currently being undertaken in collaboration with the ANZIBD consortium include: genomic predictors of refractory ulcerative colitis and response to treatment, use of biologic agents in IBD pregnancies: patient and physician perceptions and biologic levels in the neonate, rectal tacrolimus in distal ulcerative colitis, patient outcomes on anti-TNF agents in Crohn’s disease in Australia. The ANZIBD consortium also collaborates with the International Genetics Consortium. The IBD research group is also interested in therapeutic optimisation through therapeutic drug monitoring of both thiopurine and biologic agents.

The group is currently collaborating with Royal Adelaide Hospital and Flinders Medical Centre in Adelaide to assess longer term outcomes of thiopurine metabolite monitoring in IBD patients. In addition, biologic level testing is in the process of being established at Liverpool Hospital in collaboration with the Department of Immunology. The research group is also involved in the FOCUS study (faecal microbiota transplantation FMT) in chronic active ulcerative colitis. The group is also interested in health literacy and patient empowerment with design of specific patient centred tools. This is being done in collaboration with other members of the ANZ consortium, Afaf Girgis at the Ingham Research Institute and Corey Siegel at Dartmouth-Hitchcock Inflammatory Bowel Disease Centre.

Members: Dr Susan Connor, Dr Watson Ng, Dr Alexandra Sechi, Dr Elise Sawyer and all members of IBD allied health team.
Intensive Care

Research at the Intensive Care Unit (ICU), Liverpool Hospital, is focused on multi-centre clinical trials coordinated via the Australia and New Zealand Intensive Care Society Clinical Trials Group (ANZICS CTG) as well as single-centre studies designed and performed within the unit. The collaboration with the ANZICS CTG over the last decade has resulted in several landmark studies that have been pivotal in defining best clinical practice in fluid resuscitation, renal replacement therapy, glucose control and sepsis management.

The Unit has made significant contributions to international multi-centre studies of fluid resuscitation, blood transfusion as well as management of patients following trauma and cardiac arrest. Examples of single-centre studies within the Unit include prediction models for intra-abdominal hypertension, measurements of cerebral autoregulation and clinical audits. Finally the Unit has been instrumental in developing rapid response systems and continues to research best practice models, monitoring strategies and clinical outcomes in this area.

The group of ICU specialists has established research collaboration within Australia as well as the UK and Scandinavia and authored 39 papers in the last year.

Members: Professor Ken Hillman, Associate Professor Michael Parr, Associate Professor Anders Aneman, Ms Sharon Micallef, Dr Satyadeepak Bhonagiri, Dr Kanaka Rachakonda, Dr Antony Stewart, Dr William O’Regan, Dr Victor Tam, Dr Amjed Aziz, Dr Ross Calcroft, Dr Patrick Liston, Dr Monique Leijten, Dr Craig Hore, Dr Ritesh Sanghavi, Dr Rangappa Ranganatha.

Neurology

Clinician researchers in Neurology and Stroke at Liverpool and Bankstown-Lidcombe Hospitals are chief investigators in several competitively funded research projects based in South Western Sydney Clinical School and Ingham Institute for Applied Medical Research.

Several studies are in partnership with general practitioners, cardiologists, neurosurgeons and public health specialists. These have included collaborative research in primary care, the BUPA

HIGH IMPACT PUBLICATION


BACKGROUND: The safety and efficacy of hydroxyethyl starch (HES) for fluid resuscitation have not been fully evaluated, and adverse effects of HES on survival and renal function have been reported.

METHODS: We randomly assigned 7000 patients who had been admitted to an intensive care unit (ICU) in a 1:1 ratio to receive either 6% HES with a molecular weight of 130 kD and a molar substitution ratio of 0.4 (130/0.4, Voluven) in 0.9% sodium chloride or 0.9% sodium chloride (saline) for all fluid resuscitation until ICU discharge, death, or 90 days after randomization. The primary outcome was death within 90 days. Secondary outcomes included acute kidney injury and failure and treatment with renal-replacement therapy.

RESULTS: A total of 597 of 3315 patients (18.0%) in the HES group and 566 of 3336 (17.0%) in the saline group died (relative risk in the HES group, 1.06; 95% confidence interval [CI], 0.96 to 1.18; P=0.26). There was no significant difference in mortality in six predefined subgroups. Renal-replacement therapy was used in 235 of 3352 patients (7.0%) in the HES group and 196 of 3375 (5.8%) in the saline group (relative risk, 1.21; 95% CI, 1.00 to 1.45; P=0.04). In the HES and saline groups, renal injury occurred in 34.6% and 38.0% of patients, respectively (P=0.005), and renal failure occurred in 10.4% and 9.2% of patients, respectively (P=0.12). HES was associated with significantly more adverse events (5.3% vs. 2.8%, P<0.001).

CONCLUSIONS: In patients in the ICU, there was no significant difference in 90-day mortality between patients resuscitated with 6% HES (130/0.4) or saline. However, more patients who received resuscitation with HES were treated with renal-replacement therapy. (Funded by the National Health and Medical Research Council of Australia and others; CHEST ClinicalTrials.gov number, NCT00935168.)
funded STOP-STROKE and NHMRC funded DESPATCH projects to reduce stroke risk in atrial fibrillation, the UNSW and Clinical Excellence Commission supported Program of Research Informing Stroke Management (PRISM) which uses routinely collected data linkage to assess care and outcomes in ischaemic stroke, intracerebral haemorrhage, subarachnoid haemorrhage and transient ischaemic attack and the OASIS (Sub-) Study.

OASIS is state-wide study of subarachnoid haemorrhage supported by the NHMRC. More recently the group has attracted Office and Health and Medical Research funding for the Home to Outcome (H2O) Study examining the impact of the wider implementation of stroke thrombolysis in NSW and the introduction of new stroke units and one investigator is leading the Agency of Clinical Innovation’s response to recently reported Unwarranted Clinical Variation in stroke care.

The Departments have also worked with the Department of Aged Care at Bankstown-Lidcombe Hospital on a number of projects addressing stroke risk factors and outcomes in the elderly; the South-West Sydney TIA study (SWS-TIA), anticoagulation usage for stroke prevention amongst general practitioners; and the quality of life measures for older people living in the community with essential tremor.

**Members:** Associate Professor Dennis Cordato, Mr Chris Goumas, Associate Professor Matthias Jaeger, Professor Bin Jalaludin, Professor Dominic Leung, Associate Professor Mark Sheridan, Dr Melina Gattellari, Associate Professor John Worthington and Professor Nick Zwar

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**Orthopaedics**

Research activities are conducted through the Whitlam Orthopaedic Research Centre (WORC) - part of the Ingham Institute for Applied Medical Research. WORC has research expertise in multi-centre randomised controlled trials, in the fields of trauma surgery, joint replacement surgery and rehabilitation.

Although most of the WORC’s research activities relate to musculoskeletal conditions, they are also involved in research in other areas including outcome registries, methodological studies, surveys and systematic reviews.
There are also many collaborative projects both locally and nationally. WORC supervises many post-graduate (Masters and PhD) and undergraduate (UNSW ILP) students each year.

Members: Professor Ian Harris, Associate Professor Justine Naylor, Ms Elizabeth Armstrong and Dr Pooria Sarrami

Palliative Care

The research team for SWSLHD Palliative Care services spans projects based in acute care, community based care and palliative care inpatient services. Its aim is to undertake research which directly informs the provision of care to those living with advanced life limiting illness and their families.

In the period of 20011-2013, expansion of research activity and funding has occurred across clinical sites and disciplines. The team has received over $32 million in competitive research funding. Importantly, the team has been instrumental in the development and support of ImPaCCT (Improving Palliative Care through Clinical Trials), the NSW collaborative trials group, which was successful in securing a further 3 years of funding from Cancer Institute New South Wales.

Projects conducted within SWSLHD or with contribution from our researchers during this period have included:

1. Cluster randomised controlled trial of facilitated case conferencing versus usual care for improving end of life outcomes in aged care residents with advanced dementia and their families (IDEAL trial)
2. Examining Organisational Complexity to Improve Hospital Patients’ Safety-Healing Environments
4. Strategies to decrease pain through implementing a dual clinical pain pathway
5. Carers views of home oxygen use
6. Advance care planning in the emergency department: identification of barriers, facilitators and technological solutions
7. A randomised controlled trial of structured home-based support and education for carers of people with high grade glioma
8. Self-reported evaluation of the adverse effects of Dexamethasone. The SEED study
9. The Measurement of function limited by breathlessness in advanced cancer: Comparison of the 6-minute walk test, 2-minute walk test, isometric arm exercises and reading numbers

10. Randomised double blind placebo controlled pilot phase II trial of oral melatonin for the prevention of delirium in hospital in people with advanced cancer

The team has continued to be a lead site for the Palliative Care Clinical Trials Collaborative (PaCCSC) recruiting actively to six randomised control clinical trials in the areas of ketamine for cancer pain, octreotide for bowel obstruction, risperidone for delirium, sertraline for dyspnoea, morphine and oxycodone for dyspnoea, and megestrol acetate for appetite. Two of these trials, ketamine for cancer pain and octreotide for bowel obstruction are now complete.

HIGH IMPACT PUBLICATION


BACKGROUND: Ethnic minority is associated with higher cancer incidence and poorer survival than is being in the majority group. We did a systematic review and meta-analysis to assess whether psychological morbidity and health-related quality of life (HRQoL) were affected by minority status.

METHODS: We searched Medline, AMED, PsyCINFO, Embase, CENTRAL, CINAHL, PubMed, Sociological Abstracts, and Web of Science for English-language articles published between Jan 1, 1995, and October, 2009. Articles were eligible if they reported original data on anxiety, depression, distress (for psychological morbidity), or HRQoL in minority and majority cancer patients or survivors. Minority status was defined as being an immigrant or having an ethnic, linguistic, or religious background different to the majority of the population in the country where the research was done. We excluded African Americans and indigenous groups. Eligible articles were rated for quality of reporting, external validity, internal validity, sample size, and power. Each quality criterion was rated independently by two reviewers until inter-rater reliability was achieved. In a meta-analysis we compared mean scores adjusted for socioeconomic status and other sociodemographic and clinical variables, where available. Effect sizes greater than 0-5 and 95% CI that included 0-5 or -0-5 were deemed clinically important, with negative values indicating worse outcomes in minority patients. We assessed publication bias by estimating the number of potential unpublished studies and the number of non-significant studies with p=0·05 required to produce a non-significant overall result.

FINDINGS: We identified 21 eligible articles that included 18 datasets collected in the USA and one in each of Canada, Romania, and the UK. Ethnic minority groups were Hispanic, Asian or Pacific Islander, or Hungarian (one dataset). Overall, we found minority versus majority groups to have significantly worse distress (mean difference -0·37, 95% CI -0·46 to -0·28; p=0·0001), depression (-0·23, -0·36 to -0·11; p=0·0003), and overall HRQoL (-0·49, -0·78 to -0·20; p=0·0006). Results were significantly heterogeneous for overall HRQoL and all domains. Tests for interaction, for adjusted versus unadjusted and comparisons of high-quality, medium-quality, and low-quality articles, were generally non-significant, which suggests no bias. We found no evidence of any substantive publication bias.

INTERPRETATION: Hispanic cancer patients in the USA, but not other ethnic minority groups, report significantly worse distress, depression, social HRQoL, and overall HRQoL than do majority patients, of which all but depression might be clinically important. Heterogeneous results might, however, have limited the interpretation. Data for other minority groups and for anxiety are scarce. More studies are needed from outside the USA. Future reports should more clearly describe their minority group samples and analyses should control for clinical and sociodemographic variables known to predict outcomes. Understanding of why outcomes are poor in US Hispanic patients is needed to inform the targeting of interventions.
Other investigator led collaborative clinical trials which the unit is recruited during this period include methylphenidate for fatigue, levomethemepamolne versus ondansetron for refractory nausea in palliative care; a NHMRC funded cluster randomized control trial comparing the severity of constipation symptoms experienced by palliative care patients receiving usual care compared to those diagnosed and managed according to the underlying pathophysiology, randomised control trial of the timing of dosing of dexamethasone and effect on sleep, randomised control trial of oral melatonin controlled release for the prevention of delirium in cancer patients and a NHMRC funded randomized controlled trial of guideline driven treatment for nausea versus single agent haloperidol. Associate Professor Agar is also an investigator for the recently funded NHMRC Partnership Centre dealing with cognitive and associated functional decline in the elderly.

The ongoing priority is continued development of research capacity with the multidisciplinary clinical team, and increasing interest in palliative and supportive care research. The group works with the Psycho-oncology Co-operative Research Group (PoCoG), the Cooperative Trials Group for Neuro-Oncology (COGNO), Palliative Care Clinical Studies Collaborative and the South West Sydney Translational Cancer Research Unit.

