

# **2014** **RESEARCH** **REPORT**

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2013 & 2014 Premier's Health  
Service of the Year





# CONTENTS

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- 03:** WELCOME TO THE 2014 RESEARCH REPORT
  - 04:** ALCOHOL'S BURDEN OF DISEASE IN AUSTRALIA
  - 06:** MAROONDAH BREASTSCREEN CONFIRMS 3D MAMMOGRAPHY IS THE WAY FORWARD
  - 08:** UNDERSTANDING THE DETERIORATING PATIENT
  - 09:** GERIATRICIANS AND ONCOLOGISTS WORKING TOGETHER TO IMPROVE QUALITY OF LIFE
  - 10:** WEEKEND INPATIENT REHABILITATION MAKES A DIFFERENCE
  - 11:** HEALTHY LIVING AND DIABETES - INITIATIVE TARGETS EARLY INTERVENTION
  - 12:** A UNIFIED COMMITMENT TO MEDICAL RESEARCH
  - 14:** DOES NEW BLOOD TEST ALTER CLINICAL OUTCOMES IN CHEST PAIN PRESENTATIONS?
  - 15:** DONATED CANCEROUS PROSTATE TISSUE THE KEY TO CLINICAL RESEARCH
  - 16:** IMPROVING MALNUTRITION IN OLDER PATIENTS - THE MENU REGENERATION STUDY
  - 17:** THE IMPACT OF NEW TECHNOLOGIES ON MEDICATION SAFETY
  - 18:** CONTRIBUTION TO RESEARCH MAKES A REAL DIFFERENCE
  - 19:** "CATCHING" LIVER DISEASE BEFORE IT'S TOO LATE
  - 20:** HEALTH LITERACY AND QUALITY OF LIFE IN PATIENTS RECEIVING DIALYSIS
  - 21:** DOES PROVIDING "SUPERSNACKS" MAKE A DIFFERENCE?
  - 22:** REDUCING THE NEED FOR PRESCRIPTION MEDICATION
  - 23:** ASSESSMENT AND MANAGEMENT OF MENTAL HEALTH PATIENTS IN EMERGENCY DEPARTMENTS
  - 24:** HEALTH LITERACY IN PHARMACY
  - 26:** BUILDING RESEARCH EXPERTISE AND EXPERIENCE
  - 27:** ABOUT EASTERN HEALTH
-

EASTERN HEALTH IS COMMITTED TO MEDICAL RESEARCH THAT AIMS TO IMPROVE AND INFORM THE HEALTH AND WELLBEING OF OUR COMMUNITY.

THE **2014 EASTERN HEALTH RESEARCH REPORT** SEEKS TO ARTICULATE THIS COMMITMENT BY PROVIDING SELECTED SNAPSHOTS OF RESEARCH PROGRESS AND OUTCOMES.



Alan Lilly



Adj Prof Colin Feekery



Prof David Taylor

At Eastern Health, we foster a culture where ethical research is part of everyday practice. This is supported by an infrastructure that assists investigators to pursue the research question, find the answer and implement the outcomes when evidence supports us to do so.

In 2011, the first *Eastern Health Research Strategy Plan* was endorsed by the Eastern Health Board to provide a clear direction and strategic focus in support of research activity.

A number of key milestones from this strategy have been implemented, including the establishment of ongoing research education programs, certification of the Human Research Ethics Committee by the National Health and Research Council, strengthening of links with our university partners and the establishment of a partnership with a clinical research organisation to enhance the conduct of clinical trials. We are now moving into a period of review and refocus as we develop the next phase of the strategy, which will continue to support research opportunities across the organisation.

Researchers at Eastern Health are investigating all aspects of healthcare. Their activities extend beyond the diverse community of Melbourne's eastern region. Through our statewide services, Turning Point and Spectrum, they extend to the broader Victorian community. Further, some of our research efforts extend nationally and internationally, with research pursued in collaboration with partners across Australia and overseas.

It is extremely pleasing to note that increasingly, investigations are being undertaken through partnerships. These collaborations range from inter-disciplinary projects across Eastern Health to those with university partners and other healthcare providers, including Medicare Locals. The wide-ranging scope of Eastern Health research is illustrated throughout this report and something in which we are all very proud.

Our clinicians are actively involved in clinical studies, clinical trials and translational research. The outputs of this research are improving patient outcomes and is demonstrated through an increasing number of publications and presentations at national and international conferences.

This research activity is supported by organisational infrastructure, administered from within the Office of Research and Ethics. This framework provides support to researchers, including education in research methodology and provision of good

governance for the timely review of ethics applications. In 2013-14, there were 243 ethics applications reviewed. We are indebted to the tireless and diligent efforts of the Eastern Health Human Research Ethics Committee and the Office of Research and Ethics.

In celebrating research outputs, we gratefully acknowledge the contribution of granting bodies such as the National Health and Medical Research Council, Australian Research Council, trusts and philanthropic agencies, as well as donations to the Eastern Health Foundation. The Eastern Health Foundation Research Grants program has funded \$213,875 in research projects since 2012.

As we commend the *2014 Eastern Health Research Report* to you, we also acknowledge the role of all participants in research. The major outcome of a dynamic research environment within Eastern Health is that current and proposed clinical practices are informed and improved by evidence-based research. This is not possible without the involvement of participants, who voluntarily contribute in so many different ways.

Our communities are made up of individuals with their own personal stories that give rise to differences in healthcare needs. Actively engaging in healthcare research provides outcomes which can help to identify the reasons for these differences and therefore, inform improved healthcare.

This has benefits for the individual, their family, their carers and the communities we serve.

In turn, this helps us achieve our mission to **provide positive health experiences for people and communities in the east.**

**ALAN LILLY**

Chief Executive, Eastern Health

**ADJ PROF COLIN FEEKERY**

Executive Director Medical Services and Research, Chief Medical Officer, Eastern Health

**PROF DAVID TAYLOR**

Director of Research and University Relations, Eastern Health





# ALCOHOL'S BURDEN OF DISEASE IN AUSTRALIA

As a community, we have come to understand that alcohol has detrimental health effects in a number of disease categories, including those that can be classified as acute (e.g. injuries) and chronic conditions such as cardiovascular events, cancers and digestive diseases.

