



Australian Government funds for Faculty researchers

Over the past two months, Flinders University researchers have been awarded over \$14 million in research funding from Australia's two largest funding bodies, the National Health and Medical Research Council (NHMRC) and the Australian Research Council (ARC).

Seven researchers received \$5.8 million in funding under the NHMRC's Standard Project Grants, to pursue studies ranging from airway surgery in obstructive sleep apnea to the genetic risk factors of blinding eye disease. In addition, three researchers were awarded NHMRC fellowships, and Strategic Professor of Psychiatry Ma-Li Wong received funding from the South Australian Health and Medical Research Institute (SAHMRI) to study

long-term metabolic effects of stress and antidepressants.

Professor Douglas McEvoy was among the award recipients, receiving \$1.1 million for the *Sleep Apnea Cardiovascular Endpoints (SAVE)* study, while Professor Fran Baum received \$1 million for regional population health planning, participation and equity.

In addition to our NHMRC success, almost \$7 million worth of grants have been awarded to Flinders University researchers from the ARC. University researchers were successful in being awarded six Future Fellowships and four Discovery Projects, in addition to a Discovery Early Career Research Award and a Linkage Grant. These

grants will fund a variety of research projects, ranging from efforts to discover factors which contribute to femur fractures, to development of a model to predict the effect of mass gatherings on health care. These varied projects illustrate the diversity of strengths of Flinders University researchers.

One researcher who found success with both NHMRC and ARC is Professor Justine Smith. Professor Smith was awarded over \$1.4 million dollars to continue her research into the role that retinal endothelial cells play in not only normal eyesight, but also in disease states which can threaten vision. In receiving this funding, Professor Smith acknowledged the role that Flinders University played in her success. "These applications were a real team effort, with much input from fellow researchers at Flinders University, as well as local and international collaborators. Also, the Flinders environment is an important factor for success, as here, with appropriate approvals, we are fortunate to have access to human ocular tissue for our work." Professor Smith said.

Article by Dr Karen Lower

A full list of grant recipients is available on pages four and five of this edition.



Professor Justine Smith



From the Executive Dean



As the year draws to a close, so too does the era of our two-school faculty. The start of 2014 will see the official beginning of our School of Health Sciences, and a refreshed way of working across the Faculty of Medicine, Nursing and Health Sciences.

Our restructure process has put us in a strong position to ensure our Faculty can focus on growth and quality and on being vibrant and innovative. Strengthening support for research is a critical focus of this work.

I am pleased to announce the appointment of Professor Paul Ward as our new Associate Head of Faculty (Research). I thank Professor Keryn Williams, who has been a wonderful leader in this role for the past five years. Keryn's knowledge, expertise and impartiality, and especially her support for early career researchers, have guided our Faculty's research agenda and we are grateful for her commitment and contribution.

This year concludes on a high note with the announcement of NHMRC and ARC funding success. Congratulations to all grant recipients in our Faculty. Your achievements are celebrated on pages 4-5 of this edition.

I wish you and your family an enjoyable holiday period and look forward to our work together in the new year.

Professor Michael Kidd AM
Executive Dean
Faculty of Medicine, Nursing and Health Sciences
Flinders University

American Heart Association accolades

Professor Robyn Clark, from the School of Nursing and Midwifery, has received international recognition for promoting the goals of the American Heart Association (AHA) through her published research.

She was presented with the prestigious *AHA Council on Cardiovascular and Stroke Nursing (CVSN) 2013 Clinical Article of the Year Award* during the *AHA Scientific Sessions* in Texas on 18th November 2013.

The award winning paper, published in *Circulation*, presents findings from the seven year *Cardiac Accessibility and Remoteness Index for Australia (ARIA)* research project that was funded in 2007 by an Australian Research Council Linkage Grant.

The *Cardiac ARIA* study measured access to cardiac care through a geographic lens via an objective, comparable measure of the time and distance from any population location to evidence-based cardiac care. It highlighted substantial inequities in access to cardiac services in Australia.

The project found that approximately 70%, or 13.9 million, people lived less than one hour away from specialised cardiac services. Therefore disparity continues in access to cardiac services for 30% of all Australians (5.8 million), 60% of Aboriginal and Torres Strait Islander people and 32% of people over 65 years of age. In a cardiac emergency only 40%

of the Indigenous population reside within one hour of hospital offering specialised cardiac care. Approximately 81,000 Indigenous persons are more than one to three hours from basic cardiac services.