Members: Associate Professor Meera Agar, Dr Tim Luckett, Ms Aileen Collier, Ms Jane Hunt, Ms Nichole Petrie, Ms Julie Wilcock, Ms Janeane Harlum, Ms Natalie Ohrynowsky, Dr Jennifer Wiltshire, Dr Rebecca Strutt, Dr Lynne Kuxahata, Dr Louise Elliott, Dr Fiona Stafford-Bell, Dr Elspeth Correy, Dr Jackie Kerfoot, Ms Edite Tang, Dr Rajesh Aggarwal, Dr Thang Huynh, Dr Amanda Fernando, Dr Jessica Lee and Mr Mark Buhagiar

Pancreatic Research Group

The major research interests of the Pancreatic Research Group include alcohol-induced pancreatic injury, pancreatic stellate cell biology, pancreatic fibrosis and tumour-stromal interactions in pancreatic cancer. The Pancreatic Research Group has been consistently supported by the NHMRC/DVA for over 25 years and has also received grant support from the Australian Research Council and the Cancer Council of New South Wales. The Group is internationally acknowledged as the leading research group in the field of alcoholic pancreatitis and pancreatic fibrogenesis.

This Group was the first in the world to develop a method to isolate and culture pancreatic stellate cells (PSCs), now established as key effector cells in pancreatic fibrosis. This technique provided a much needed in vitro model for research into the pathogenesis of pancreatic fibrosis, and has provided impetus for worldwide studies on stromal biology in chronic pancreatitis and pancreatic cancer.

The international recognition of the Group’s work is reflected in the over 3400 citations of its papers and in the invitations that the Group’s members have received to speak at international meetings worldwide. The impact of the Group’s research is also reflected in the visits to the PRG laboratory by overseas scientists for training and in the collaborations established with renowned researchers in Australia as well as in the United States, UK and Germany.

Members: Professor Minoti Apte, Professor David Goldstein, Adjunct Professor Ron Pirola, Mr Sri Potheula, Dr Murty Suri, Professor Jeremy Wilson, Mr Zhihong Xu


ABSTRACT: Pancreatic ductal adenocarcinoma is a devastating disease, and patient outcomes have not improved in decades. Treatments that target tumor cells have largely failed. This could be because research has focused on cancer cells and the influence of the stroma on tumor progression has been largely ignored. The focus of pancreatic cancer research began to change with the identification of pancreatic stellate cells, which produce the pancreatic tumor stroma. There is compelling in vitro and in vivo evidence for the influence of pancreatic stellate cells on pancreatic cancer development; several recent preclinical studies have reported encouraging results with approaches designed to target pancreatic stellate cells and the stroma. We review the background and recent advances in these areas, along with important areas of future research that could improve therapy.
The Psychiatry Research and Teaching Unit (PRTU) was established in 1991, following the appointment of the Foundation Chair in Psychiatry, UNSW and SSWAHS, in 1990. The Centre is regarded nationally and internationally as a leading research and training centre in the interrelated fields of transcultural, refugee, post-conflict, post-traumatic and disaster mental health and the mental health of developing countries. Aboriginal mental health, the impact of gender-based violence on mental health and perinatal aspects of separation anxiety are more recent areas of study.

**Members:** Dr Lorraine Ivancic, Ms Ana Ladesic, Ms Claire Marnane, Ms Thuy Phan, Dr Susan Rees, Professor Derrick Silove, Associate Professor Zachary Steel, Mr Alvin Tay and Ms Qing Xia

The Psycho-Oncology Research Group investigates the psychological, social and behavioural aspects of cancer, from the time of a cancer diagnosis until end of life. This research program is translational in...
its focus, with its priority research areas informed by the challenges faced by those providing and receiving cancer care; application of the most stringent research methods to develop evidence-based practice; and early engagement with key stakeholders and policy makers to maximise evidence-informed cancer care.

The team has a strong track record in undertaking health services research, as reflected by the award of two Cancer Institute NSW Translational Health Service Research Grants to study the feasibility of an oncology nurse practitioner model of care in a rural cancer setting (2010-2012), and the feasibility of an integrated, patient-centred psychosocial care model for patients with urological and head and neck cancers (2012-2014).

The Psycho-Oncology Group also has an international standing in survivorship research. Recent research on the impact of cancer on caregivers has been widely cited internationally, with one of the key publications awarded Paper of the Year 2013: Health Services and Epidemiological, South Western Sydney Clinical School, UNSW Medicine, UNSW. The group’s particular focus on illness self-management and eHealth strategies is reflected in the award of a 4-year NHMRC grant to develop and trial a self-management coping intervention for couples affected by cancer. In 2013, the team was awarded Cancer Institute NSW funding to develop and implement an integrated e-health platform to support and enable cancer survivors to achieve and maintain improved health and wellbeing and better cancer outcomes. This work is highly translational and is expected to influence the delivery of cancer care in NSW.

Members: Professor Afaf Girgis, Dr Sylvie Lambert, Dr Janelle Levesque, Professor Geoff Delaney, Ms Jennifer Jacobs, Ms Margaret Crowley, Ms Hayley Candler and Ms Eleanor Law

Respiratory Medicine

Researchers within the Department of Respiratory Medicine at Liverpool Hospital are working on a wide-range of problems in respiratory and sleep medicine and science including asthma, COPD, sleep disorders and tuberculosis. Research on tuberculosis has examined the outcomes of treatment for tuberculosis in NSW, the risk for tuberculosis among people with diabetes and with renal failure in Australia and the effectiveness of contact tracing in people exposed to patients with tuberculosis in south-western and western Sydney.

The Childhood Asthma Prevention Study, a long-term clinical trial of preventive interventions for asthma implemented in a high-risk birth cohort.

HIGH IMPACT PUBLICATION


AIMS: Smoking in pregnancy is common. Its effects on lipoprotein levels and arterial structure in childhood are not well characterized. We aimed to determine the effects of maternal smoking in pregnancy on lipoprotein levels and arterial wall thickness in healthy pre-pubertal children.

METHODS AND RESULTS: A community-based longitudinal study with prospective ascertainment of exposure to smoking in pregnancy and environmental tobacco smoke (ETS) since birth and then lipoprotein and arterial measurements at age 8 years. In 616 newborn infants (gestation >36 weeks and birth weight >2.5 kg) data were collected prospectively by questionnaire on smoking in pregnancy and ETS exposure in childhood. At age 8-years, 405 of the children had measurements of lipoproteins, blood pressure (BP) and carotid intima-media thickness. Children born to mothers who smoked in pregnancy had lower HDL cholesterol [1.32 vs. 1.50 mmol/L, 95% confidence interval (CI) for difference -0.28 to -0.08, \( P = 0.0005 \)], higher triglycerides (1.36 vs. 1.20 mmol/L, 95% CI for ratio 1.01-1.30, \( P = 0.04 \)) and higher systolic BP (102.1 vs. 99.9 mmHg, 95% CI for difference 0.6-3.8, \( P = 0.006 \)).

After adjustment for maternal passive smoking, post-natal ETS exposure, gender, breast feeding duration, physical inactivity, and adiposity, smoking in pregnancy remained significantly associated with lower HDL cholesterol (difference = -0.22 mmol/L, 95% CI -0.36 to -0.08, \( P = 0.003 \)) but not with higher systolic BP. Neither smoking in pregnancy nor post-natal ETS exposure was associated with alterations of carotid artery wall thickness.

CONCLUSION: Smoking in pregnancy is independently associated with significantly lower HDL cholesterol in healthy 8-year-old children.
Research in the South West

A number of clinical trials are underway including investigations of new treatments to prevent exacerbations of chronic obstructive pulmonary disease, for severe asthma and for bronchiectasis. Clinical research also includes a randomized study of reslizumab in eosinophilic asthma, an open label study of reslizumab in asthma, a randomised study of macrolide therapy in asthma; a multicentre trial utilising a pulmonary hypertension patient registry; and prophylactic treatment of latent (dormant) tuberculosis infection in New South Wales.

Researchers within the Department are also leading the development of the Australasian Severe Asthma Network and are developing a new research collaboration with the Mongolian National Tuberculosis Program to determine the effectiveness of community-based tuberculosis treatment programs in Mongolia. The Department is also active in supervising Independent Learning Project students who have focussed their work on health care workers’ experiences with tuberculosis screening services and the epidemiology of lymph node tuberculosis in south-western Sydney.

In sleep medicine, researchers are engaged in studies on new approaches to early diagnosis of obstructive sleep apnoea. Researchers will also be examining methods for early detection of mesothelioma.

**Members:** Dr Melissa Baraket, Dr Peter Buchanan, Dr Hamish Crawford, Dr Peter Collett, Dr Claudia Dobler, Ms Karen For, Dr Zinta Harrington, Dr Anthony Johnson, Ms Christina Madzinga, Professor Guy Marks, Dr Stephen Parsons, Dr Graham Radford, Dr Hima Vedam, Mr Craig Wainwright and Dr Jonathan Williamson

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**Simpson Centre for Health Services Research**

The **Simpson Centre for Health Services Research** was one of the first centres to be established in Australia to conduct research around health services or systems. This type of research involves reorganising the way we deliver health services. The Simpson Centre developed the concept of day-of-surgery admission and the perioperative ward which has changed the way elective surgery is conducted by preparing patients for surgery in the community rather than as a hospital inpatient and admitting them on the day of surgery, even for major surgery requiring several days or weeks of hospital admission.

The Centre also developed and evaluated the first rapid response system for seriously ill at-risk patients – the MET system. The Centre has published over 160 peer-reviewed articles, been successful in achieving over $18 million in peer-reviewed grants and has supervised many postgraduate students.

**Members:** Dr Hassan Assareh, Associate Professor Jack Chen, Dr Roberto Forero, Professor Ken Hillman, Dr Stephanie Hollis, Ms. Brydan Lenne, Dr Lixin Ou and Dr Fenglian Xu
Ingham Institute for Applied Medical Research

The Ingham Institute for Applied Medical Research is the premier health and medical research precinct based in south western Sydney and is home to more than 200 researchers and scientists from over 30 research groups, partnering with the South Western Sydney Local Health District, the University of Western Sydney (UWS) and UNSW Australia.

The Ingham Institute was officially opened in October 2012, by then Prime Minister, the Hon. Julia Gillard MP and has established itself as a leading and innovative state-of-the-art research facility. It comprises both clinical and laboratory-based research areas that promote the sharing and collaboration needed to deliver high-quality medical research. Located on the grounds of Liverpool Hospital, the Institute has fast built its reputation as the central research hub for south western Sydney and brings together clinicians, students, academics for the purpose of research, teaching and translation.
The Ingham Institute’s mission is to change the way medical research is done in Australia by transferring research into practice across its six research streams, enabling the swift transfer of findings into day-to-day medical practice. The Institute’s research teams are focused on exploring new medical approaches for a range of critical diseases across the following core research areas:

- Cancer
- Clinical Science (including Cardiovascular Disease And Infectious and Inflammatory Diseases)
- Community & Population Health
- Early Years/Childhood Health
- Injury and Rehabilitation
- Mental Health

Over the past two years, the Ingham Institute’s research programs have grown significantly with research groups conducting high-calibre research and attracting funding from government, pharmaceutical sponsors and philanthropic supporters. In 2012, the Centre for Health Equity Training Research and Evaluation’s Maternal Early Childhood Sustained Home-Visiting (MECSH) program was licensed by UNSW Australia. The MECSH Program was initially purchased by three sites in the UK. Since then, the program has now been implemented in sites across south western Sydney, other parts of NSW, Victoria, Tasmania, South Korea and the United Kingdom, providing quality, evidence-based home visiting for more than 10,000 vulnerable families worldwide.
The Ingham Institute engages and fosters a strong collaborative culture which is evident from its links to a number of internationally renowned research studies. The Institute’s pioneering MRI-Linac, which is set to launch in 2015, is the result of collaboration with nine other affiliates including cancer specialists at the Stanford University USA. The $16 million project will be housed in the Research Bunker on the campus of Liverpool Hospital’s Cancer Therapy Centre. The MRI-Linac is set to revolutionise and improve the treatments of a range of cancers including lung, prostate, brain and head and neck, by coupling a MRI with a Linear Accelerator. This new area of technology will be the first in Australia, with only three other such prototypes in the world having the ability to precisely target radiation towards the tumour.

To assist and train Australia’s next generation medical talent, the Ingham Institute’s Clinical Skills and Simulation Centre was opened on 11 June 2013. The Centre serves as the education hub for students and medical professionals to help them build successful careers in health and medical research. Managed by UNSW Australia, the unique centre has a focus real-life, simulated learning and boasts the latest high-tech simulation equipment including ‘Sim-Man’, a high-fidelity robotic patient mannequin. It also encompasses two fully simulated operating theatres, to enable ‘mock’ operations.