Burden of disease estimates based on current health parameters and alcohol consumption data are integral in conceptualising the impact of alcohol on the Australian community. Such estimates are needed to assess changing trends of harm related to drinking and enable comparison of the burden of alcohol across different diseases and injuries. Furthermore, grounded estimation of alcohol's burden of disease in Australia will help to identify future funding, education and policy needs.

For the first time Turning Point, which is part of Eastern Health's Statewide Services Program and a centre of excellence in the field of alcohol, other drug and gambling research, treatment and education, has been able to provide data on jurisdictional differences in alcohol consumption and alcohol-related harms across all Australian states and territories.

According to principal researcher, Dr Belinda Lloyd: "By using the most up-to-date methodology, our study has identified that 5554 deaths and

157,132 hospitalisations were caused by alcohol in 2010, with the number of deaths increasing by 62 per cent since the study was last undertaken a decade ago."

For men, acute injuries accounted for more than one in three (36 per cent) alcohol-related deaths, while cancer and digestive diseases caused 25 per cent and 16 per cent respectively. For women, one in three alcohol-related deaths were due to heart disease (34 per cent), followed by cancers (31 per cent) and acute injuries (12 per cent).

Injuries and neuropsychiatric diseases were the categories that featured a substantial proportion of alcohol-related hospitalisations, with each being greater than 10 per cent of all alcohol-attributable hospitalisations in 2010.

"Overall, while the mortality figures represented in this research are comparable to previous estimates, there has been a large increase in hospital admissions estimated to be due to alcohol-related causes," Dr Lloyd said.

"This is partly due to a greater number of conditions that have been identified as partially or wholly attributable to alcohol and may also reflect changes in the drinking patterns among high-risk sub-groups, which subsequently require more treatment for alcohol-related conditions."

This project provides a quantification of alcohol's burden of disease and injury in Australia for 2010. Such estimates may form the basis for a future cost of illness study to assess how current funding is allocated to tackle alcohol-related burden on the Australian healthcare system and how to determine better estimates for future funding. ■



**i** This research was a collaborative project, funded by VicHealth and Foundation for Alcohol Research & Education (FARE). The project team included Dr Belinda Lloyd, Dr Caroline Gao and Dr Rowan Ogeil, with important contributions from Australian and international experts who collaborated on the epidemiological methods and policy implications of the research.

Foundation for Alcohol  
Research & Education (FARE)  
Chief Executive Michael Thorn,  
University of Melbourne  
Professor of Public Health  
Rob Moodie, VicHealth  
Chief Executive Jerril Rechter  
and Turning Point Head  
of Population Health Research  
Dr Belinda Lloyd at the launch  
of the *Alcohol's Burden of  
Disease in Australia* report