This was a novel partnership between clinicians and geographers, generating an objective geographic measure of access to health services independent of cultural background, socio-economic status, physician judgment or health politics. This allowed demonstration of substantial inequities in access to cardiac services for major at-risk groups within Australia. *Cardiac ARIA* index represents a powerful tool that could be used by communities, clinicians, researchers and healthcare funders to inform improved health strategies and to optimise cardiac outcomes.

The same article was also chosen for the *Circulation Editors' Picks: Most Read Articles in Cardiovascular Quality and Outcomes 2013*. It was highlighted by the journal editors as one of the most important manuscripts on the topic of cardiovascular quality and outcomes to be published within the last year. *Circulation* is considered the leading journal in the world for cardiovascular research making this is a very noteworthy achievement.

The full article is accessible at: <http://circ.ahajournals.org/content/125/16/2006.long>

robyn.clark@flinders.edu.au



Professor Robyn Clark

International interest in Flinders Health Economics

Flinders Health Economics Group has been invited to host the 36th Annual Conference of the Australian Health Economics Society which will be held in Adelaide in September 2014.

The Australian Health Economics Society is one of the longest established health economics associations internationally and the Annual Conference brings together health economists from across Australia and internationally to present their research findings.

The invitation represents a significant achievement for Flinders University and establishes national recognition for Flinders Health Economics Group which was formed less than twelve months ago under the leadership of Professor Julie Ratcliffe.

The research conducted by Flinders Health Economics Group is also increasingly being recognised on the international stage with group members Professor Julie Ratcliffe, Dr Gang Chen, Dr Billingsley Kaambwa and Dr Nikki McCaffrey recently selected to deliver oral podium presentations at the prestigious

9th World Congress of the International Health Economics Association held in Sydney in July 2013.

The main focus of Flinders Health Economics Group is to develop methodological and applied research in health economics. In addition to the economic evaluation of new and emerging

health and aged care services, Flinders Health Economics Group's research strengths include the measurement and valuation of health and quality of life outcomes and the quantification of patient and general population preferences for health and aged care services.

julie.ratcliffe@flinders.edu.au



L-R: Dr Nikki McCaffrey, Ms Norma Bulamu, Ms Julie Stone, Dr Billingsley Kaambwa, Professor Julie Ratcliffe, Dr Gang Chen

Family presence during resuscitation (CPR): who decides?

Family presence during resuscitation (FPDR) is the practice of allowing loved ones into a location where they can see and touch the patient during active cardiopulmonary resuscitation (CPR). International research suggests multiple benefits of FPDR for family members; it can prevent a distorted image of CPR, decrease fear of the unknown, help them know that everything possible was done and assist with the grieving process. Benefits for health care professionals include enhanced communication between staff and relatives, and family members being more satisfied with care provided.

Despite these benefits and support from professional resuscitation bodies and from the public, many health care professionals are reluctant to allow family presence during active CPR. FPDR is uncommon within Australian hospitals, and while the Australian Resuscitation Council supports the practice, no formal South Australian policies have been identified. Instead, decisions to allow or deny FPDR appear to be influenced by personal preferences.

Tracey Giles is an academic staff member and PhD student in the School of Nursing and Midwifery. Under the supervision of Professor Eimear Muir-Cochrane and

Associate Professor Sheryl de Lacey, Tracey is undertaking research to explore factors that impact on decision making to allow or deny FPDR in an acute care setting.

Tracey is currently inviting registered nurses, medical doctors, family members and surviving patients who have experienced a family member being present (or wanting to be present) during active CPR to take part in an interview to share their experiences and potentially contribute to the development of evidence based recommendations about FPDR in South Australia.

tracey.giles@flinders.edu.au

Celebrating success in the Faculty

Research Pulse welcomes information regarding grants, awards and honours for publication in future editions.

Faculty of Health Sciences' researchers are shown here in **bold**.

NHMRC Centre for Research Excellence

Patsy Yates, Geoffrey Mitchell, **David Currow**, Kathy Eagar, Helen Edwards, Glenn Gardner, Lindy Willmott, Ann Bonner, **Robyn Clark**, **Jennifer Tieman**: Centre for Research Excellence in End of Life Care, \$2,495,543.