Another prominent technology acquisition for the Ingham Institute was the purchase of the Circulating Tumour Cells (CTC) assay machine in May 2013 as a result of grant funding from UNSW Australia. A first for NSW, the CTC can identify single cancer cells in the blood so that they can be isolated and their genetic make-up studied, revealing why cancers spread and identifying patients who are most at risk of cancer spreading. Currently, studies are underway at the Ingham Institute to evaluate CTCs in colorectal cancer, with future studies planned targeting lung, breast, melanoma and ovarian cancers.
## Grants

Projects with participation by south western Sydney conjoints and academics that operated during 2011-13

<table>
<thead>
<tr>
<th>NHMRC</th>
<th>UNSW CI: Barton (2008-2011)</th>
<th>Modelling multiple radiotherapy treatment episodes for benchmarking and service planning. (Retreatment)</th>
<th>$503 415</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNSW CI: Harris (2008-2011)</td>
<td>Early childhood sustained home visiting: Outcomes at 4 years and the transition to school</td>
<td>$452 900</td>
<td></td>
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<tr>
<td>UNSW CI: Comino (2008-2012)</td>
<td>Gudaga Project: Understanding the health, development and service use of Aboriginal children in an urban environment</td>
<td>$1 339 125</td>
<td></td>
</tr>
<tr>
<td>UNSW CI: Silove (2009-2011)</td>
<td>The role of trauma related anger and the cycle of violence in post conflict countries: a follow up study in Timor Leste</td>
<td>$540 125</td>
<td></td>
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<tr>
<td>UNSW CI: Adie (2009-2013)</td>
<td>The association between quality and effect estimate in surgical trials (Scholarship)</td>
<td>$120 000</td>
<td></td>
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<tr>
<td>UNSW CI: Apte (2009-2013)</td>
<td>Alcoholic chronic pancreatitis: induction, progression and reversal</td>
<td>$609 500</td>
<td></td>
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<tr>
<td>UNSW CI: Ward (2009-2013)</td>
<td>Neurocognitive correlates of transition from ultra-high risk mental state to schizophrenia</td>
<td>$305 000</td>
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<tr>
<td>UNSW CI: Kemp (2010-2014)</td>
<td>Closing the Gap: Early childhood sustain home visiting for families of Aboriginal infants in an urban community</td>
<td>$2 135 875</td>
<td></td>
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<tr>
<td>UNSW CI: Leung (2010-2014)</td>
<td>Left ventricular contractile reserve and microvascular disease in diabetic cardiomyopathy - (Scholarship)</td>
<td>$116 582</td>
<td></td>
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<tr>
<td>UNSW CI: Silove (2010-2014)</td>
<td>Posttraumatic mental health: advancing understanding of diagnosis, treatment and mechanisms</td>
<td>$7 060 000</td>
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</tbody>
</table>
UNSW CI: Ward (2011-2012)
Impaired anticipation of sensory events in schizophrenia
$132 032

UNSW CI: Worthington (2011-2012)
Patterns of care and outcomes for subarachnoid haemorrhage: a data linkage study
$122 904

UNSW CI: Chen (2011-2013)
The impact of introducing medical emergency team on the reduction of hospital mortality and other adverse events in NSW
$581 827

UNSW CI: Eapen (2011-2013)
Universal surveillance of developmental disorders
$890 598

UNSW CI: Lambert (2011-2013)
Coping-together: A randomised controlled trial of a self-directed coping skills intervention for patients with cancer and their partners
$210 000

UNSW CI: Lambert (2011-2013)
RCT of a self-directed coping skills intervention for patients with cancer and their partners
$292 317

UNSW CI: Marks (2011-2013)
Practitioner Fellowship Level 2
$514 465

UNSW CI: Steel (2011-2013)
Ethnographic, treatment, and policy responses to patients presenting for care with chronic medically unexplained symptoms in Vietnam: a randomised control trial of cognitive behaviour therapy, structured care and treatment as usual Australia and Vietnam
$471 278

UNSW CI: Kaduppa (2011-2014)
Cardiovascular risk in CKD (Scholarship)
$80 938

UNSW CI: Leong (2011-2014)
Proteomics and confocal endomicroscopy in the evaluation of inflammatory bowel diseases
$424 900

UNSW CI: Girgis (2011-2015)
Coping-Together: A randomised controlled trial of a self-directed coping skills intervention for patients with cancer and their partners
$718 022

UNSW CI: Marks (2012)
Understanding and ameliorating the human health effects of exposure to air pollution from knowledge to policy and public health practice.
$2 411 828

UNSW CI: Apte (2012-2014)
Targeting microtubules to overcome chemoresistance in pancreatic cancer
$573 675

UNSW CI: Barton (2012-2014)
Improving radiation therapy of static and moving targets using high spatial resolution realtime dosimeters (University of Wollongong)
$524 000

UNSW CI: Chen (2012-2014)
The evaluation of a statewide innovative patient safety improvement system on reducing hospital mortality and other adverse events - a population based mixed method study
$724 555

UNSW CI: Mittal (2012-2014)
CROSSBAT
$109 358

UNSW CI: Nguyen (2012-2014)
Prediction and prevention of sudden cardiac death following acute myocardial infarction
$111 244

UNSW CI: Comino (2012-2015)
The Gudaga Study: Describing the health, development, early education, family environment and service content of Aboriginal children aged five to nine years in an urban location
$1 525 060

UNSW CI: Forero (2012-2015)
Validation and impact of the four hour rule in the emergency department: a large data linkage study
$1 712 864

UNSW CI: Barton (2013-2015)
The Australian MRI-linac Program: Improving cancer treatment through real-time image guided radiotherapy
$5 705 380

Studies on induction of antigen specific T regulatory cells to control autoimmunity
$340 932

ARC

UNSW CI: Silove (2009-2011)
Enhancing mental Health in Aboriginal children
$1 021 140

UNSW CI: Silove (2009-2013)
Understanding anger and its consequences amongst women in conflict-effected Timor Leste: Implications for enhancing sustainable development
$634 220

UNSW CI: Harris (2010-2011)
The effectiveness of health impact Assessments conducted in Aust. & NZ
$190 000

UNSW CI: Silove (2010-2012)
Building resilience in Aceh
$630 000

UNSW CI: Apte (2011)
Accessing the third dimension in scanning electron microscopy for rapid, high resolution tomography of large samples
$250 000

UNSW CI: Eapen (2011-2013)
Separation anxiety in pregnancy: associations with oxytocin release, attachment styles and mother-infant interactions
$232 767

UNSW CI: Kemp (2012-2014)
An ecological study of school transition and the early years of school for Aboriginal children in an urban community
$357 535
<table>
<thead>
<tr>
<th><strong>Cancer Australia</strong></th>
<th><strong>UNSW CI: Girgis (2012-2014)</strong></th>
<th>Feasibility study of an integrated, patient-centered psychosocial care model for patients with urological and head and neck cancers</th>
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<tbody>
<tr>
<td>UNSW CI: Holloway (2012-14)</td>
<td>$380,955</td>
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<tr>
<td>Quantifying the impact of imaging choice for breast cancer radiotherapy</td>
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<td><strong>$391,596</strong></td>
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<tr>
<th><strong>Cancer Council of NSW</strong></th>
<th><strong>UNSW CI: Girgis (2012-2014)</strong></th>
<th>Feasibility study of an oncology nurse practitioner model of care in a rural cancer setting</th>
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</thead>
<tbody>
<tr>
<td>UNSW CI: Phillips (2009-2012)</td>
<td>$347,989</td>
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<tr>
<td>Role of heat shock proteins in tumour-stromal interactions in pancreatic cancer</td>
<td></td>
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<tr>
<td><strong>$97,987</strong></td>
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<tr>
<th><strong>Cancer Institute NSW</strong></th>
<th><strong>UNSW CI: Agar (2013-2015)</strong></th>
<th>Improving Palliative Care through Clinical Trials (ImPaCCT) - the NSW collaborative clinical trial grant. Cancer Institute NSW</th>
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<tbody>
<tr>
<td>UNSW CI: Apte (2013-2015)</td>
<td>$294,484</td>
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<tr>
<td>Targeting the stroma in pancreatic cancer – a novel therapeutic approach focusing on the HGF/c-MET pathway.</td>
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<td><strong>$360,000</strong></td>
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<tr>
<th><strong>Commonwealth Government</strong></th>
<th><strong>UNSW CI: Barton (2008-2011)</strong></th>
<th>Modelling multiple radiotherapy treatment episodes for benchmarking and service planning</th>
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</thead>
<tbody>
<tr>
<td>UNSW CI: Lee (2011)</td>
<td>$457,650</td>
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<tr>
<td>Investigation of biomarkers for the diagnosis and prognosis of common cancers in the community such as breast, colorectal, prostate and head and neck cancers</td>
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<tr>
<td><strong>$227,921</strong></td>
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<tr>
<th><strong>Health Workforce Australia</strong></th>
<th><strong>UNSW CI: Smith (2011-2013)</strong></th>
<th>Ingham Institute Clinical Skills and Simulation Translational Research Facility</th>
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<tr>
<td>UNSW CI: Apte (2011-2015)</td>
<td>$6,377,393</td>
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<tr>
<td>Genotype guided cancer therapy (Genomic theragnostics)</td>
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<td><strong>$1,500,000</strong></td>
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<tr>
<th><strong>Health Workforce Australia</strong></th>
<th><strong>UNSW CI: Smith (2011-2013)</strong></th>
<th>SLE Translational Research Facility – Stage II Capital</th>
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<tbody>
<tr>
<td>UNSW CI: Apte (2011-2013)</td>
<td>$457,673</td>
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<tr>
<td>Modelling multiple radiotherapy treatment episodes for benchmarking and service planning</td>
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<td><strong>$375,000</strong></td>
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<tr>
<th><strong>UNSW Australia</strong></th>
<th><strong>UNSW CI: Smith (2011-2013)</strong></th>
<th>SLE Translational Research Facility – Stage II Capital</th>
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<tbody>
<tr>
<td>UNSW CI: Apte/McNeil (2011)</td>
<td>$30,000</td>
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<tr>
<td>MREII: Salary for Senior Research Coordinator, Ingham Institute</td>
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<td><strong>$99,500</strong></td>
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<tr>
<th><strong>UNSW Australia</strong></th>
<th><strong>UNSW CI: Apte/McNeil (2011)</strong></th>
<th>MREII: Salary for Senior Research Coordinator, Ingham Institute</th>
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</thead>
<tbody>
<tr>
<td>UNSW CI: Bryant/McNeil (2011)</td>
<td>$115,000</td>
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<tr>
<td>MREII: Applied Biosystems ViiA7 Real-Time PCR System</td>
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<td><strong>$115,000</strong></td>
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<tr>
<th><strong>UNSW Australia</strong></th>
<th><strong>UNSW CI: Apte/McNeil (2011)</strong></th>
<th>MREII: Guava® easyCyte™ 8HT Flow Cytometry System</th>
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<tbody>
<tr>
<td>UNSW CI: Apte/Bryant/McNeil (2011)</td>
<td>$95,250</td>
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<tr>
<td>MREII: Guava® easyCyte™ 8HT Flow Cytometry System</td>
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<td><strong>$95,250</strong></td>
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<tr>
<th><strong>UNSW Australia</strong></th>
<th><strong>UNSW CI: Apte/Bryant/McNeil (2011)</strong></th>
<th>IT: Uniwide Expansion to SWS Research Facilities</th>
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<tbody>
<tr>
<td>UNSW CI: Smith (2012)</td>
<td>$30,000</td>
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<tr>
<td>MREII: Guava® easyCyte™ 8HT Flow Cytometry System</td>
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<td><strong>$95,250</strong></td>
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<td>UNSW Cl: Apte/McNeil (2012)</td>
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<tr>
<td>MREII: Olympus Microscope System</td>
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<td><strong>$99 990</strong></td>
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<tr>
<td>UNSW Cl: Apte (2012)</td>
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<tr>
<td>MREII: IncuCyte-FLR in vitro live-cell imaging system</td>
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<td><strong>$160 000</strong></td>
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<tr>
<td>UNSW Cl: Apte (2013)</td>
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<tr>
<td>MREII: Circulating Tumour Cell System</td>
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<tr>
<td><strong>$250 000</strong></td>
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<tr>
<td>UNSW Cl: Jaeger (2013)</td>
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<tr>
<td>MREII: Near-Infrared Cerebral Oxygenation and Non-Invasive Continuous Blood Pressure Monitoring Equipment</td>
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<td><strong>$80 000</strong></td>
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**Other Research**

<table>
<thead>
<tr>
<th>UNSW Cl: Hodgkinson (2006-2012)</th>
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</thead>
<tbody>
<tr>
<td>Novartis</td>
</tr>
<tr>
<td>Clinical Trial: A 12-month double-blind, randomized, multicentre, active-controlled, parallel-group study comparing the efficacy and safety of 0.5mg and 1.25mg fingolimod (FTY720) administered orally once daily versus interferon B-1a (Avonex) administered i.m. once weekly in patients with relapsing-remitting multiple sclerosis</td>
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<tr>
<td><strong>$340 000</strong></td>
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<tr>
<td>UNSW Cl: Chia (2008-2011)</td>
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<tr>
<td>National Heart Foundation</td>
</tr>
<tr>
<td>Right ventricular size, dynamics &amp; function: Its relevance in health &amp; disease (Scholarship)</td>
</tr>
<tr>
<td><strong>$95 500</strong></td>
</tr>
<tr>
<td>Arthritis Foundation of Australia</td>
</tr>
<tr>
<td>Mast cell proteases in experimental inflammatory arthritis</td>
</tr>
<tr>
<td><strong>$50 000</strong></td>
</tr>
<tr>
<td>Sanoﬁ-Aventis</td>
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<tr>
<td>Clinical Trial: A phase 3, randomised, rater-and dose-blinded study comparing two annual cycles of intravenous low-and high-dose Alemtuzumab to three-times weekly subcutaneous interferon beta-1a (Rebif) in patients with relapsing-remitting multiple sclerosis who have relapsed on therapy</td>
</tr>
<tr>
<td><strong>$159 000</strong></td>
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<tr>
<td>UNSW Cl: Apte (2010-2012)</td>
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<tr>
<td>Amgen Incorporated</td>
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<tr>
<td>Growth factor receptor inhibitors: potential therapeutic agents in pancreatic cancer</td>
</tr>
<tr>
<td><strong>$215 433</strong></td>
</tr>
<tr>
<td>UNSW Cl: Hodgkinson (2010-2012)</td>
</tr>
<tr>
<td>Novartis</td>
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**Research in the South West**

- **South Western Sydney Local Health District**
  - PCHRU: Contribution to the development of PCHRU through oversight of programs and development of activities
  - **$101 688**
<table>
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| **UNSW CI: Kemp (2013)**  
NSW Ministry of Health  
An equity analysis and strategy for the NSW Health Workers Initiative  
$59,915 |
| **UNSW CI: Kemp (2013)**  
Seoul National University  
MECSH-Seoul: local adaptation and implementation of the MECSH program  
$150,000 |
| **UNSW CI: Kemp (2013)**  
NSW Department of Premier and Cabinet  
Provision of ongoing professional support to the ‘Keep Them Safe’ Evaluation Steering Committee  
$13,750 |
| **UNSW CI: Liaw (2013)**  
KPMG  
The GP-RACF interface in aged care  
$20,000 |
| **UNSW CI: Liaw (2013)**  
National Prescribing Service  
Assessing the accuracy and reliability of data extraction tools for Medicine Insight  
$55,000 |
| **UNSW CI: Worthington (2013)**  
Office for Health and Medical Research NSW  
H20 Home to Outcome Study  
$307,461 |
| **UNSW CI: Harris (2013)**  
South Western Sydney Local Health District  
Health Impact Assessment ‘Learning by Doing’ training program  
$24,794 |
| **UNSW CI: Comino (2013-2014)**  
South Western Sydney Local Health District and Tharawal  
Gudaga Research Dissemination Officer  
$120,000 |
Postgraduate Students

**SWCS** offers a number of degrees by research including MSc, BSc (Honours), MD and PhD. In 2013, SWCS had a total of 35 enrolled postgraduate research students.