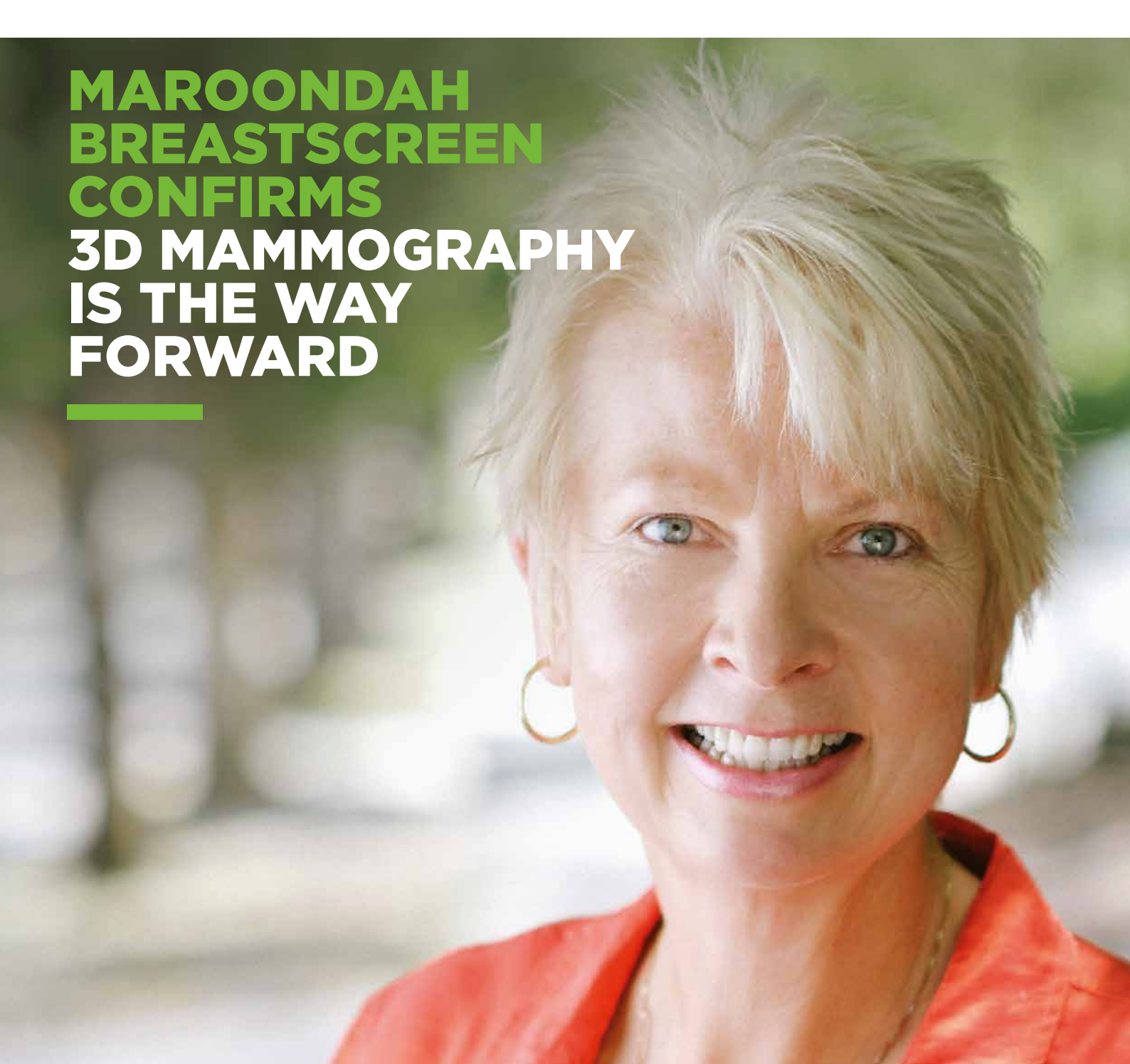


- ▼ **5554 DEATHS AND 157,132 HOSPITALISATIONS WERE CAUSED BY ALCOHOL IN 2010**
- ▼ **THE NUMBER OF ALCOHOL-RELATED DEATHS INCREASED BY 62 PER CENT SINCE THE STUDY WAS LAST UNDERTAKEN A DECADE AGO**
- ▼ **FOR MEN, INJURIES ACCOUNTED FOR MORE THAN ONE IN THREE (36 PER CENT) ALCOHOL-RELATED DEATHS, WHILE CANCER AND DIGESTIVE DISEASES CAUSED 25 PER CENT AND 16 PER CENT RESPECTIVELY**
- ▼ **FOR WOMEN, ONE IN THREE ALCOHOL-RELATED DEATHS WERE DUE TO HEART DISEASE (34 PER CENT), FOLLOWED BY CANCERS (31 PER CENT) AND INJURIES (12 PER CENT)**
- ▼ **NORTHERN TERRITORY RESIDENTS ARE THREE TIMES MORE LIKELY TO DIE FROM ALCOHOL USE THAN OTHER AUSTRALIANS**



# MAROONDAH BREASTSCREEN CONFIRMS 3D MAMMOGRAPHY IS THE WAY FORWARD

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Maryea is a 50-year-old woman who undertook the recommended 2D screening mammogram in an effort to detect abnormalities in her breast tissue. While the 2D mammogram is currently the established method of early detection, alternative imaging techniques are becoming available. For Maryea, having access to improved technologies such as 3D Digital Breast Tomosynthesis imaging meant the discovery of a second cancer not detected by 2D mammography. This allowed better and easier evaluation and led to more accurate clinical treatment. New techniques may also reduce the discomfort associated with mammograms and minimise the need for unnecessary invasive follow-up tests.

Under the BreastScreen Australia program, five per cent of women screened (over 65,000 women a year) are recalled for further assessment because of suspected abnormalities found during routine mammograms. Many women undergo ultrasound and biopsy tests to reach a definitive outcome – at an emotional cost to women and financial cost to the program.

In an effort to reduce unnecessary anxiety for women, Maroondah BreastScreen at Eastern Health has evaluated whether routine 3D Digital Breast Tomosynthesis (DBT) imaging during the initial assessment reduces the number of biopsies and ultrasound tests required to reach a conclusive result.

The study was undertaken between January 2013 and March 2014. During the study period, 560 participants (73 per cent of invited and eligible women) received additional DBT 3D imaging before the standard 2D mammography test. Radiologists assigned separate Royal Australian and New Zealand College of Radiologists (RANZCR) scores to both the 2D and 3D images. The study protocol specified that 3D scores could potentially upgrade, but not downgrade, investigations prompted by 2D image scores.

*“For our analysis, we used the 2D and 3D RANZCR scores to estimate the expected number of investigations that would have occurred under 2D versus 3D imaging and we compared the Predictive Values (PPVs and NPVs) of 2D and 3D RANZCR scores against final outcomes,”* said Dr Darren Lockie, Designated Radiologist at Maroondah BreastScreen.

*“We also compared the radiation dose of 2D work-up versus 3D imaging and evaluated the client experience of each modality.”*

For the 462 (or 83 per cent) of participants with a benign final diagnosis, the study’s outcomes estimated that DBT (instead of 2D imaging) would reduce biopsies from 15 per cent to 11 per cent and ultrasounds from 50 per cent to 45 per cent.

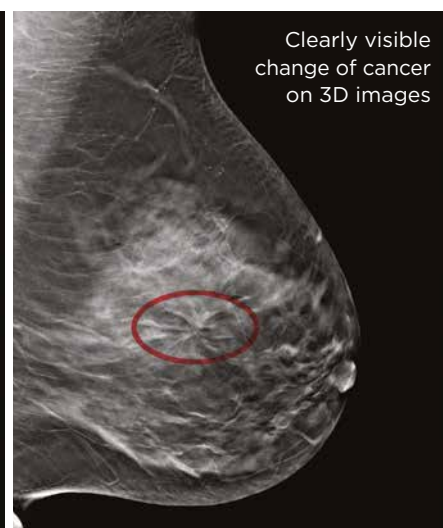
Total radiation dose on average was also 1.5 units lower for the DBT combination view compared to 2D imaging.

*“Just as importantly to the clinical findings of the study, 81 per cent of clients reported the DBT procedure to be the ‘same, better or much better’ than their 2D mammogram and 82 per cent reported that DBT compression was ‘a little’ or ‘not at all’ painful. Relative to cone views, a majority of participants found DBT to be the same or better,”* Dr Lockie said.

*“Our study has identified that imaging during assessment using DBT rather than 2D mammography could reduce the need for biopsies by 27 per cent and ultrasounds by 11 per cent, with a reduced average radiation dose, similar cancer detection rates and high levels of client acceptability.”*

Additionally, four clients recalled for benign lesions had cancers detected using 3D tomosynthesis imaging. These cancers were not detected during routine 2D mammograms. Furthermore, several clients with cancers identified via 2D imaging had additional tumours detected using DBT, which allowed their clinical treatment to be adjusted accordingly.

*“We are now recommending the introduction of DBT facilities as an integral component of BreastScreen assessment services in order to reduce biopsies, ultrasound tests and radiation exposure among women with a benign final outcome, while maintaining current breast cancer diagnosis rates.”* ■



This research project was led by Dr Darren Lockie, Designated Radiologist, and involved all staff at Maroondah BreastScreen including assessing radiologists, radiographers, breast care nurses and data staff. The study was conducted in collaboration with Dr Carolyn Nickson and Ms Zoe Aitken, epidemiologists at the Centre for Epidemiology and Biostatistics, Melbourne School of Population and Global Health, The University of Melbourne. This partnership with The University of Melbourne was central to the success of the project.



Dr Darren Lockie, Janis Uhe Designated Radiographer, Mr David Stoney Clinical Director and Breast Surgeon and Carolyn Molk Radiographer



# UNDERSTANDING THE DETERIORATING PATIENT

Each year across Eastern Health's three emergency departments, staff attend to approximately 143,000 presentations - that's one patient every 3.7 minutes. With an increasing volume of activity, health services are continuously reviewing and investigating ways in which patients can be assessed, treated, discharged or admitted to hospital in a more timely manner, without negatively impacting their health outcomes.