NHMRC Project Grants

Doug McEvoy, **Nick Antic**, Jiguang Wang, **Hisatomi Arima**, **Emma Heeley**, Susan Redline: The Sleep Apnea cardio Vascular Endpoints (SAVE) study, \$1,139,177.



Prof Doug McEvoy

Nick Antic, Andrew Carney, **Doug McEvoy**, Edward Weaver, **Peter Catcheside**, Ching Li Chai-Coetzer, Peter Cistulli, Stuart MacKay, **Charmaine Woods**: Clinical outcomes, safety and incremental cost effectiveness of multi-level airway surgery in patients with moderate-severe Obstructive Sleep Apnea (OSA) who have failed medical management, \$630,911.

Fran Baum, Sara Javanparast, **Jeffrey Fuller**, Angela Lawless, **Richard Reed**, **Anna Ziersch**, **Toby Freeman**, **Tamara Mackean**: Regional Primary Health Care Organisations: population health planning, participation, equity and the extent to which initiatives are comprehensive, \$1,016,002.

Philip Dinning, **Nicholas Spencer**, **Marcello Costa**, **Taher Omari**, **Simon Brookes**, **David Wattchow**, **Peter Bampton**: Mechanical factors in normal human colonic motility, \$629,286.

David Currow, **Amy Abernethy**, Christine McDonald, **John Miners**, Miriam Johnson, **Stephen Quinn**, Carl Kirkpatrick, Andrew Somogyi, Linda Denehy, **Nikki McCaffrey**: Improving the treatment of breathlessness: a phase III randomised, controlled trial of sustained release morphine for the symptomatic treatment of chronic refractory breathlessness. A Palliative Care Clinical Studies Collaborative study, \$860,807.

David Currow, **Amy Abernethy**, Donald Mahler, Patricia Davidson, **Timothy To**, Linda Denehy, Sharon Kilbreath: Studies on the effects of endogenous and exogenous opioids in modulating exercise-induced dyspnoea in people with moderate / severe chronic obstructive pulmonary disease. Two double-blind randomised, placebo controlled trials, \$192,243.

Justine Smith: Toxoplasma gondii Infection of Human Retinal Pigment Epithelium, \$445,505.

Nicholas Spencer, **Vladimir Zagorodnyuk**: Use of a novel technique to identify the sensory nerve endings that respond to painful stimuli in the upper gastrointestinal tract and characterize their mechanisms of activation, \$342,111.

Nicholas Spencer, **Simon Brookes**, **Vladimir Zagorodnyuk**: Understanding how inflammatory bowel disease causes hypersensitivity of colonic sensory nerve endings and increased abdominal pain, \$570,558.



Professor Fran Baum

Ma-Li Wong, **Julio Licinio**, Stefan Bornstein: Long-term metabolic effects of stress and antidepressants: a novel



Professor David Currow

translational animal paradigm of drug-induced obesity (SAHMRI), \$501,174.

Timothy Hughes, Deborah White, Susan Branford, Charles Mullighan, Agnes Yong, **David Ross**: Determining the prerequisites for the achievement of treatment-free remission in chronic myeloid leukaemia to facilitate the development of new therapeutic approaches with curative intent (SAHMRI), \$1,268,368

NHMRC Practitioner Fellowship Level 2

Jamie Craig: Practitioner Fellowship Level 2 - Disease Registry based approaches to determining molecular risk factors for glaucoma blindness, and applying them in clinical practice, \$387,298.

NHMRC Research Fellowship

Kathryn Burdon, Senior Research Fellowship A - Understanding genetic causes of blindness, \$601,420.

Wei-Ping Gai: 6th year - Senior Research Fellowship A, \$120,284.

NHMRC TRIP Fellowships

Bogda Koczwara: Improving management of bone health of cancer survivors, \$170,689.

ARC Future Fellowship

Justine Smith: Molecular activities of retinal endothelial cells, retinal disease processes, biological therapies to address efficacy and safety deficiencies of current treatments, \$949,144.

Celebrating success (cont.)

ARC Discovery Project

Paul Arbon, Murk Bottema, Kathryn Zeitz, Adam Lund, Sheila Turris: Accurately predicting patient volume at mass gatherings, \$247,000.

ARC Linkage Projects

Briony Forbes, Andrea Robinson, Sofianos Andrikopoulos: New insulins for the improved management of diabetes (Monash University), \$157,053.