The following projects have recently been completed:

**Doctor of Philosophy (PhD)**

**Left atrial size and function: physiological and pathological changes**

**Supervisors:** Liza Thomas, David Richards and Dominic Leung

The thin walled left atrium (LA) is sensitive to diastolic changes within the left ventricle (LV), enabling it to be a robust marker of cardiovascular function and outcomes. However, there remain significant limitations in our understanding of atrial function. This research aimed to evaluate phasic atrial function by analysis of volumes and strain in normal subjects and in patients with cardiovascular conditions associated with LV diastolic dysfunction.

LA volumes and strain were examined in normal subjects from decade three to eight. LA volume increased with age, but only became significant in the eighth decade. Therefore, any significant increase in LA size that occurs before advanced age likely represents latent or undiagnosed cardiovascular pathology. Additionally, with normal aging, changes in atrial strain and strain rate occurred earlier than changes in volume measurements, suggesting that strain changes may be a sensitive indicator of subclinical atrial dysfunction.

In patients with non-ST elevation myocardial infarction (NSTEMI), LA volumes were significantly greater than normal controls at baseline, and continued to increase at 12 months. Thus the measurement of LA volumes post NSTEMI may be useful to monitor chronic diastolic dysfunction resulting from ischaemia.
The predictors of LA appendage thrombus in patients with persistent atrial fibrillation were examined. The significant univariate predictors included ischaemic heart disease, LV mass and LA and right atrial spontaneous echo contrast (SEC). Increased LV mass was the strongest predictor of thrombus, supporting the link between hypertension and the development of atrial fibrillation and consequent thrombus formation.

Mild or moderate hypertension resulted in increased LA volumes as early as decade four. Thus, hypertension accelerates the normal aging process of LA remodelling which may then result in the development of atrial fibrillation.

Patients with Fabry disease had significantly increased LA volumes and reduced atrial reservoir function, independent of LV hypertrophy. Conduit function was selectively reduced only in Fabry patients with hypertrophy. These results suggest that Fabry disease results in fibrosis of the LA as well as the LV.

The increased understanding of both physiological and pathological changes in LA function may be useful to predict adverse cardiovascular outcomes and target and monitor therapy in these specific high risk groups of patients with cardiovascular involvement.

After correcting for birthplace and demography, the poorer screening participation was primarily attributed to the absence of a medical practitioner recommendation, and to a lesser extent decreased media exposure and poorer perception of CRC. Knowledge, attitudes and barriers towards CRC and screening tests were also significantly poorer among immigrants. Medical practitioners’ CRC screening practices varied according to their ethnicity and that of their patients, resulting in lower screening recommendations to immigrant patients. These studies identified disparities based on demography, and provided specific directions to improve the participation of screening tests and outcomes from CRC. Additionally, compared with Australia, countries in the Asia-Pacific region reported significant variations in the CRC screening participation, knowledge, attitudes and barriers towards CRC. Deficiencies in participation of screening tests were evident even among countries with existing population screening programs. Medical practitioner recommendation was again the most important predictor of screening participation in all participating countries. Finally, younger women had improved survival from CRC compared with men, suggesting that oestrogen improved CRC-related survival and supporting the importance of oestrogen in the pathogenesis of CRC.

Colorectal cancer in Sydney South West Area Health Service

**Supervisors:** Rupert Leong and Susan Connor

Colorectal cancer (CRC) is a major health problem. It is the second leading cause of cancer and cancer-related death in Australia. The effect of demography, specifically birthplace on the clinical presentations, screening and treatment utilisation, and pathological characteristics of CRC in an ethnically diverse community is not well described. Participation in CRC screening tests, knowledge and awareness of CRC and available tests may also be influenced by patients’ birthplace. In addition, medical practitioners’ screening practices are largely unknown, and whether these practices differ according to their or their patients’ birthplace, thereby affecting the likelihood of patients receiving screening recommendations need immediate evaluation.

Research conducted in this thesis revealed few immigrants, especially those from Asia and Middle-East, had CRC detected through screening.

Evaluation of clinical efficacy and investigation of mechanism of action of acupuncture treatment in the management of polycystic ovarian syndrome

**Supervisors:** Felix Wong and Anthony O’Sullivan

Polycystic Ovarian Syndrome (PCOS) has the clinical manifestations of irregular menstrual cycles, anovulatory infertility, amenorrhoea, insulin resistance, polycystic ovaries, androgen disturbance, hirsutism and/or acne. The condition affects an estimated 5 to 10% of women of reproductive age (Hull 1987; Polson 1988; Lo 2006), although this varies depending on the diagnostic criteria used (Michelmore 1999). Farquhar et al. (1994) suggested the prevalence of PCOS to be 21% in a New Zealand study. Due to the lack of uniformed definition of PCOS, the prevalence of PCOS can have a ‘highly variable prevalence estimates, ranging from 2.2% to 26%’. (Nidhi 2011)
Through researches, evidence suggests the potential usefulness of acupuncture in the treatment of the PCOS disorder (Ku 2001; Petti 1998; Ulett 1998). It was postulated that beta-endorphin and various neuropeptides (like protein pro-opiomelanocortin) within the nervous system may be implicated in producing the effects of acupuncture. Aleem (1987) revealed the presence of beta-endorphin in the follicular fluid of both normal and polycystic ovaries. Stener-Victorin’s (2000) study suggested that acupuncture may have a role in ovulation induction. Further details of current acupuncture studies in PCOS can be found in Chapter Four.

Acupuncture is currently used in public hospitals in China for the treatment of PCOS. Clinical studies conducted in China have suggested that the effectiveness of using acupuncture may be significant. However, the methodological quality of those trials was poor with limited long-term follow-up.

The present study aimed to evaluate the action of body acupuncture on menstrual pattern through a pilot study (Stage II) and a randomised controlled study (Stage V). However, in order to plan the RCT properly from Chinese medicine point of view, it was important to first standardise the Chinese medicine syndrome differentiation for PCOS or otherwise an inaccurate clinical response may be obtained. This was achieved by utilising a questionnaire (Stage III) as a tool development in this study. In addition to understanding the needs of Chinese women with PCOS, an epidemiological data was performed in Stage IV, so as to attempting to address their needs in the RCT stage. An effective CM treatment protocol would then be proposed to serve as a guide for the clinical acupuncture management of adult women with PCOS. The findings are promising and further studies are required.

The design for this doctoral program study composed of the following 6 stages:

1. Stage I Comprehensive systematic literature review of current acupuncture treatment for PCOS patients in human studies in all available Chinese and English Literature. This stage has been published as Cochrane Systematic Review paper;

2. Stage II Pilot Clinical Study involving real body acupuncture group;
3. Stage III Development of Traditional Chinese Medicine (TCM) Syndrome Differentiation Diagnostic Questionnaire (Tool) for PCOS according to the results of comprehensive literature review in stage I and also the National Disease Criteria set by the State Administration of Traditional Chinese Medicine in the Peoples Republic of China; This is important as to standardise the CM diagnosis of PCOS in Stage V.

4. Stage IV Collection of Epidemiological data among Asian women of PCOS, to ascertain the psychological needs of Chinese women with PCOS; and to attempting to fulfil this in Stage V.

5. Stage V Randomised Single Blinded Acupuncture Clinical Trial involving a) real body acupuncture group; b) placebo (sham) body acupuncture group; For this study, there are two types of outcome measures that are under consideration. The primary outcome measure was the return of menstruation from amenorrhea while the secondary measures were the changes in LH, FSH concentration, LH: FSH Ratio, Progesterone, Oestrogen and Androgenic hormone concentration;

6. Stage VI Investigation of the Mechanism of Acupuncture Treatment on the Management of PCOS.

Based on the results from pilot study in Stage Two (11 subject recruited) and the RCT in Stage Five (146 subjects recruited), acupuncture can be recommended as effective menstrual regulation intervention for PCOS. In Stage V, the inter-menstrual days in the control group is 302.45 day and 348.32 days pre and post treatment respectively (p=0.001). In the interventional group, the mean inter-menstrual days are 297.69 and 33.82 days pre and post treatment respectively (p=0.000). There is no menstrual pattern change in the control group pre and post treatment.

Acupuncture demonstrated statistically significant difference toward hormonal profiles before and after the real body acupuncture intervention among women with PCOS. Within the interventional group, it can be seen that there are six treatment outcomes that were found to have a significant differences (p<0.0001) pre and post real acupuncture intervention. ANOVA was found to be highly significance in between the control group and intervention group among the 6 treatment outcomes. These six treatments outcomes were FSH, LH, LH: FSH ratio, Progesterone, FAI, and menstruation days. There are no statistical significances (p>0.05) in prolactin, oestrogen (E2) and testosterone in both control and interventional groups. Stage V is aimed to elicit whether acupuncture can assist in return of menstruation for lady with PCOS and has complete amenorrhoea. As this is the initial aim of the study, ovulation was not chosen to be the outcome measure for this RCT. This also becomes one of the limitations for this study as we cannot definitely answer whether acupuncture can induce ovulation for lady with PCOS, although improvements were noted in the LH:FSH ratio and progesterone level. It is important to note that menstruation return may not necessary to protect the uterus from hyperplasia. Overall speaking, the results from the statistical analysis and the insights that were gathered from those results have proposed the following mechanisms in relation to Chinese and Western medicine perspective:

1. Acupuncture significantly increases β-endorphin levels for periods up to 24 hours and may have regulatory effect on FSH, LH and androgen.

2. Decrease hypothalamic-pituitary-adrenal (HPA) axis activity by inhibiting release of corticotrophin-releasing factor (CRF), causing decreased adrenocorticotropic hormone (ACTH) release from the pituitary gland and decreased cortisol and/or dehydroepiandrosterone (sulfate) release from the adrenal cortex.
3. β-endorphin increased levels secondary to acupuncture affects the hyperthalamic-pituitary-adrenal (HPA) axis through promoting the release of ACTH through stimulation of its precursor pro-opiomelanocortin synthesis.

4. Needle insertion into the skin and muscle may stimulate ergoreceptors and initiate afferent nerves activity.

5. If acupuncture needles were placed in the same somatic segment of the ovary, they may stimulate the oxytocin axis resulting in decreased release and secretion of ovarian androgens.

In conclusion, the designed acupuncture protocol for PCOS proposes that the usage of acupuncture is effective to induce return of menstruation from oligomenorrhea.

Clinical Outcomes after Percutaneous Coronary Interventions: Focusing on Selective Drug-eluting Stent Use

Supervisors: John French and Craig Juergens

The projects in this thesis aimed to examine issues of management of patients with coronary heart disease undergoing percutaneous coronary intervention (PCI). In particular the following were examined: clinical outcomes following PCI with selective drug-eluting stent (DES) use; clinical outcomes after bare-metal stent (BMS) deployment in large infarct-related arteries (IRA); clinical outcomes following rescue angioplasty for ST-elevation myocardial infarction (STEMI) with high utilisation rates of glycoprotein IIb/IIIa inhibitors and stenting, were examined. Mortality rates were comparable to rates for contemporary primary PCI in patients without pre-PCI shock (3.2%), especially in early presenters. Whether rates of bleeding can be reduced by different pharmacotherapies and interventional techniques, need clarification in future studies. Prospective studies of future pharmaco-invasive strategies in STEMI patients are warranted.