Prof Julie Considine

Work is currently underway to streamline the patient's journey through Eastern Health's emergency departments by ensuring they are assessed, treated, discharged or admitted to a hospital ward within four hours of arrival. This is a National Emergency Access Target (NEAT).

*"While shorter emergency department stays are good for most patients, there are questions about whether these government-led initiatives are leading to patients being moved to wards when they are still clinically unstable,"* said Prof Julie Considine, Chair in Nursing at Eastern Health and Director of the Eastern Health - Deakin University Nursing and Midwifery Research Centre.

Researchers from the Eastern Health - Deakin University Nursing and Midwifery Research Centre have teamed with Eastern Health's Intensive Care Services to look specifically at the timing and outcomes of emergency responses in patients admitted to hospital wards via the

emergency department, following the implementation of the government's "four-hour rule" in 2010.

*"At Box Hill Hospital during 2012, there were 1480 emergency responses for clinical deterioration in 819 patients who required activation of the Medical Emergency Team or cardiac arrest team,"* Prof Considine said.

*"We focused on 587 patients who were admitted through the emergency department and showed that patients whose first emergency response occurred within 24 hours after admission were less likely to be admitted to the intensive care unit."*

*"This is great because it suggests their condition was stabilised enough to stay on the ward. These patients were also less likely to need additional emergency responses during their hospital stay, suggesting that once their episode of deterioration was treated, they stayed well."*

Further results found that patients whose first emergency response

occurred within 24 hours of emergency admission also had a shorter stay in hospital.

*"The study findings highlight the important role of education for nurses regarding patient assessment to enable them to identify deterioration and apply their critical thinking skills to prevent adverse events,"* said Deakin University A/Prof Judy Currey.

*"Eastern Health's educational, research and clinical partnership with Deakin provides nurses with these advanced clinical skills and opportunities to participate in this form of research."*

The research team is now working on a larger study to better understand which patients who need to be admitted to hospital via the emergency department are at risk of significant deterioration.

*"If we know who may deteriorate, we can identify which patients may require a more intensive care management plan for their first few days on the ward,"* Prof Considine said. ■





# GERIATRICIANS AND ONCOLOGISTS WORKING TOGETHER TO IMPROVE QUALITY OF LIFE

With an ageing Australian population, cancer is increasingly being diagnosed in people aged over 70. Older people are particularly vulnerable to chemotherapy and cancer because of increased health issues, functional dependence, social situation, nutritional disorders, depression and cognitive problems.

Historically, patients diagnosed with cancer in their more senior years have poorer outcomes, including increased treatment-related complications, higher hospitalisation rates and significantly reduced survival. A detailed systematic evaluation that identifies medical, psychosocial and functional limitations of an older person, also known as a comprehensive geriatric assessment, can be used to help develop a co-ordinated plan to maximise overall health.


Currently, a senior patient with cancer is typically referred to a geriatrician only in the latter stages of their illness when they experience significant problems with their ability to do things. However, an integrated approach involving comprehensive geriatric assessment and early geriatrician review to contextualise the assessment may help to optimise patients for cancer treatment and support them during treatment, thereby improving outcomes such as quality of life.

*"INTEGRATE is a randomised controlled study that looks at whether a co-ordinated program involving comprehensive geriatric assessment, in parallel with cancer treatment, can help improve the quality of life for senior people starting chemotherapy for metastatic cancer," said Dr Kheng Soo, geriatrician and medical oncologist who is undertaking this study as part of his PhD research.*

*"Participants receiving the study intervention will see a geriatrician early on, whose role is to help identify problems and co-ordinate care using the different services available through Eastern Health and the community. The aim of the intervention is to optimise patients for chemotherapy and support them through treatment."*

People aged 70 or older, who are starting chemotherapy for metastatic cancer, are invited to participate in the INTEGRATE study. This study recently opened in August 2014 and seeks to recruit 128 patients during the next three years.

*"The results of this study will contribute to our understanding of the optimal management of senior cancer patients and may lead to a new collaborative approach to their care."* ■



Ron is a 74-year-old man undergoing chemotherapy for oesophageal cancer that has spread to his lungs. This is what is referred to as metastatic cancer or cancer that has spread from where it started to another part of the body. As a member of the ageing Australian population, Ron represents a growing number of people over the age of 70 being diagnosed with cancer.



INTEGRATE has been made possible through the collaborative efforts of Dr Phillip Parente, Prof Peteris Darzins and Prof Ian Davis from the Eastern Health Department of Medical Oncology, Department of Geriatric Medicine and Monash University Eastern Health Clinical School respectively. Key collaborators include Prof Madeleine King from the Psycho-Oncology Co-operative Research Group, who is integral to the design and analysis of the quality of life outcomes, and Prof Marion Haas from the Centre for Health and Economics Research and Evaluation, who provides expert input into cancer health economics analysis.





# WEEKEND INPATIENT REHABILITATION MAKES A DIFFERENCE



Kathleen and  
physiotherapist  
Claire Longden

Kathleen is a 75-year-old woman recovering from a fracture in her left ankle after falling at home. The fracture was stabilised with surgery at Box Hill Hospital and she was admitted to Peter James Centre for rehabilitation.

Traditionally, inpatient rehabilitation programs are provided from Monday to Friday. Eastern Health's physiotherapy and occupational therapy teams have been investigating whether patients like Joan would benefit from extra rehabilitation through the provision of sessions on a Saturday.

"Our team is trying to identify whether providing additional rehabilitation from physiotherapy and occupational therapy on a Saturday helps patients like Joan go home earlier," said Prof Nick Taylor, Professor of Allied Health at Eastern Health.

"We are also interested in finding out if additional rehabilitation therapy improved other outcomes like functional independence and quality of life, and whether providing a service like this is cost-effective."

The team conducted a randomised controlled trial with 996 patients admitted to rehabilitation at Peter James Centre and Angliss Hospital. Data analysis showed that provision of the extra day of rehabilitation led to a likely reduction in length of stay of two days. The trial also found that during the reduced time in rehabilitation, patients who received the additional therapy had higher levels of functional independence and quality of life – meaning the patients who received additional rehabilitation therapy got better quicker.