Ophthalmic Research Institute of Australia

Kathryn Burdon & Emmanuelle Souzeau: Identifying genetic causes of primary congenital glaucoma in Australia, \$50,000.

Keryn Williams, Sonja Klebe & Richard Mills: Testing new drugs to improve corneal transplant surgery, \$45,500.

Justine Smith: Toxoplasma gondii infection of human retinal cells, \$49,900.

Shiwani Sharma & Jamie Craig: Studying two new genes implicated in glaucoma blindness, \$50,000.

Eiken Chemical Co Ltd

Robert Fraser, Graeme Young, Steve Cole: Colorectal cancer - OC-SENSOR for Eiken Chemical, \$120,000.

Grains Research and Development Corporation

Chris Franco: Beneficial Microbes Program 2- progressing new microbial products for Australian grain production to commercialisation, \$1,400,000.

The Network of Alcohol and other Drug Agencies Inc

Ann Roche: Building Funding Application Skills Project, \$325,184.

Pfizer Emerging Research Fund

Damien Keating: Identification of novel gastrointestinal-derived signaling pathways involved in the regulation of energy balance, \$750,000.

Centre for Neuroscience Collaborator's Day

Another successful Collaborators Day was organised by the Centre for Neuroscience (CNS) this year, with the 2013 theme *RGB: The spectrum of neuroscience* showcasing three of the Centre's prominent neuroscientists; Emeritus Professor Robert Rush, Professor Ian Gibbins and Professor William Blessing.

The day was attended by 111 local neuroscientists and students from Flinders University, Adelaide University, University of South Australia, Flinders Medical Centre and CSIRO. The lifetime careers of the honoured guests were celebrated, and the importance of collaboration on research success and personal growth were recurring features in the three keynote addresses.

Other speakers in the full day program included high profile local and interstate scientists, working in areas of proven interest for CNS Members. Attendees were delighted with the variety and calibre of speakers who included Associate Professor Robert Wilcox (Flinders Medical Centre - deep brain stimulation), Professor Anthony Hannan (Florey Institute of Neuroscience - environment and genes), Dr Stuart Brierley (Adelaide University - chronic pain), Professor Andrew Allen (Melbourne University - neural

interactions), Dr Chris Dayas (University of Newcastle - addiction) and Professor Allison Cowen (University of South Australia - antibody therapies).

Posters from Flinders University, Adelaide University and the University of South Australia were also presented during special sessions throughout the day, with PhD student Stephanie Shephard taking home the *Best Poster Prize* for 2013!

The free annual event, held in late September each year, celebrates collaboration amongst local neuroscientists.

It showcases the work of local and interstate researchers to the Adelaide neuroscientist population and provides a structured, but informal environment, in which local researchers can introduce themselves and interact.

More information about the day and video recordings of the presentations are available at: www.flinders.edu.au/neuroscience/collabday.htm

kiley.macdonald@flinders.edu.au



Emeritus Professor Robert Rush, Professor Ian Gibbins and Professor William Blessing. Photo courtesy of Centre for Neuroscience.

Consumer and community participation in research

Consumer and community participation in health and medical research was the topic for a recent two day interactive workshop delivered by Anne McKenzie and Bec Hanley from the University of Western Australia.

The Workshop was hosted by the School of Nursing & Midwifery and a number of staff from the School attended along with staff from Flinders Centre for Innovation in Cancer, Flinders Health Economics Group and Western Mental Health.

The aims of the workshop were to:

- Increase awareness of the value of consumer and community participation
- Develop understanding and skills on implementing participation
- Identify and address the barriers to consumer and community participation
- Provide information about resources and other sources of help to support consumer and community participation

Practical ways to involve consumers and community members in research and plan for different levels of participation were offered and strategies to overcome barriers to participation were explored. There was also an opportunity to apply new skills and knowledge to existing projects and each participant received a set of useful resources.

pam.smith@flinders.edu.au



Photo (L-R): Jeff Fuller, Nina Sivertsen, Rebecca Keough, Sue Glennon, Nikki McCaffrey, Christine McCloud, Wendy Abigail, Pam Smith

New plans arise from SA-China marine biotechnology forum

Business leaders from China's pharmaceutical and seafood companies, as well as institute directors of the Chinese Academy of Sciences and top Chinese universities, converged on Adelaide last week for the inaugural South Australia-China Marine Biotechnology Forum.