As peri-procedural MI is an important early clinical outcome, its diagnosis based on cardiac marker levels and their prognostic significance are important. Evaluation of TnT criteria for periprocedural MI were performed, and the association of both TnT and creatine kinase MB level elevations on death and/or MI were examined in both stable coronary heart disease and acute coronary syndrome; post-PCI TnT levels were associated with event-free survival at one year only in patients with stable coronary heart disease. In patients with acute coronary syndrome and elevated TnT levels undergoing PCI several days later, criteria of ≥20% increases in TnT were more common than absolute increments of > 3XURL in TnT or creatine kinase-MB levels. Elevations of ≥ 20% above elevated pre-PCI levels detects any small peri-procedural MIs of questionable prognostic significance though this criteria has not been revised in the recently published revision of the universal definition of MI.
Estimation of the optimal number of radiotherapy fractions for cancer patients: a review of the evidence

Karen WONG

Supervisors: Michael Barton and Geoff Delaney

Background: Adequate radiotherapy services provision entails systematic planning due to their high capital costs and the requirement for specialised staff. A treatment attendance (called a fraction) is a fundamental unit of productivity in a radiotherapy department. There is variation in radiotherapy fractionation practices, however, there is no evidence-based benchmark for appropriate activity. A radiotherapy utilisation model was previously constructed and estimated that 52.3% of cancer patients should receive external beam radiotherapy at least once during their illness. The next challenge is to translate an overall radiotherapy utilisation rate into a more practical estimate of radiotherapy demand.

Aim: To construct an evidence-based model to estimate the optimal number of fractions for the first course of radiotherapy, building on the radiotherapy utilisation model.

Methods: Evidence-based treatment guidelines, meta-analyses and randomised controlled trials were reviewed for fraction number recommendations for each indication of radiotherapy for notifiable cancers with an incidence of ≥ 1%. The previously published radiotherapy utilisation tree was adapted so that the most appropriate evidence-based fraction number was added to each branch. Epidemiological data previously used were updated. For each cancer type, the optimal fraction number was then calculated using the TreeAge software, taking into account the frequency of specific clinical conditions where radiotherapy is indicated and the recommended fraction number for each condition. One-way sensitivity analyses were performed to assess the impact of uncertainties on the model.

Results: For each cancer type, the optimal number of fractions for the first course of radiotherapy ranged from 0 to 26.1 per cancer patient, and 0 to 30.8 per course. Head and neck, brain and anal cancers had the highest number of fractions per course. Overall, the optimal fraction number was 9 per cancer patient and 18 per course. Sensitivity analysis showed that this ranged from 8.6 to 9.6 per cancer patient, and 17.2 to 19.2 per course.

Conclusion: These results represent the first evidence-based benchmark for radiotherapy services delivery, and allow comparisons with actual practices. The model can be used to predict workload to aid in radiotherapy services planning, and adapted to future changes in cancer incidence, stage distribution and fractionation recommendations.

Investigating strategies in rehabilitation after total knee replacement

Victoria KO

Supervisors: Ian Harris and Justine Naylor

Total knee replacement (TKR) is widely accepted as a cost-effective management for the pain and functional impairment associated with end-stage osteoarthritis. With the number of procedures performed markedly increasing each year, there is mounting pressure on physiotherapists to meet a rising demand for post-operative rehabilitation with existing resources. There is an urgency to identify effective, yet resource-efficient rehabilitation delivery. Resource-intensive one-to-one therapy continues to be the most common mode of rehabilitation delivery after TKR in Australia, despite the lack of evidence of its superiority over home-based programmes from the limited research conducted in this area. The use of group-based therapy, another alternative mode of rehabilitation delivery, has not been compared to one-to-one therapy in rehabilitation after TKR.

The primary aim of this thesis was to compare the effectiveness of one-to-one therapy, group-based therapy and a monitored home programme on improving patient-reported and performance-based functional outcomes in the short- and long-term, through a randomised, superiority trial. In designing this trial the rationale for two secondary investigations into outcome measures used after TKR also emerged. One study investigates the utility of an extended walk test for patients one year after TKR; the other compares the responsiveness of two widely used disease-specific patient-reported outcome measures and a generic health-related quality of life measure during early and longer term recovery after TKR.

This thesis has confirmed that outpatient one-to-one therapy delivered within the first two months after surgery is not superior to group-based therapy or a monitored home programme in improving function after TKR, as measured by a range of patient-reported and performance-based outcomes. Service providers should consider adopting these alternative modes of rehabilitation delivery as a viable strategy to meet the needs of increasing patient numbers without compromising treatment effectiveness and patient satisfaction. The thesis also provides construct validity for the
Six-minute walk test as a measure of functional ambulation after TKR which, surprisingly, has been lacking up till now. Finally, the thesis provides psychometric evidence for patient-reported outcome tools that are relevant for evaluating rehabilitation after TKR and in a time frame that is relevant to short-term rehabilitation.

Masters (Research)

Lu YANG

Pancreatic stellate cells in chronic pancreatitis

Supervisors: Minoti Apte, Phoebe Phillips and Jeremy Wilson

The overall hypothesis for the studies described in this thesis was that alcohol induced pancreatic fibrosis is a result of excessive extracellular matrix (ECM) synthesis by pancreatic stellate cells (PSCs) activated synergistically by alcohol and cytokines and that the composition of ECM, in turn, influence gene expression patterns of PSCs during the activation process.

Three specific aims for this study were addressed:

1. The synergistic effect of low concentrations of ethanol and cytokines on PSC activation;
2. The influence of extracellular matrix (collagen I, MatrigelTM and plastic) on PSC gene expression patterns;
3. The influence of the most highly dysregulated gene transgelin on PSC function.

Background to work:

- Pancreatic fibrosis is a characteristic histological feature of two major pancreatic diseases - chronic pancreatitis and pancreatic cancer. PSCs play a major role in pancreatic fibrogenesis.
- During pancreatic injury, PSCs undergo activation. This is accompanied by the following changes: loss of cytoplasmic vitamin A containing lipid droplets, transformation into a myofibroblast-like phenotype, increased proliferation, increased expression of the cytoskeletal protein alpha-smooth muscle actin (αSMA) and increased synthesis and secretion of ECM proteins that comprise fibrous tissue.

Factors known to activate PSCs in vitro include alcohol and its oxidative metabolite acetaldehyde, oxidant stress and cytokines and growth factors that are synthesised and secreted at increased levels during pancreatic injury. However, during pancreatic injuries in vivo, PSCs are likely to be exposed to several factors at the same time. Whether factors such as ethanol and cytokines may exert synergistic effects on PSC activation has not been fully studied.

- ECM plays a central role in the maintenance of normal tissue architecture and regulates cell function. In health, PSC are surrounded by normal basement membrane comprising collagen IV, laminin, fibronectin, proteoglycans and growth factors. However, during pancreatic injury, PSCs are activated and secrete excessive amount of ECM proteins such as collagen I that comprise fibrous tissue. However, the influence of ECM components on PSC gene expression profiles has not been previously studied.

Specific aims:

1. Synergistic effect of ethanol and cytokines on PSC activation

In vitro studies designed to address this aim involved: i) treatment of rat PSCs alone or in combination with ethanol and cytokines (TNFα and IL-1); ii) and assessment of PSC activation (αSMA expression and collagen expression). These studies demonstrated that:

i. at very low doses, ethanol (5mM, a dose seen with social drinking) and cytokines individually had negligible effects on PSC activation.

ii. however, the combination of ethanol with IL-1 or TNFα activated PSCs by significantly increasing αSMA expression and/or collagen expression.

2. The influence of ECM on PSC gene expression patterns

These experiments involved the assessment of gene expression patterns in PSCs cultured on MatrigelTM (mimicking normal basement membrane) and collagen I (mimicking fibrotic pancreas) by a microarray experiment. These studies demonstrated that gene expression patterns of PSCs are influenced by ECM composition.

3. Characterisation of specific genes involved in PSC activation

These experiments involved:

a. i) analysis of microarray results and selection of genes (transgelin, lumican, Fos, and IL-1α) that are highly dysregulated in cells cultured on different matrices; ii) further validation of these genes at mRNA and protein levels; iii) functional studies of one of the genes, namely transgelin, by assessing the effect of modulating transgelin expression on PSC function. Transfection of PSCs with small interfering RNA (siRNA) for transgelin resulted in decreased PSCs proliferation.
The potential value of this work lies in the possibility of determining the molecular mechanisms responsible for mediating PSC activation. This could lead to the development of therapies that target PSC activation, in order to retard or reverse pancreatic fibrosis.

To evaluate the effect of topical negative pressure dressings in combination with antiseptic instillations

**Supervisors:** Karen Vickery and Anand Deva

**Introduction:** Chronic wounds are costly to treat and are an increasing health problem. The aetiology of chronic wounds is multi-factorial, but recent evidence suggests that bacteria play an important role and be responsible for a majority of chronic infections. S. epidermidis and P. aeruginosa are commonly associated with chronic wounds. A major part of the virulence is their ability to form biofilms. Biofilms are a complex community of bacteria adhering to surfaces and imbedded in a biopolymer matrix that aids the bacteria in surface attachment, has water, nutrient and oxygen channels and protects the bacteria from host and antimicrobial agents. This high resistance of biofilms presents challenges to the medical community for fighting infections. Recently, topical negative pressure (TNP) dressings have been used in chronic wounds to aid healing. Although there is some research evaluating the effect of TNP dressings on biofilms, there is no research on the efficacy of a combination of TNP dressings and antiseptic instillation.

**Aims:** Our aims were to identify the minimum eradication concentration (MEC) and the minimum biofilm eradication concentration (MBEC) of S. epidermidis and P. aeruginosa against a range of antiseptics and use sub-inhibitory concentrations of antiseptics in an in vitro wound model to assess the efficacy of TNP dressings in combination with antiseptic instillation.

**Method:** Biofilms were generated in a biofilm generator (24 coupons at a time) with a 24 hour batch phase and a 24 hour flow-through phase. Coupons were then transferred to an in vitro wound chamber. Each wound chamber had 6 coupons. Wound chambers were subjected to various frequency of antiseptic instillation with and without TNP. 5 coupons were prepared for quantitative measurements using standard microbiological methods, while 1 coupon was prepared for scanning electron microscopy.

**Results:** S. epidermidis: MBEC of PI against S. epidermidis lay between 0.078 mg/ml and 0.156 mg/ml while the MEC was 4.883 μg/ml. The MBEC of HA against S. epidermidis was between 0.025 mg/ml and 0.05 mg/ml while the MEC was 3.125 μg/ml. Increasing frequency of antiseptic instillations without TNP resulted in a reduction in bacterial load ranging from 0.5 to 1.5 log10 reduction. Combining antiseptic instillations with TNP resulted in a greater decrease in bacterial numbers, ranging from 0.5 to almost 2.5 log10 reduction. PI instillation 12 times per day in combination with TNP was the most effective and resulted in an almost 2.5 log10 reduction in bacterial numbers. The SEM images complemented the results observed with colony counts. P. aeruginosa: MBEC of PB against P. aeruginosa lay between 0.05 mg/ml and 0.20 mg/ml while the MEC was 0.2mg/ml. The MBEC of HA against P. aeruginosa was > 0.05 mg/ml while the MEC was < 3.125 μg/ml. Similar to the results observed with S. epidermidis, increasing frequency of antiseptic instillation resulted in an increased reduction in bacterial numbers. Combining TNP with PI instillation resulted in a greater decrease in bacterial numbers (7 log10 reduction) compared with PI instillation alone (5 log10 reduction). 3 times per day PB instillation resulted in approximately 0.5 log10 reduction in bacterial numbers. Addition of TNP to 3 times per day PB instillation resulted in a greater decrease in bacterial numbers (1.5 log10 reduction). Although higher frequency of PB instillation resulted in a greater decrease in bacterial load, the additive effect of TNP to PB instillation was not present. The SEM complemented these findings.

**Conclusion:** MBEC of PI against S. epidermidis lay between 0.078 mg/ml and 0.156 mg/ml while the MEC was 4.883 μg/ml. The MBEC of HA against S. epidermidis was between 0.025 mg/ml and 0.05 mg/ml while the MEC was 3.125 μg/ml. MBEC of PB against P. aeruginosa lay between 0.05 mg/ml and 0.20 mg/ml while the MEC was 0.2mg/ml. The MBEC of HA against P. aeruginosa was > 0.05 mg/ml while the MEC was < 3.125 μg/ml. The use of TNP in combination with antiseptic instillation resulted in a greater reduction of bacterial numbers when compared with instillation alone.
Independent Learning Projects and Honours

The Independent Learning Project (ILP) or Honours projects, undertaken by all Phase 2 students, aims to enable students to gain some insight into how medical knowledge is acquired through the completion of a research-related project.