**i** This research was supported by a National Health and Medical Research Council Partnership Grant between Eastern Health and La Trobe University. Led by Prof Nick Taylor from the Allied Health Clinical Research Office, the team included physiotherapists, occupational therapists, rehabilitation physicians and a health economist. Key people driving the research included Dr Casey Peiris, Natasha Brusco (currently completing her PhD on the health economic evaluation), Prof Nora Shields and health economist Jenny Watts from Deakin University.

*"We followed our patients enrolled in the trial for 12 months after discharge from rehabilitation and found that the clinically significant benefits in functional independence and quality of life were sustained even six months after discharge," Prof Taylor said. "Furthermore, we found that in the 12 months following discharge, patients who received additional therapy had on average, five days less in hospital compared with the group receiving Monday to Friday therapy. This is significant for the patient as well as for the healthcare system more broadly."*

While the research clearly provides evidence of the positive patient outcomes of extra rehabilitation in the short and long term, the team has extended the project to address the issue of who pays. Is providing additional Saturday rehabilitation cost-effective?

*"We have found that from the perspective of the health service, there is likely to be cost savings for the period of the admission and the 30 days following admission," Prof Taylor said. "If the willingness to pay for clinically significant improvements was zero dollars, the probability of the intervention being cost-effective is 95 per cent."*

*"We have also found that from a health system perspective, taking into account the use of other health services and not just those at Eastern Health, these benefits were likely to be sustained in the six months following discharge from rehabilitation, with cost benefits flattening out by 12 months."*


*"So for patients like Joan, providing additional rehabilitation helped her to go home sooner with a reduced risk of readmission in the following 12 months. From Eastern Health's point of view, providing this additional service was cost-effective, mainly through reducing length of stay."*

*"This large, rigorously conducted randomised controlled trial provides high-level evidence that additional rehabilitation is beneficial for both our patients and the health service."* ■



# HEALTHY LIVING AND DIABETES – INITIATIVE TARGETS EARLY INTERVENTION

Type 2 diabetes rates are increasing, with the disadvantaged most at risk. Being diagnosed with diabetes can be a difficult time and support is essential. Yarra Valley Community Health's *Healthy Living and Diabetes* program assists clients to make lifestyle changes, such as healthy eating, exercising, quitting smoking and reducing stress, thereby reducing their risk of developing the long-term complications of diabetes and avoiding hospital admissions.



Research project team representatives Jenny Walsh, Jacklin O'Conner, Jennifer Williams, Carla Johnson and Jo Stanford

Eastern Health's team at Yarra Valley Community Health changed their services in 2010 to better assist newly-diagnosed Type 2 diabetes and pre-diabetes clients.

*"The changes included teaching our clinicians more effective ways to communicate (motivational interviewing and health coaching), using effective goal-setting techniques, understanding mental health impacts and improving community access,"* said Jo Stanford, Early Intervention in Chronic Disease Co-ordinator at Yarra Valley Community Health.

*"We engage our clients over a longer time, supporting them for up to a year with each one allocated a key worker who contacts them regularly, providing support and assistance in arranging health appointments, as needed. These workers get to know their clients by using more comprehensive assessment processes."*



*The Healthy Living and Diabetes* research project's success was due to a team of clinicians, including diabetes educators, podiatrists, dietitians, physiotherapists and allied health assistants who worked together to facilitate health education workshops, provide key worker services, pilot and review procedures and collect data.

Following the implementation of service changes, the program measured a range of client clinical indicators (weight, BMI, HbA1C, lipids, BP) before and after a year on the program. Clients were surveyed about their healthy lifestyle behaviours, quality of life, achieving their health goals and their experiences interacting with the service. Staff were also surveyed about their experiences working within the *Healthy Living and Diabetes* program.

*"Data shows that almost all measures of health improved and that the improvement was sustained over the year,"* Jo said.

*"Clients were successful at achieving their health goals and appreciated the support provided. Improvements in quality of life and mental health indicators were also shown."*

*"Furthermore, staff made significant changes in their approach to clients with chronic disease and appreciated the opportunity to be involved in a program with successful outcomes."*

Following its implementation and data review, the *Healthy Living and Diabetes* program continues to be well received across the Yarra Ranges. ■





# A UNIFIED COMMITMENT TO MEDICAL RESEARCH

Eastern Clinical Research Unit (ECRU) is part of the Monash University Eastern Health Clinical School and works closely with Eastern Health to provide the systems and services required to perform clinical trial research of the highest quality.



**A/PROF PAUL COUGHLIN**  
Head of Haematology



**PROF IAN DAVIS**  
Head of Eastern Health  
Clinical School  
Professor of Medicine



**DR ANTHONY DEAR**  
Eastern Clinical Research Unit  
Translational Research Division



**PROF HELEN DEWEY**  
Director of Neurosciences

*"It is this commitment to a unified approach to research that helps us achieve real research outcomes that benefit patients and the broader community," said Prof Ian Davis, Professor of Medicine and Head of Eastern Health Clinical School.*

*"Clinical trials are complex, time consuming and often expensive but they are critically important in order to provide the evidence we need to improve outcomes for our patients.*

*"Medical research eventually leads to new discoveries that suggest how treatments might be changed and clinical trial research is essentially the last step to the finish line.*

*"Without the generation of this evidence, no progress can be made."*

Clinical trials can be run by drug companies that work with researchers and health services such as Eastern Health to ensure the trials are performed with meticulous care, accuracy and transparency of the results.

Other clinical trials are "investigator-initiated", meaning the idea for the research has come from a researcher or group of researchers and is based on their understanding of the medical condition, the available treatments, the science underlying new approaches and where gaps exist in the evidence base.