Hosted by Flinders University's Centre for Marine Bioproducts Development in conjunction with the State Government, the November 16 forum attracted more than 80 delegates for a series of keynote talks and panel discussions on the various opportunities for research and business collaboration in the growing industry of marine biotechnology.

Director of the Centre for Marine Bioproducts Development Professor Wei Zhang, who co-chaired the forum, said the event provided an opportunity to explore marine biological resources and policy, research and development capacity and industry development in order to identify partnership opportunities between China and Australia, with a highlight on the sister-states of Shandong and South Australia.

"Marine biotechnology is an emerging field of science as researchers turn to the world's oceans for valuable products and compounds that have applications in a range of industries, from pharmaceuticals to aquaculture and seafood manufacturing," Professor Zhang said.

"Marine biotechnology is an area of strategic opportunity for both China and South Australia which are dominated by coastal communities, but there is a need to develop the policies, platforms and tools for collaboration and translation of research outcomes," he said.

"The forum presented an ideal opportunity to connect researchers and industry in South Australia and China to facilitate these developments."

As a result of the forum, Professor Zhang said a number of strategic activities are now being planned, including project development meetings in China during the Flinders-led group mission to China, funded through the Australia-China Science and Research Fund, early next year.

"We believe the opportunity is ripe for the development of the marine biotechnology industry to support both fundamental and translational research, and to tap into the synergy that exists between Australia and China," Professor Zhang said.

"The Australia-China relationship has gone from strength to strength in recent years, highlighted by the recent success of a significant international investment in South Australia."

"This collaboration saw one of China's largest seaweed bioproduct companies, the Qingdao Gather Great Ocean Group, invest in a \$930,000 joint State Government research laboratory at Flinders, and commit to a \$21 million industry investment to develop the South Australian seaweed products industry – all in the space of a year following a conference organised by the Centre in 2012."

"It is yet another example of how Flinders University is leading the way in engaging international investment into both research and business in South Australia."

wei.zhang@flinders.edu.au

Rural people unfairly blamed for cardiovascular disease

New research has found that rural people may be unfairly blamed for contributing to their high rates of cardiovascular disease.

The research by the Greater Green Triangle University Department of Rural Health (GGT UDRH) has found that social and economic factors have a powerful influence on cardiovascular outcomes, regardless of where people live.

It found families with low incomes and living in areas of poor infrastructure and relatively poor access to health services have higher rates of cardiovascular disease.

The findings cast doubt on long-held views that the unhealthy behaviours of rural people contribute to their high rates of cardiovascular disease.

The 'Comparison of Australian rural and metropolitan cardiovascular risk and mortality: the Greater Green Triangle and



Professor James Dunbar

North West Adelaide Population Surveys.' have been published in the British Medical Journal and could have profound policy implications.

GGT UDRH Director and contributing researcher, Professor James Dunbar, said there are significant health inequalities between rural and metropolitan residents of Australia. Death rates are about 10 per cent higher among people who live outside of major cities.

Professor Dunbar said the geographical disparities were well known, but for a full understanding of complex relationships between causes and effects, attention also needs to be paid to socio-economic status.

"Our study demonstrates that rurality does not automatically equate to worse cardiovascular risk or outcomes," Professor Dunbar said. "The myth that rural people exercise less, drink more alcohol and are fatter and less healthy and therefore contribute to their poorer health outcomes has been perpetuated because until now statistics have not been categorised by socio-economic status."

The study compared important measures of physical and biomedical risk between a rural population (Greater Green Triangle in south-west Victoria and south-east South Australia) and an urban population (north-west Adelaide) and was conducted in conjunction with Population Research and Outcome Studies, University of Adelaide.

It included physical waist, hip and blood pressure measurements, and blood tests for cholesterol and blood sugar levels. "This gives us much more accurate information compared with the more common approach of using self-report information," Professor Dunbar said.

The study found that despite the

geographical differences of the two populations, measures of cardiovascular risk as well as rates of death from cardiovascular disease were remarkably similar.

"It is not, then, a simplistic rural versus metropolitan problem," Professor Dunbar added. "High cholesterol, smoking and high blood pressure explain 75 per cent of heart attacks and strokes. These risk factors apply to everyone but there tends to be higher levels in those in low socio-economic circumstances," he said. "Rural people are generally older, poorer and less educated and therefore over-represented in cardiovascular disease figures."