Between 2011 and 2013, south western Sydney based academics and conjoints hosted 88 ILP and 8 Honours projects, as follows:

### 2011

**Independent Learning Projects**

- **ABDELE MESSIH, Marena**: Telephone versus postal surveys post joint replacement surgery, supervised by Professor Ian Harris and Associate Professor Justine Naylor
- **AHMADI, Navid**: Screening for ACS in patients with ruptured AAA, supervised by Dr Scott D’Amours and Dr John Crozier
- **BRENNAN, Xavier John**: Impact of diastolic function post myocardial infarction, supervised by Professor Liza Thomas and Professor John French
- **CARROLL, Emma Elizabeth**: The role of amplitude-integrated EEG in predicting the outcome of infants with Hypoxic Ischaemic Encephalopathy, supervised by Dr John Levison and Dr Ian Callander
- **CHATTERJEE, Ushmi**: Examination of the natural history of chronic HBV infection in young women, supervised by Associate Professor Miriam Levy and Dr Susan Connor
- **CHEN, Jim Yun**: Proteomics in inflammatory bowel disease, supervised by Professor Rupert Leong and Dr Valerie Wasinger
- **CHEUNG, Benson Pun Wang**: Epidemiology of MRSA infection in orthopaedics, supervised by Professor Ian Harris and Dr Rajat Mittal
- **DUBEY, Ritika**: Cystic neoplasms of the pancreas - an evidence based approach to management, supervised by Associate Professor Neil Merrett
• **GHANNOUM, Rola**: Expansion of intracoronary stents by oversizing vs high pressure inflation: a randomised intracoronary ultrasound controlled study, supervised by Associate Professor Craig Juergens and Professor John French

• **KARUNIA, Michael Justin**: Whether propofol is a more effective sedative agents in comparison to midazolam and fentanyl in endoscopy?, supervised by Professor Rupert Leong and Dr Jenn Koo

• **KATHIRGAMANATHAN, Mithran**: Is liver biopsy an obstacle to treatment for HBV - role of Fibroscan?, supervised by Associate Professor Miriam Levy and Dr Susan Connor

• **KELLY, James Curran**: Timelines in lung cancer diagnosis and treatment, supervised by Associate Professor Shalini Vinod and Dr Jesmin Shafiq

• **LE, Terry**: Paroxysmal atrial fibrillation - its affects on atrial dynamics and function, supervised by Professor Liza Thomas and Dr Hany Dimitri

• **LEE, Goeun Grace**: Surveillance for lung tumours following treatment for head and neck malignancy, supervised by Dr Anthony McGuinness and Dr Christian Selinger

• **MADAN, Aman**: Levels of evidence-based medicine knowledge amongst surgeons, supervised by Professor Ian Harris and Dr Rajat Mittal

• **MANICKAM, Arutchelvan**: Association between outcome and patient preference for rehabilitation after total joint replacement, supervised by Professor Ian Harris and Associate Professor Justine Naylor

• **NGUYEN, Anna Phuong**: Anti-serum amyloid A antibodies in patients with systemic lupus erythematosus, supervised by Dr Sean O’Neill and Professor Patrick McNeill

• **PARK, Joo-Mann Calvin**: The prognostic significance of SUV measurements in solitary colorectal liver metastases, supervised by Dr Michael Lin and Dr Weng Ng

• **PARK, Hyo Jung**: Phenotypic characterisation and social cognition deficits in Tourette syndrome versus Autism Spectrum Disorders, supervised by Professor Valsa Eapen and Dr Rudi Crncec

• **PERANANTHAN, Varan**: A study of IBD through proteomics, supervised by Professor Rupert Leong and Dr Valerie Wasinger

• **PHAN, Victoria Anh-Thu**: Left ventricular diastolic reserve in patients with diabetes mellitus, supervised by Professor Dominic Leung and Dr Melissa Leung

• **SIDRAK, Samuel**: Iron deficiency in children with developmental problems, supervised by Dr Sue Woolfenden and Dr Terence Yoong

• **TAY, Kwok Ping**: Family stress and quality of life in autism families, supervised by Professor Valsa Eapen and Dr Rudi Crncec

• **TSANG, Chi Fai**: Pain experience in head and neck cancer outpatients: predictors of adverse pain outcomes, supervised by Dr Anthony McGuinness and Dr Rebecca Strutt

• **TAO, Owen Ao-Yi**: A neurophysiological investigation of Tourette syndrome prior to and following habit reversal therapy, supervised by Professor Valsa Eapen and Dr Rudi Crncec

• **WESTON, Melissa Jayne**: Biomarkers in the prediction of infliximab efficacy, supervised by Professor Rupert Leong and Dr Sudarshan Paramsothy

• **WIJERATNE, Viduranga**: Pain experience in head and neck cancer patients attending a multidisciplinary oncology clinic, supervised by Dr Anthony McGuinness and Dr Dion Forstner

• **YANG, Anes**: Response variations between ethics committee for multicentre trials, supervised by Professor Ian Harris and Dr Rajat Mittal

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**Honours**

• **LU, John**: Femoral versus Radial artery access for coronary interventional procedures guided by vascular ultrasound, supervised by Associate Professor Craig Juergens and Professor John French

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**2012**

**Independent Learning Projects**

• **BAE, Sunna**: The role of the unfolded protein response in sensitivity of myeloma to proteasome inhibitors, supervised by Dr Silvia Ling and Dr Michael Harvey

• **CANNON, Christine**: Trends in penetrating chest wounds, supervised by Dr Scott D’Amours

• **CHAMI, Saja**: Developmental surveillance in the 3rd year of life, supervised by Professor Valsa Eapen and Dr Rudi Crncec

• **CHEN, Ji**: Hepatic fibrosis in inflammatory bowel disease, supervised by Professor Rupert Leong and Dr Alice Lee
<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Supervisor(s)</th>
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<tbody>
<tr>
<td>CHUA, Jia Lin</td>
<td>Role of Caesarean section to reduce the vertical transmission risk of HPV, supervised by Dr Danforn Lim and Dr Lisa Cheng</td>
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<td>DIEP, Quoc Hung</td>
<td>BBIF1120 + isoprenylation inhibition (fluvastatin, atorvastatin), supervised by Professor Paul De Souza and Dr Peter Galettis</td>
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<tr>
<td>HO, Khai Ee Evelyn</td>
<td>Acupuncture for depression in end stage cancer patient, supervised by Dr Danforn Lim and Dr Lisa Cheng</td>
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<tr>
<td>HUANG, Tony Dazhong</td>
<td>Confocal endomicroscopy in Barrett's oesophagus, supervised by Professor Rupert Leong</td>
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<td>HUANG, Yeqian</td>
<td>Benzodiazepine treatment for painful neuropathy, supervised by Dr Danforn Lim and Dr Lisa Cheng</td>
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<tr>
<td>KHALIL, Jinan</td>
<td>Lifestyle and genetic factors in vascular dementia, supervised by Professor Daniel Chan and Dr Fintan O'Rourke</td>
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<tr>
<td>KRISHNAMOORTHY, Roopa</td>
<td>Head and neck reconstructive surgery, supervised by Dr Navindran Niles and Associate Professor Jonathan Clark</td>
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<tr>
<td>KWEN, Oh Ryong</td>
<td>Mast cell tryptase and arthritis, supervised by Professor Patrick McNeil and Dr Katherine Bryant</td>
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<tr>
<td>LEE, Janette</td>
<td>Cortical inhibition in Tourette syndrome: A neurophysiological investigation, supervised by Professor Valsa Eapen and Dr Rudi Crncec</td>
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<td>Li, Matthew Ka Ki</td>
<td>Facial reanimation, supervised by Dr Navindran Niles and Dr Jonathan Clark</td>
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<td>LIM, Li Chin Deborah</td>
<td>Neurodevelopmental outcomes in a cohort of children delivered following significant intra-uterine growth retardation, supervised by Professor John Smoleniec and Professor Valsa Eapen</td>
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<td>LIN, Richard</td>
<td>Respiratory virus infections in children, supervised by Professor Guy Marks and Associate Professor Euan Tovey</td>
<td></td>
</tr>
</tbody>
</table>
• **LU, Zhou**: The use of FDG PET as a prognostic marker in patients with diffuse large B-cell lymphoma, supervised by Dr Michael Lin and Dr Silvia Ling

• **MAHMOOD, Alina**: Angiogenesis inhibitors + EGFR antagonists in the treatment of brain cancer cell lines, supervised by Professor Paul De Souza and Dr Peter Galettis

• **MUNSIF, Ashish**: Development of a Cochrane protocol to assess the role of pre-operative interventions addressing comorbidities in improving outcomes after hip and knee, supervised by Professor Ian Harris and Associate Professor Justine Naylor

• **NAMKOONG, Jenny Youn**: Retinal changes in women with gestational diabetes and pre-eclampsia, supervised by Associate Professor Vincent Wong

• **NG, Rachel**: Acupuncture for hypercholesterolaemia, supervised by Dr Danforn Lim and Dr Lisa Cheng

• **ONG, Germane**: Typical complications in English and non-English speaking patients at 10 weeks post-op, supervised by Professor Ian Harris and Associate Professor Justine Naylor

• **PARK, Daniel Jinho**: Angiogenesis inhibitors + mTOR antagonists in the treatment of brain cancer cell lines, supervised by Professor Paul De Souza and Dr Peter Galettis

• **PATTERSON, Eliza**: PAINLESS trial and chronic pain substudy: redefining pain management after cardiac surgery, a randomised trial, supervised by Associate Professor Rebecca Dignan

• **PRABHALA, Shreyas**: Outcomes of patients discharged from the Emergency Department with diagnosis of low risk chest pain, supervised by Dr Kent Robinson and Associate Professor Anna Holdgate

• **SIERAKOWSKI, Amy**: Developmental outcomes of monochorionic multiple pregnancies e.g. twins sharing the same placenta, supervised by Professor John Smoleniec and Professor Valsamma Eapen

• **SIOW, Suyi**: Acupuncture for type II diabetes mellitus, supervised by Dr Danforn Lim and Dr Lisa Cheng

• **WON, Chloe**: Anti-HDL antibodies in patients with SLE, supervised by Dr Sean O’Neill and Professor Patrick McNeil

• **WONG, Brendon**: The use of confocal endomicroscopy in assessing Crohn’s disease, supervised by Professor Rupert Leong and Dr Christian Selinger

• **XU, Ke**: Acupuncture for cancer related fatigue, supervised by Dr Danforn Lim and Dr Lisa Cheng

• **YOUNG, Shaun Michael**: The role of FDG PET-CT in the gastric cancers, supervised by Dr Michael Lin and Dr Weng Ng

### Honours

• **KO, Yanna**: Epidemiology of Inflammatory Bowel Disease in Middle Eastern Population in Australia, supervised by Professor Rupert Leong

• **ZENG, Ming Dong**: Proteomic profiling in inflammatory bowel diseases in comparison to other inflammatory diseases and controls, supervised by Professor Rupert Leong

### 2013

#### Independent Learning Projects

• **AHMED, Taifa**: Outcomes of patients treated with adjuvant radiotherapy for uterine malignancies, supervised by Associate Professor Shalini Vinod and Dr Jesmin Shafiq

• **CHAGANTI, Raja**: Strain rate imaging during dobutamine stress echo for the diagnosis of coronary artery disease, supervised by Professor Dominic Leung and Dr Matte Fung

• **CHATTERTON, Sophie**: Anti-platelet agent sensitivity measured by Verify Now in patients with acute coronary syndromes with respect to the risk of bleeding after CAGs and PCI, supervised by Associate Professor Rebecca Dignan and Professor John French

• **DO, Andrew**: Biomarkers for brain cancer, supervised by Professor Paul De Souza and Dr Eng-Siew Koh

• **DUO, Xiz**: Proteomics in inflammatory bowel disease, supervised by Professor Rupert Leong and Dr Valerie Wasinger

• **GHANNOUNM, Rola**: Can the content of seroma fluid from mastectomy or axillary clearance wounds predict clinical course?, supervised by Dr Patsy Soon and Dr Dave Segara

• **HOGAN, Jarred**: Examining the risk of cardiovascular morbidity and mortality in patients with established CKD, supervised by Professor Liza Thomas and Professor John French

• **IVER, Dushyant**: The natural history of intra-abdominal hypertension and abdominal compartment syndrome, supervised by Dr Scott D’Amours and Dr Pratik Rastogi

• **KHANDKAR, Chinmay**: Epidemiology and management of peripheral lymph node tuberculosis, supervised by Dr Claudia Dobler and Dr Zinta Harrington
• **KIM, Hyeon Rae:** The effect of outcome monitoring on intervention rate in spine surgery, supervised by Professor Ian Harris and Associate Professor Justine Naylor

• **LEE, Dior:** Comparison of general anaesthesia versus combined regional and general anaesthesia in upper limb surgery, supervised by Dr Alwin Chuan and Professor Ian Harris

• **LEONG, Kwong Ming:** Pre and post operative obesity as a predictor of outcome after joint replacement, supervised by Professor Ian Harris and Associate Professor Justine Naylor

• **MANOHARAN, Varun:** The use of novel biomarkers in predicting prognosis in gastrointestinal and colorectal cancer, supervised by Dr Michael Lin and Dr Weng Ng

• **NG, Ian:** Morality after trauma, supervised by Professor Ian Harris and Associate Professor Justine Naylor

• **NGUYEN, Monica:** An exploratory investigation of the regulation of SAP97 as it relates to Tourette Syndrome and ASD, supervised by Professor Valsa Eapen and Dr Rudi Crncec

• **NGUYEN, Tram:** Femoral versus Radial Artery Access for Coronary Interventional Procedures guided by vascular ultrasound, supervised by Associate Professor Craig Juergens and Professor John French

• **PATHAK, Vidya:** Attitudes and beliefs among hospital staff towards tuberculosis and prophylactic treatment, supervised by Dr Claudia Dobler and Dr Zinta Harrington

• **PICK, Anna:** Comprehensive Behavioural Intervention for Tics (CBIT): Exploring the mechanism of action using neurophysiological investigation, supervised by Professor Valsa Eapen and Dr Rudi Crncec

• **ROY, Sajeeb:** Outcomes of patients with HCC in SSWAHS are we doing better?, supervised by Associate Professor Miriam Levy and Dr Scott Davison