*"The natural impulse for many people is to believe that a new approach will always be better than the old way of doing something and this belief is supported by media reports that can be sensational but also lack perspective," Prof Davis said. "The truth is that any new approach, no matter how good or shaky the science underlying it might be, is an unproven treatment until it is proven to be effective.*

*"One of our primary roles at ECRU is to understand the medical condition and work out whether new management or treatment options are better and should be adopted into practice."*

**A/PROF JENEPHER MARTIN**  
Eastern Health Clinical School,  
Medical Student Programs



**PROF GISHEL NEW**  
Director of Cardiology



**A/PROF AMANDA NICOLL**  
Director of Gastroenterology



**A/PROF PHILLIP PARENTE**  
Director of Oncology /  
Cancer Services





## ECRU RESEARCH GROUPS

- > Cardiology
- > Dermatology
- > Eastern Health Medical Student Programs
- > ECRU Translational Research Division
- > Endocrinology (including Diabetes)
- > Gastroenterology
- > Haematology
- > Hepatology
- > Neurosciences
- > Oncology
- > Renal
- > Respiratory and Sleep Medicine
- > Rheumatology
- > Surgery



**DR CHRISTOPHER FONG**  
Director of Rheumatology



**A/PROF CHRIS GILFILLAN**  
Director of Endocrinology



**DR JOHN LUBEL**  
Director of Hepatology



**MR SEAN MACKAY**  
Surgery /  
Upper Gastrointestinal

The most important people in a clinical trial are the participants, who generously take part often knowing there are no guarantees but that the information they help to generate could make a difference for those patients who come after them.

*"The complex process of performing clinical trials exists to safeguard the wellbeing of the participants, as well as ensuring the information generated is of the highest quality and can be checked and verified independently,"* Prof Davis said.

At Eastern Health, the Office of Research and Ethics provides great support to the research community including ECRU and oversees the

operational activity of the Human Research Ethics Committee which approves and monitors all aspects of clinical research at Eastern Health.

*"Many clinical trials involve collaboration with industry, other researchers or groups of researchers, most of whom donate their time to ensure the right research questions are asked and answered,"* Prof Davis said.

*"ECRU comprises researchers, study co-ordinators, research nurses and administrative support that is necessary to provide the research governance that ensures we can meet our obligations and the information we generate can be trusted."*

*"The level of highly-regarded research activity undertaken across ECRU and Eastern Health is evidenced through the hundreds of peer reviewed journal papers published annually and invitations our staff receive to attend industry forums as guest speakers."*

*"This is testament to the quality of the various research groups. Across ECRU, our senior clinicians willingly contribute to and share their knowledge while actively encouraging and supporting our younger band of clinicians and researchers to always ask the questions and continue to search for the answers."* ■

**DR MATTHEW ROBERTS**  
Acting Director of Nephrology



**A/PROF JOHN SU**  
Director of Dermatology



**PROF FRANK THIEN**  
Director of Respiratory and Sleep Medicine



# DOES NEW BLOOD TEST ALTER CLINICAL OUTCOMES IN CHEST PAIN PRESENTATIONS?

## INVESTIGATING HIGH SENSITIVITY TROPONIN

Heart attack, also known as “acute myocardial infarction” is a life-threatening event that occurs when a blood vessel supplying the heart is suddenly blocked completely, threatening to damage the heart muscle and its functions.

According to the Heart Foundation, it is estimated that more than 340,000 Australians have had a heart attack at some time in their lives. Each year, around 55,000 Australians suffer a heart attack. This equates to one heart attack every 10 minutes.<sup>1</sup>

Early diagnosis of a heart attack is paramount when identifying treatment options. The National Heart Foundation and Cardiac Society of Australia and New Zealand guidelines for treating patients who attend hospital with chest pain from their heart recommend the use of a “high sensitivity troponin” blood test.

“Troponin measures proteins that are released from heart muscle cells in the blood when there has been damage, such as that which occur with a heart attack. The new high sensitivity troponin test can reliably measure very small rises in this protein, which were previously undetectable using other troponin tests,” said Eastern Health Director of Cardiology Prof Gish New.

A change in troponin of 50 per cent compared with the previously recommended 20 per cent is advocated by the guidelines to help with the clinical diagnosis of heart-related chest pain (heart attacks).

“Our study set about to determine the clinical impact of the updated recommendation to use 50 per cent troponin for patients presenting with chest pain to the emergency department,” Prof New said.

“We reviewed medical records and collected information for all patients older than 18 coming into the emergency department at Box Hill Hospital for chest or abdominal pain, with a high sensitivity troponin test performed between January 2012 and June 2012. Patients with a heart attack caused by a blood clot blocking the artery who underwent only one troponin test, were on kidney dialysis or suffered pain-related trauma were excluded from the study.”

Of the 1054 eligible patient records reviewed, 422 (or 40 per cent) with multiple high sensitivity troponin tests had at least one abnormal troponin ( $>14\text{ng/mL}$ ) result. Of these, 41 patients (3.9 per cent) had a high sensitivity troponin test that fell within the change range of 20 per cent to 50 per cent.

Twenty-four had clinical or electrocardiogram evidence suggestive of heart attack chest pain and were referred for further heart investigations, such as a stress test. Of the remainder, three patients were treated with medicines only and required no further testing.

**i** This project was undertaken by first-year cardiology advanced trainee Jithin Sajeeve, in collaboration with the broader Eastern Health cardiology and emergency departments, health information services and pathology team.

Fourteen patients with non-cardiac chest pain had no further tests. At one-year follow-up, 14 patients had not undergone further investigations and two patients returned to hospital with heart-related chest pain. There were no deaths from heart problems.

“Our results showed a number of patients would be potentially missed with the implementation of a 50 per cent change in the high sensitivity troponin test. However, these patients were followed up further because they had good evidence of heart-related chest pain,” Prof New said. ■