Professor Dunbar said Australia has been slow in implementing appropriate solutions to important health inequalities.

"This is the first study to take into account socio-economic circumstance which indicates there are not enough national risk factor studies in Australia."

Professor Dunbar said solutions must be guided by high quality data that is context specific. "This includes using accurate biomedical data as well as indicators of socio-economic status," he said.

"No longer can governments dismiss the health disparity as being inherently or solely attributable to location. The solution to health inequity, wherever it exists, is for governments and communities to work together to ensure greater investment in areas lacking in infrastructure, services and access on the basis of unmet need."

The research summary report in the British Medical Journal is available at <http://bmjopen.bmj.com/content/3/8/e003203.abstract>.

james.dunbar@flinders.edu.au

Prime Minister opens SAHMRI Stage One

The first stage of the largest health and bio-medical precinct in the Southern Hemisphere, the South Australian Health and Medical Research Institute (SAHMRI), was officially opened by the Prime Minister, the Hon Tony Abbott MP on 29th November 2013.

Professor Steve Wesselingh, Executive Director of SAHMRI, later addressed the research community at Flinders University. He presented his vision for how SAHMRI can add value to South Australian research endeavours and how research inputs and outcomes can be improved.

The presentation can be downloaded from: www.flinders.edu.au/mnhs/research/seminars.cfm



Photo courtesy of SAHMRI

First auto immune bank for South Australia

South Australia's first autoimmune blood bank will be set up by scientists from Flinders University and SA Pathology, providing a central depository for vital research into different autoimmune diseases such as diabetes, multiple sclerosis, rheumatoid arthritis and systemic lupus.

Located at Flinders Medical Centre, the blood bank will collect and store blood tissue cells from patients with an autoimmune disorder, with the samples to be used by researchers to identify patterns and possible causes of these common diseases.

Flinders University Senior Medical Scientist Dimitra Beroukas, who is setting up the blood bank with Flinders Medical Centre Senior Clinical Immunopathologist Dr Tatjana Banovic, said South Australia currently has no formal system for collecting and storing autoimmune blood.

"Once a person has been confirmed with having an autoimmune disorder we will write to the doctor asking for patient consent to collect blood at the hospital" she said.

"With this sample we will be able analyse the blood at a genetic and molecular level to identify certain genes that might be involved. We will also be able to look for commonalities in the presence of autoantibodies, which are responsible for attacking the body."

With no cure for autoimmune diseases, Ms Beroukas said it was hoped the blood bank would improve understanding of

the mechanisms involved in the disease, thereby providing potential treatment options.

"This bench-to-bedside research resource will lead to a greater understanding of autoimmune diseases for future therapeutic targets and development of improved diagnostic tests."

dimitria.beroukas@flinders.edu.au
Article adapted from Flinders News



Ms Dimitria Beroukas

Liver transplants increase cancer risk

Liver transplant recipients are more susceptible to cancer, especially skin cancers, new Flinders University research shows.

Of the 198 people who had a liver transplant or were managed post-transplant in South Australia between 1991 and 2010, a quarter of patients developed post-transplant malignancies, with skin cancer being the most common (16 per cent) and the remaining nine per cent being solid organ malignancies, including lymphoma, lung, prostate and colorectal cancer.

The study, undertaken by Flinders Professor Bogda Koczwara, SA Liver Transplant Unit Director Dr John Chen

and Perth oncologist Dr Hilary Martin, aimed to assess overall survival rates for patients with post-transplant malignancies.

Dr Chen said the reason liver transplant recipients incurred a greater risk of cancer was because of the side-effects of immunosuppressive drugs.

These drugs lower the patient's immunity so they don't reject the transplanted organ but they also need to be fine-tuned for individual patients to minimise the risk of infection and malignancies.

Until scientists find a way to minimise the adverse effects of immunosuppression, he said transplant recipients required ongoing surveillance and monitoring.

Dr Chen also said that because transplants were so successful these days, recipients were living longer and therefore had an even greater vulnerability to cancer, which often occurs later in life.

"Although it's more common for liver transplant recipients to develop cancer, the good news is they can be cured with early detection and treatment."

The study was published earlier this month in the Asia-Pacific Journal of Clinical Oncology.

john.chen@flinders.edu.au
Article adapted from Flinders News