• **RYAN, Amitee:** The PAINLESS Trial - Painbuster Length of Stay, Randomised Trial, supervised by Associate Professor Rebecca Dignan and Ms Serena Hong

• **SEAGRAVE, Kurt:** Predictors of complications after total joint replacement, supervised by Professor Ian Harris and Associate Professor Justine Naylor

• **SHAW, James:** The use of a risk score in the prediction of colorectal advanced adenomas and cancers at colonoscopy, supervised by Professor Rupert Leong and Dr Jenn Koo

• **SINGH, Karan:** Outcomes with GIST tumours of the upper gastrointestinal tract, supervised by Associate Professor Neil Merrett and Dr Amithaba Das

• **WANG, Duo:** Application of novel quantitative techniques for FDG-PET CT in patients with non-small cell lung cancer, supervised by Dr Ivan Ho Shon and Dr Eng-Siew Koh

• **WESTBURY, Sean:** The epidemiology of inflammatory bowel diseases, supervised by Professor Rupert Leong and Dr Jenn Koo

• **WILKINSON, Angus:** Factors predicting the outcomes of trauma patients who are intubated in the emergency department - a retrospective cross-sectional pilot study, supervised by Associate Professor Anna Holdgate and Dr Ian Ferguson

• **YANAGISAWA, Waka:** Biomarkers for brain cancer, supervised by Professor Paul De Souza and Dr Eng-Siew Koh

• **YANG, Michael:** Confocal endomicroscopy in the study of inflammatory bowel diseases, supervised by Professor Rupert Leong and Dr Darren Pavey

**Honours**

• **CHO, Catherine:** Prostaglandin D2 metabolites as a biomarker of in vivo mast cell activation, supervised by Professor Patrick McNeil and Dr Katherine Bryant

• **HERLE, Pratima:** Randomised trial of tranexamic acid during hip fracture surgery, supervised by Professor Ian Harris

• **HOLMES, Lewis:** Impact of three different glycoprotein IIb/IIIa Antagonists on Glycoprotein IIb/IIIa platelet receptor inhibition, tissue level perfusion and clinical endpoints, supervised by Associate Professor Craig Juergens

• **LEE, Alexandra:** Smoking and pancreatic stellate cells, supervised by Professor Minoti Apte and Professor Jeremy Wilson

• **PATEL, Mishaal:** Interaction of pancreatic stellate cells and endothelial cells in pancreatic cancer, supervised by Professor Jeremy Wilson and Professor Minoti Apte

• **PERERA, Dinushi:** Preclinical activity of phospholipase A2 (PLA2) inhibitors in various cancer cell lines, supervised by Professor Paul De Souza

• **WONG, Wui-Kwan:** Preclinical activity of phospholipase A2 (PLA2) inhibitors in various cancer cell lines, supervised by Professor Paul De Souza
Some projects which resulted in publications for the students:


- **Lawler J**, Glass A, **Chatterjee U**, Wiseman E, Davison S, Manoharan S, Smith L, Yeo A, Ayres A, Locarnini S, Levy MT. Nucleotide(s)ide analogues to prevent perinatal transmission of HBV: Lamivudine is effective but Tenofovir may be better. J Gastroenterol Hepatol. 2011;26:100.


Publication articles, books, chapters and abstracts by south western Sydney based UNSW academics and conjoints between 2011-2013

This list of publications is sorted by the School of the affiliation of the first author and alphabetically. Authors with an appointment based in south western Sydney are highlighted in bold.

This list relies on public resources and represents research outputs by UNSW academics and conjoint appointees while working in south western Sydney, but may include work with external partners or in previous appointments. While all care has been taken to ensure that this list is complete, it is reliant on the accuracy of these sources.

Medical Sciences


HIGH IMPACT PUBLICATION


This review links practice, funding, and evidence for interventions for mental health and psychosocial wellbeing in humanitarian settings. We studied practice by reviewing reports of mental health and psychosocial support activities (2007-10); funding by analysis of the financial tracking service and the creditor reporting system (2007-09); and interventions by systematic review and meta-analysis. In 160 reports, the five most commonly reported activities were basic counselling for individuals (39%); facilitation of community support of vulnerable individuals (23%); provision of child-friendly spaces (21%); support of community-initiated social support (21%); and basic counselling for groups and families (20%). Most interventions took place and were funded outside national mental health and protection systems. 32 controlled studies of interventions were identified, 13 of which were randomised controlled trials (RCTs) that met the criteria for meta-analysis. Two studies showed promising effects for strengthening community and family supports. Psychosocial wellbeing was not included as an outcome in the meta-analysis, because its definition varied across studies. In adults with symptoms of post-traumatic stress disorder (PTSD), meta-analysis of seven RCTs showed beneficial effects for several interventions (psychotherapy and psychosocial supports) compared with usual care or waiting list (standardised mean difference [SMD] -0.36, 95% CI -0.55 to -0.20). In children, meta-analysis of four RCTs failed to show an effect for symptoms of PTSD (-0.36, -0.83 to 0.10), but showed a beneficial effect of interventions (group psychotherapy, school-based support, and other psychosocial support) for internalising symptoms (six RCTs: SMD -0.24, -0.40 to -0.09). Overall, research and evidence focuses on interventions that are infrequently implemented, whereas the most commonly used interventions have had little rigorous scrutiny.


Public Health and Community Medicine


186. Harris PJ, Haigh F, Harris E. Incorporating health considerations in land-use planning and policy development: a review of activities in Stoke City Council in the UK and suggestions for application in NSW. Centre for Health Equity Training Research and Evaluation, part of the Centre for Primary Health Care and Equity, Faculty of Medicine, University of NSW. 2012.


During the same period, data were obtained daily on ambient temperature, relative humidity and air pollution. Mixed models were used to examine the effects of temperature on lung function, controlling for individual characteristics and environmental factors. Ambient temperature was negatively related to both morning and evening PEF and FEV1 for 0-3 days lag. In general, the effects of temperature were stronger in males than in females for evening PEF, while the effects were stronger in females for evening FEV1. Children with asthma living in southern cities were more sensitive to high temperature than those in the northernmost city. Higher ambient temperature is associated with lower lung function in children with asthma. Preventive health policies will be required to protect children with asthma from increasingly frequent high temperatures.

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BACKGROUND: Guidelines for management of hypertension and lipids recommend using cardiovascular absolute risk (CVAR) to manage patients. This randomized controlled trial investigated the impact of CVAR assessment on family practice on management of cardiovascular risk, including prescription of antihypertensive and lipid-lowering medication.

METHODS: A cluster randomized controlled trial was conducted from 2008 to 2010 in Sydney, Australia. Family practices were randomized, and patients aged 45 to 69 years were invited to participate. Intervention family physicians (FP) were trained in use of CVAR, provided with an electronic CVAR calculator, and assessed their patients’ absolute risk in a dedicated consultation. Control practice patients received a general health check. Primary outcome analyzed was the proportion of patients in each group on antihypertensive and/or lipid-lowering medication at 12 months. Multilevel logistic regression was performed to explore variables influencing changes in pharmacologic therapy.

RESULTS: The study recruited 36 FPs from 34 practices and 1,074 patients, of which 908 (84.4%) completed 12-month follow-up. At 12 months, there was no significant difference between the intervention and control groups in proportion of patients on antihypertensives (31.2% vs 34.3%, P = .31), but control group patients were more likely to be on lipid-lowering medications (30.2% vs 22.7%, P = .01). After multilevel analysis, this difference was not present. Intensification or reduction of pharmacologic therapy was associated with meeting treatment targets for blood pressure and lipids but not with the CVAR or intervention group.

CONCLUSIONS: Single-risk factor management remains a strong influence on FP prescribing practices. Shifting to an approach based on CVAR will require more intensive intervention.

HIGH IMPACT PUBLICATION


South Western Sydney Clinical School


HIGH IMPACT PUBLICATION


Pancreatic cancer is a highly lethal malignancy with few effective therapies. We performed exome sequencing and copy number analysis to define genomic aberrations in a prospectively accrued clinical cohort (n = 142) of early (stage I and II) sporadic pancreatic ductal adenocarcinoma. Detailed analysis of 99 informative tumours identified substantial heterogeneity with 2,016 non-silent mutations and 1,628 copy-number variations. We defined 16 significantly mutated genes, reaffirming known mutations (KRAS, TP53, CDX2/4, SMAD4, MLH1, TGFBR2, ARID1A and SF3B1), and uncover novel mutated genes including additional genes involved in chromatin modification (EP3C and ARID2), DNA damage repair (ATM) and other mechanisms (ZIM2, MAP2K4, NALCN, SLC16A4 and MAGEA6). Integrative analysis with in vitro functional data and animal models provided supportive evidence for potential roles for these genetic aberrations in carcinogenesis. Pathway-based analysis of recurrently mutated genes recapitulated clustering in core signalling pathways in pancreatic ductal adenocarcinoma, and identified new mutated genes in each pathway. We also identified frequent and diverse somatic aberrations in genes described traditionally as embryonic regulators of axon guidance, particularly SLIT/ROBO signalling, which was also evident in murine Sleeping Beauty transposon-mediated somatic mutagenesis models of pancreatic cancer, providing further supportive evidence for the potential involvement of axon guidance genes in pancreatic carcinogenesis.


613. Decollogne S, Ramsay EE, Joshi S, Corti A, Pompeilla A, Apte M, Hogg PJ, Dilda PJ. Both pancreatic cancer and pancreatic stellate cells express high levels of gamma-glutamyl transferase that may be employed to deliver a metabolism inhibitor to the tumour mass. Eur J Cancer. 2012;48(S251).


722. Gibson K, Park S-H, Pincus T. Scores on the Multidimensional Health Assessment Questionnaire (MDHAQ) for “Walk 2 Miles Or 3 Kilometers,” “Poor Sleep,” and “ Participate In Recreation” are higher, indicating poorer status, than scores for 8 activities from The Health Assessment Questionnaire (HAQ). 2013;65:S824.


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**HIGH IMPACT PUBLICATION**


UNSW in the South West 2011-2013


Bowel Dis. 2013 May;27:116.


anxiety disorders, migraine, diabetes, and chronic obstructive pulmonary disease, back pain, major depressive disorder, or endocrine diseases. The leading specific causes of YLDs were much the same in 2010 as they were in 1990: low back pain, major depressive disorder, iron-deficiency anaemia, neck pain, anxiety disorders, migraine, diabetes, and falls. Age-specific prevalence of YLDs increased with age in all regions and has decreased slightly from 1990 to 2010. Regional patterns of the leading causes of YLDs were more similar compared with years of life lost due to premature mortality. Neglected tropical diseases, HIV/AIDS, tuberculosis, malaria, and anaemia were important causes of YLDs in sub-Saharan Africa.

INTERPRETATION: Rates of YLDs per 100,000 people have remained largely constant over time but rise steadily with age. Population growth and ageing have increased YLD numbers and crude rates over the past two decades. Prevalences of the most common causes of YLDs, such as mental and behavioural disorders and musculoskeletal disorders, have not decreased. Health systems will need to address the needs of the rising numbers of individuals with a range of disorders that largely cause disability but not mortality. Quantification of the burden of non-fatal health outcomes will be crucial to understand how well health systems are responding to these challenges. Effective and affordable strategies to deal with this rising burden are an urgent priority for health systems in most parts of the world.


Women’s and Children’s Health


Papers of the Year

Each year the South Western Sydney Clinical School awards Paper of the Year prizes in two categories.

Biomedical / Clinical Research

2011

**JACC: Cardiovascular Imaging. 2011 Mar; 4:234-42.**

*Atrial dilation and altered function are mediated by age and diastolic function but do not occur before the eighth decade.*

*Boyd AC, Schiller NB, Leung DY, Ross DL, Thomas L.*

**OBJECTIVES:** This study investigated changes in left atrial (LA) volumes and phasic atrial function, by deciles, with normal aging.

**BACKGROUND:** LA volume increase is a sensitive independent marker for cardiovascular disease and adverse outcomes. To use this variable more effectively as a marker of pathology and a gauge of outcome, physiological changes due to aging alone need to be quantitated.

**METHODS:** A detailed transthoracic echocardiogram was performed in 220 normal subjects; 89 (41%) were male and their age ranged from 20 to 80 years (mean 45 ± 17 years). Maximum (end-ventricular systole), minimum (end-ventricular diastole), and pre-a-wave volumes were measured using the biplane method of disks. LA filling, passive emptying, conduit and active emptying volumes, and fractions were calculated. Transmural inflow, pulmonary vein flow, and pulsed-wave Doppler tissue imaging parameters were measured as expressions of left ventricular diastolic function. For purposes of analysis, subjects were divided by age deciles.

**RESULTS:** LA indexed maximum (0.05 ml/m² per year) and minimum (0.06 ml/m² per year) volume increased with age but only became significant in the eighth decade (26.0 ± 6.3 ml/m², p = 0.02, and 13.5 ± 3.9 ml/m², respectively; p < 0.001). Impaired left ventricular diastolic relaxation was apparent in decade 6 and was associated with a shift in phasic LA volumes so that LA expansion index and passive emptying decreased with increasing age, whereas active emptying volume increased.

**CONCLUSIONS:** In normal healthy subjects, LA indexed volumes remain nearly stable until the eighth decade when they increase significantly. Therefore, an increase in LA size that occurs before the eighth decade is likely to represent a pathological change. Changes in phasic atrial volumes develop earlier consequent to age-related alteration in LV diastolic relaxation.