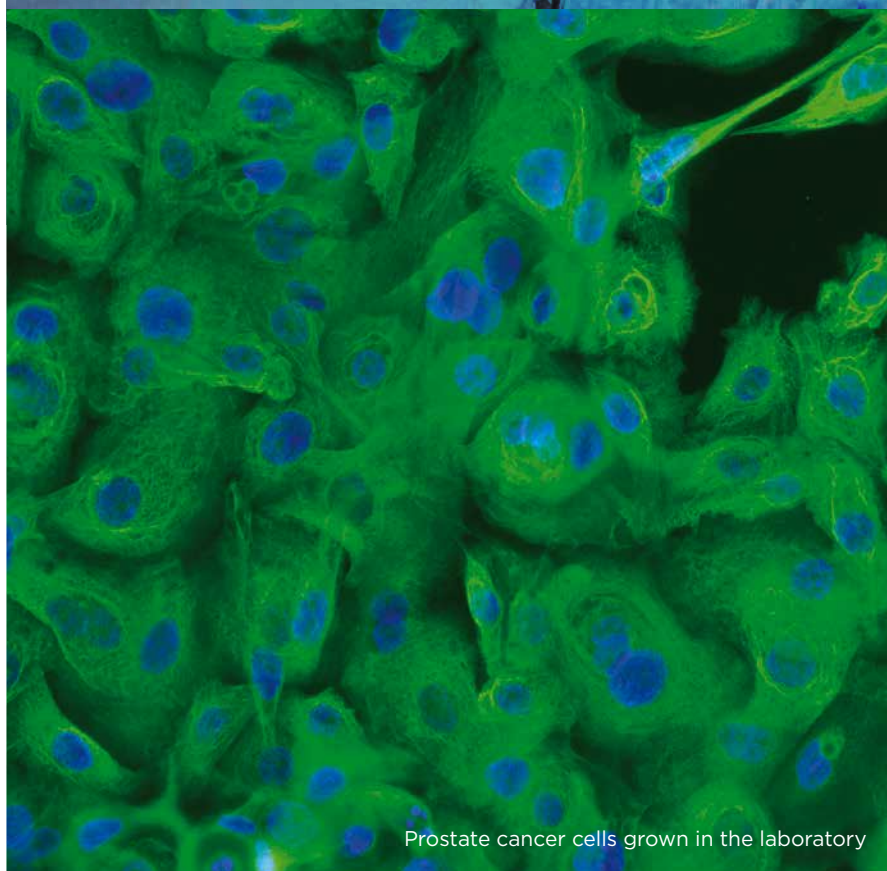
<sup>1</sup> <http://www.heartfoundation.org.au/information-for-professionals/data-and-statistics/Pages/default.aspx>





# DONATED CANCEROUS PROSTATE TISSUE THE KEY TO CLINICAL RESEARCH

Prostate cancer is the most common cancer diagnosed in Australia. It is more common in older men, with 85 per cent of cases diagnosed in men over 65. A man's prognosis depends on the type and stage of cancer, as well as their age and general health at the time of diagnosis. The five-year survival rate for men with prostate cancer is over 92 per cent. Nearly all patients who present with localised disease will live beyond five years, with the 10 and 15-year survival rates being 93 per cent and 77 per cent respectively.<sup>1</sup>



Prostate cancer cells grown in the laboratory

While the prognosis for men with localised prostate cancer is good, clinicians and researchers at Eastern Health have embarked on a journey to better understand the behaviour of prostate cancer cells, which might in turn predict the eventual outcome for men.

*"Most men who are diagnosed with prostate cancer can be cured by removing the prostate," said Pavel Sluka, Research Fellow at Monash University Eastern Health Clinical School Uro-Oncology Laboratory.*

*"They are cured because the cancer did not spread to other parts of the body before the surgery.*

*"Unfortunately, in other men the cancer will come back because it spread before the surgery, although it might not have been detectable. It would be very valuable to identify which cancers are more likely to behave like this because these men might need different treatment."*

The uro-oncology research program, made possible through the generosity of men having their prostate cancers removed and donating their tissue for research, is examining various characteristics of the cancer cells, as well as other cells such as immune cells. The hope is that there might be specific "signatures" that are detectable in prostate cancer specimens, even at the earliest stage, which might in turn predict the behaviour of the cancer and the eventual outcome for the man.

*"A key achievement of the research program to date has been the ability to grow these cells in the laboratory, which is something that many groups have been unable to do successfully," Pavel said.*

The laboratory program has obtained multiple tissue samples and grown them under various conditions that produce cells which mimic those found in prostate cancer itself. These cells are now being tested to determine their genetic signatures and how they behave under the types of conditions cancer cells might experience when travelling to and growing in other parts of the body. ■

<sup>1</sup> <http://www.cancer.org.au/about-cancer/types-of-cancer/prostate-cancer.html>



Scientific health research of this nature involves a large number of people. The success of this project is due to the men who donate their cancer tissue, the urologists who collect the samples, the other doctors, nurses and allied health staff who take care of the patients, the pathologists who review the samples, the Victorian Cancer Biobank which helps process and store the samples, the scientists in the uro-oncology laboratory, other scientists at Monash University, other hospitals and research institutes and the various organisations that provide funding for the research, including the Eastern Health Foundation.





# IMPROVING MALNUTRITION IN OLDER PATIENTS – THE MENU REGENERATION STUDY

Patients are reliant on hospital food services to provide tasty, nutritious and sufficient food and drinks that meet their dietary requirements. Inadequate dietary intake can lead to malnutrition, which affects about one third of patients and can result in poor outcomes, including greater morbidity and mortality.



Jorja Collins



This research is a collaborative project between the Nutrition and Dietetics Department at Monash University and the Dietetics and Food Services departments at Eastern Health. In addition to dietetics and food services, consultation was undertaken with speech pathology, nurses and patients to develop the intervention and study design to ensure it was appropriate for the clinical setting.

Jorja Collins, Eastern Health dietitian and PhD candidate at Monash University, has been working with dietetics and support (food) services at Eastern Health through her research program, *The menu reGEMeration study*, to identify strategies to address malnutrition and associated complications, and better support patients.

*“Effective strategies are required to address this problem, with interventions that focus on food service systems and this workforce providing an opportunity for further investigation and evaluation,”* Jorja said.

*“This study explores whether changes to the hospital food service system can improve nutritional and clinical outcomes, and satisfaction among patients in the Geriatric Evaluation and Management (GEM) program.”*

*“It focuses on systematic change that has the capacity to reach all patients and takes a preventative approach to malnutrition.”*

A parallel controlled pilot study was undertaken on the GEM ward at Maroondah Hospital, with over 160 patients recruited. Participants in the control group received usual food services, while those in the intervention group received a higher energy menu and an enhanced mid-meal service for their length of stay.

*“Information on food consumption, weight, muscle strength, length of stay, level of function and satisfaction with food services were collected at regular intervals during admission,”* Jorja said.

*“In addition, a cost analysis and a qualitative process evaluation were completed to understand the implications and feasibility of making changes to hospital food services in light of budget and staffing constraints.”*

While data analysis is ongoing, early findings suggest that this intervention significantly improves energy and protein intake.

*“The results of this study will be used to develop recommendations for improving nutritional care practices and food service systems in hospitals, to address the common problem of inadequate dietary intake and malnutrition in healthcare settings,”* Jorja said.