**2012 (Joint Recipients)**


*Safety and efficacy of rescue angioplasty for ST-elevation myocardial infarction with high utilization rates of glycoprotein IIb/IIIa inhibitors.*


**BACKGROUND:** Fibrinolytic therapies remain widely used for ST-elevation myocardial infarction, and for “failed reperfusion,” rescue percutaneous coronary intervention (PCI) is guideline recommended to improve outcomes. However, these recommendations are based on data from an earlier era of pharmacotherapy and procedural techniques.

**METHODS AND RESULTS:** To determine factors affecting prognosis after rescue PCI, we studied 241 consecutive patients (median age 55 years, interquartile range [IQR] 48-65) undergoing procedures between 2001 and 2009 (53% anterior ST-elevation myocardial infarction and 78% transferred). The median treatment-related times were 1.2 hours (IQR 0.8-2.2) from symptom onset to door, 2 hours (IQR 1.3-3.2) from symptom onset to fibrinolysis (93% tenecteplase), and 3.9 hours (IQR 3.1-5.2) from fibrinolysis to balloon. Procedural characteristics were stent deployment in 95% (11.6% drug eluting) and 78% glycoprotein IIb/IIa inhibitor use, and Thrombolysis In Myocardial Infarction (TIMI) 3 flow rates pre-PCI and post-PCI were 41% and 91%, respectively (P < .001). At 30 days, TIMI major bleeding occurred in 16 (6.6%) patients, and 23 (9.5%) patients received transfusions; nonfatal stroke occurred in 4 (1.7%) patients (2 hemorrhagic). Predictors of TIMI major bleeding were female gender (odds ratio 3.194, 95% CI 1.063-9.597; P = .039) and pre-PCI...
CONCLUSIONS: Rescue PCI with contemporary treatments can achieve mortality rates similar to rates for contemporary primary PCI in patients without pre-PCI shock. Whether rates of bleeding can be reduced by different pharmacotherapies and interventional techniques needs clarification in future studies.

Results: Twenty-four patients had a favorable and 56 an unfavorable outcome. In a univariate analysis, there were significant differences in autoregulation (ORx 0.19±0.10 versus 0.37±0.11, P<0.001, for favorable versus unfavorable outcome, respectively), age (44.1±11.0 years versus 54.2±12.1 years, P=0.001), occurrence of delayed cerebral infarction (8% versus 46%, P<0.001), use of coiling (25% versus 54%, P=0.02), partial pressure of brain tissue oxygen (24.9±6.6 mm Hg versus 21.8±6.3 mm Hg, P=0.048), and Fisher grade (P=0.03). In a multivariate analysis, ORx (P<0.001) and age (P=0.003) retained an independent predictive value for outcome. ORx correlated with Glasgow Outcome Scale (r=-0.70, P<0.001).

CONCLUSIONS: The status of cerebrovascular autoregulation might be an important pathophysiological factor in the disease process after subarachnoid hemorrhage, because impaired autoregulation was independently associated with an unfavorable outcome.

2013 (Joint Recipients)

Mast cell-restricted, tetramer-forming tryptases induce aggrecanolyis in articular cartilage by activating matrix metalloproteinase-3 and -13 zymogens.

ABSTRACT: Mouse mast cell protease (mMCP)-6-null C57BL/6 mice lost less aggrecan proteoglycan from the extracellular matrix of their articular cartilage during inflammatory arthritis than wild-type (WT) C57BL/6 mice, suggesting that this mast cell (MC)-specific mouse tryptase plays prominent roles in articular cartilage catabolism. We used ex vivo mouse femoral head explants to determine how mMCP-6 and its human ortholog hTryptase-β mediate aggrecanolysis. Exposure of the explants to recombinant hTryptase-β, recombinant mMCP-6, or lysates harvested from WT mouse peritoneal MCs (PMCs) significantly increased the levels of enzymatically active matrix metalloproteinases (MMP) in cartilage and significantly induced aggrecan loss into the conditioned media, relative to replicate explants exposed to medium alone or lysates collected from mMCP-6-null PMCs. Treatment of cartilage explants with tetramer-forming tryptases generated aggrecan fragments that contained C-terminal DIPEN and N-terminal FFGVG neoepitopes, consistent with MMP-dependent aggrecanolyis. In support of these data, hTryptase-β was unable to induce aggrecan release from the femoral head explants obtained from Chloe mice that resist MMP cleavage at the DIPEN®FFGVG site in the interglobular domain of aggrecan. In addition, the abilities of mMCP-6-containing lysates from WT PMCs to induce aggrecanolyis were prevented by inhibitors of MMP-3 and MMP-13. Finally, recombinant hTryptase-β was able to activate latent pro-MMP-3 and pro-MMP-13 in vitro. The
accumulated data suggest that human and mouse tetramer-forming tryptases are MMP convertases that mediate cartilage damage and the proteolytic loss of aggrecan proteoglycans in arthritis, in part, by activating the zymogen forms of MMP-3 and MMP-13, which are constitutively present in articular cartilage.

Risk factor modification in diabetic patients following angiographic identification of multi-vessel disease.

Hee L, Thomas L, Ang X, Yang L, Lo S, Juergens CP, Mussap CJ, Dignan R, French JK.

ABSTRACT: There is little information on whether identification of multi-vessel disease (MVD) in patients with diabetic mellitus (DM) affects risk factor management. From 1125 consecutively screened patients between June 2006 and March 2010, we examined 227 diabetic patients with MVD on coronary angiography. Diabetic control and cholesterol levels were assessed by glycated haemoglobin (HbA1c) and total cholesterol (TC) respectively which were evaluated at baseline and at 1-year follow-up. Patients were grouped by age into <55(n=33), 55-65(n=75), 66-75(n=75) and >75(n=44). Target levels were defined as HbA1c<7% and TC<4.0 mmol/L. Patients <55 years had the highest HbA1c at 9.1[7.6-11.2]% with the lowest proportion of patients (n=3; 11.1%) within target at baseline, while 66-75 years had the best HbA1c at 7.1[6.4-7.8]% with the highest proportion (n=28, 45.2%) reaching target (p<0.0001). At 1-year, the poorest HbA1c control was again observed in the age <55 with fewer patients achieving target compared to the 66-75 age group (HbA1c: 8.5% vs 6.9%; % of patients at target: 20.7% vs 54.5%; p<0.0001). Furthermore, the group <55 years demonstrated the worst TC control at 1-year with a significant increase compared to the baseline TC (p<0.0001). Patients with a lower body mass index (BMI) were likely to have an improvement in HbA1c and reach target (p=0.01). Paradoxically, patients who were current smokers demonstrated a beneficial effect on optimal TC control (29.2% vs 15.4%, p=0.027). In younger diabetic patients, risk factor modification at 1-year was poor despite identification of MVD. Developing an effective education and monitoring programme to improve glycaemic control in this high risk group should be a priority.

RESULTS: In total, there were 988 patients, including 504 patients who were presented at MDT meetings and 484 who were not presented at MDT meetings. The median patient age was 69 years and 73 years in the MDT group and the non-MDT group, respectively (P < .01). There was no pathologic diagnosis for 13% of non-MDT patients compared with 4% of MDT patients (P < .01). Treatment receipt for MDT patients versus non-MDT patients was 12% versus 13%, respectively, for surgery (P value nonsignificant); 66% versus 33%, respectively, for radiotherapy (P < .001); 46% versus 29%, respectively, for chemotherapy (P < .001); and 66% versus 53%, respectively, for palliative care (P < .001). In patients with good performance status, the MDT group had significantly better receipt of radiotherapy among patients with stage I through IV nonsmall cell lung cancer (NSCLC) and had significantly better receipt of chemotherapy among patients with stage IV NSCLC. MDT discussion was an independent predictor of receiving radiotherapy, chemotherapy, and referral to palliative care but did not influence survival.

CONCLUSIONS: MDT discussion was associated with better treatment receipt, which potentially may improve quality of life for patients with lung cancer. However, it did not improve survival.
Distressed partners and caregivers do not recover easily: adjustment trajectories among partners and caregivers of cancer survivors.

Lambert SD, Jones BL, Girgis A, Lecathelinais C.

BACKGROUND: Although a number of cross-sectional studies document the distress experienced by partners and caregivers of cancer survivors, few have considered their potential differential patterns of adjustment over time.

PURPOSE: Identify distinct trajectories of anxiety and depression among partners and caregivers of cancer survivors and predictors of these trajectories.

METHODS: Participants completed a survey to examine the impact of caring for, or living with, a cancer survivor at 6, 12, and 24 months post-survivor diagnosis. Anxiety and depression were measured using the Hospital Anxiety and Depression Scale (N(anxiety) = 510; N(depression) = 511).

RESULTS: Anxiety trajectories included: no anxiety (15.1% scored <3; 37.8% scored 3-5); chronic, borderline anxiety (33.2%); and chronic, clinical anxiety (13.9%). The depression trajectories were: no depression (38.9% scored <2; 31.5% scored around 3); a sustained score of 7 (25.5%); and chronic, clinical depression (4.1%). Variables associated with the trajectories included most of the psychosocial variables.

CONCLUSIONS: Findings highlight that most caregivers maintained their baseline level of distress, which is particularly concerning for participants reporting chronic anxiety or depression.

Some things change, some things stay the same: a longitudinal analysis of cancer caregivers’ unmet supportive care needs.


OBJECTIVE: The objective of this study was to identify caregivers’ unmet needs and the psychosocial variables associated with unmet need count within the first 24 months post-survivor diagnosis.

METHODS: Caregivers completed a comprehensive survey measuring the primary outcome, psychosocial variables, and demographics of interest at 6 (n=547), 12 (n=519), and 24 (n=443) months post-survivor diagnosis.

RESULTS: Although prevalence of unmet needs significantly decreased over time, almost a third of caregivers still reported unmet needs at 24 months. Unmet needs were more prevalent among caregivers of lung cancer survivors, at 6 and 24 months. Top ranking unmet needs across time included ‘managing concerns about cancer coming back’, ‘reducing stress in the person with cancer’s life’, ‘understanding the experience of the person with cancer’, and ‘accessible hospital parking’. At 24 months, some of the top ranking unmet needs were related to caregivers’ well-being and relationships. Increased interference in activities due to caregiving, anxiety, depression, avoidant and active coping, and out-of-pocket expenses was associated with reporting more unmet needs. Less involvement in caregiving roles and increased physical well-being and social support were associated with reporting less unmet needs. For some variables (e.g. anxiety and depression), association with unmet needs strengthened over time.

CONCLUSIONS: This is the first longitudinal analysis of caregivers’ unmet needs as they enter early and extended survivorship. Findings provide valuable insights into caregiver’s unmet needs over time and identified a sub-group of caregivers at risk of experiencing unmet needs, extending previous research and informing the timing and content of psychosocial services.
## UNSW appointees in south western Sydney in 2013

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- Fazlur Nadri  
- Adnan Nagrial  
- Tamer Badie  
- Tyagarajalu Naidu  
- Mohammadreza Namazi  
- Hareeshan Nandakoban  
- Arnold Ng  
- Gareth Ng  
- Teng Ng  
- Tuan Nguyen  
- Vi Nguyen  
- Benjamin Nham  
- Ferdinand Ong  
- Alexander Owen  
- Riona Pais  
- Swapnil S Pawar  
- Trang Pham  
- Justin Phan  
- Carlos Pilasi  
- Sugendran Pillay  
- Gandhi Ponniah  
- Arijanto Pramana  
- Davin Prasetyo  
- David Prince  
- Saissan Rajendran  
- Maya Raj  
- Christopher Reitz  
- Andre Safvat  
- James Salinas  
- Li Na Sam  
- Sartaj Sandhu  
- Conceicaco Santos  
- Kiran Sarathy  
- Katharine Scrivener  
- Mohsen Shafei  
- Rihan Shahab  
- Shamus Shepherd  
- Ganeshwaran Shivapathasundram  
- Parveen Sidhu
BECOMING A CONJOINT

Conjoint appointees are individuals who generally hold a relevant position external to UNSW who have contributed to the research and/or teaching effort of UNSW Medicine. Conjoint appointments are unpaid positions.

There are a number of benefits of obtaining a conjoint appointment including:

- public recognition of academic standing through use of a conjoint title;
- access to over 2.7 million items through the UNSW library;
- access to Search First - the electronic gateway to the UNSW e-journal collection of 23000 titles;
- provision of zMail as a separate @unsw.edu.au email address;
- access to the UNSW Uniwide network when on campus, in the south western Sydney hospital education facilities and on other university campuses through EduRoam;
- eligibility for academic pricing on a range of products including computer software and hardware purchased for non-commercial purposes;
- discounts on a range of other products and services using UNSW negotiated rates including restaurants, airline lounge programs, gift vouchers and travel; and
- access to research workshops through the Grants Management Office and to research clinics provided by Outreach Library services.

For more information on becoming a conjoint, contact the South Western Sydney Clinical School on +61 2 8738 3844 or download an application form from: med.unsw.edu.au/information-conjoint-staff
1589 publications
$65.9M in competitive funding
$41.8M in NHMRC and ARC projects
$12.8M in infrastructure funding
612 staff and conjoints
380 undergraduate students
35 higher degree students