*“It is anticipated that these recommendations may drive changes to the hospital menu and the way in which meals and mid-meals are delivered to patients.”* ■





Laura Fanning

# THE IMPACT OF NEW TECHNOLOGIES ON MEDICATION SAFETY

Medication safety is of paramount importance, with medication errors having the potential to significantly impact patients, staff and organisations more broadly. Knowledge of the occurrence of medication errors and a commitment to improving medication error rates link closely with Eastern Health's organisational values and provide an opportunity to enhance patient safety.

Medication errors and associated medical injury have received extensive attention in recent years and are of significant concern to healthcare organisations globally<sup>1</sup>.

Medication safety relies on multiple interconnected factors in the selection, preparation and administration phases of providing medication to a patient. The availability and adoption of technologies in healthcare is increasing and contribute to the realisation of improved medication and patient safety<sup>2</sup>.

Electronic medication management systems, automated drug distribution systems, barcode-assisted and unit dose medication administration systems are at the forefront of technological innovation in medicine management<sup>3</sup>. The introduction of an automated drug distribution system in the redeveloped Box Hill Hospital emergency department is considered a step towards improving medication and patient safety at Eastern Health.

"This study involves a pre-intervention and post-intervention observational design evaluating the impacts of automation on medication and patient safety," said Laura Fanning, pharmacist and principal researcher.

*"Baseline data collection within the old emergency department (pre-September 2014) has been completed and end-line data collection will occur in the new emergency department (post-September 2014). A comparison will be made between medication errors and opportunities for medication errors before and after implementation of the automated drug distribution system."*

*"While the focus of the research is on the impact of automation on medication safety, we are also undertaking a summative evaluation of automated dispensing cabinets in an Australian healthcare environment. We aim to address the current gap in Australian literature and report on the impacts of automated dispensing cabinets from safety, efficiency, financial, security and accountability perspectives, which will provide a broader assessment of the impact of the technology."*

Identifying the impact of health technologies in local environments

**i** Box Hill Hospital's emergency department nursing team is directly involved in the study, in collaboration with pharmacy staff. For baseline and end-line data collection, prospective and direct observational studies of nursing staff are being conducted. Details of medication selection, preparation and administration are being recorded and assessed by the research team.

creates powerful knowledge that can support decisions on the future adoption and innovation of health technologies in clinical areas. Ultimately, healthcare organisations are accountable for safe, efficient and effective practices and the results from this study will help to identify whether automated dispensing cabinets have a greater role to play in medication and patient safety across Eastern Health and the Australian healthcare environment. ■

<sup>1</sup> Barker KN, Flynn EA, Pepper GA, Bates DW, Mikeal RL. Medication Errors Observed in 36 Health Care Facilities. Archives of Internal Medicine. 2002 162: 1897-1903.

<sup>2</sup> World Health Organisation. National eHealth Strategy Toolkit Overview. 2012. Available from: <http://www.who.int/ehealth/publications/overview.pdf>

<sup>3</sup> Chapuis C, Roustit M, Bal G, Schwebel C, Pansu P, David-Tchouda S, Foroni L, Calop J, Timsit JF, Allenet B, Bosson JL, Bedouch P. Automated drug dispensing system reduces medication errors in an intensive care setting. Critical Care Medicine. 2010 38 (12): 2275-2281.





# CONTRIBUTION TO RESEARCH MAKES A REAL DIFFERENCE

## LOUISE KURCZYCKI WILL BE REMEMBERED



Louise Kurczycki

**IT WAS WITH GREAT SADNESS THAT THE RESEARCH COMMUNITY LEARNED OF THE DEATH OF CONTINENCE NURSE ADVISOR SPECIALIST LOUISE KURCZYCKI. SHE WAS 53 YEARS OLD.**

Louise came to Eastern Health's Multiple Sclerosis (MS) service as a highly experienced Continence Nurse Consultant with a long-established national and international research and clinical career. Louise was passionate about raising awareness and improving the management of bladder and bowel dysfunction in people with MS.

Through her work, Louise had an enormous impact locally and nationally, raising awareness, educating nurses and developing best-practice management tools for the early detection and better management of symptoms of bladder and bowel dysfunction in people with MS. By sharing her research and knowledge, Louise contributed to improving the care and quality of life of many people.

She conducted a number of projects during her time at Eastern Health and obtained independent and highly competitive research funding. Louise identified through her early pilot research that this distressing and debilitating symptom of the disease was often overlooked in routine clinical practice. This translated into her research that focused on the development, validation and implementation of an assessment tool that could be used by nurses in everyday practice.

At the time of her death, Louise was actively recruiting for a world-first randomised trial to assess the effectiveness of this tool and nurse-led management strategies that built on it. She also had her data on the use of a bladder stimulator in people with MS and voiding dysfunction presented at an MS Nurses Australia Conference this year.

Eastern Clinical Research Unit study co-ordinator Kelli-Jane Lazarus has worked across both research and clinical components during her time with the MS team and worked closely with Louise on a number of projects.

*"Louise's research has changed the way MS health professionals understand, approach and manage the problems that are common in MS patients relating to continence," Kelli-Jane said.*

*"This all started with developing an MS-specific screening tool, for both men and women with bladder and bowel dysfunction. There is currently no validated tool for use in the MS population available in the continence or MS worlds.*

*"Louise, through her research and screening of 200 MS patients, developed such a tool."*

Kelli-Jane said Louise travelled across Australia and New Zealand to educate MS nurses on how to implement, understand and direct management plans for their patients.

*"This is undoubtedly changing the way continence issues are being addressed in MS patients for the long term – just from this one woman's endeavour," she said. "We are working towards publishing her tool so that it can be shared with MS nurses all over the world."*

Belinda Bardsley, president of the MS Health Professionals Network, was also generous in her praise of Louise.

*"Louise forged strong and vast links with a wide variety of professionals, with her colleagues and collaborators also rapidly becoming strong personal friends. Most importantly, her capacity to connect with her patients made it possible for them to reveal to her their most personal and distressing symptoms, often for the first time," Belinda said.*

*"Louise leaves us with her legacy and a wealth of shared knowledge." ■*



# “CATCHING” LIVER DISEASE BEFORE IT’S TOO LATE

In Australia, about 225,000 people live with chronic hepatitis B\*. Only half of those infected have been diagnosed. Chronic hepatitis B can lead to cirrhosis (scarring of the liver), liver cancer and liver failure.

Eastern Health has the second highest notification of hepatitis B in Victoria, primarily because of the large Asian Australian population within our catchment. This is because the virus is endemic in Asia with over two billion people worldwide showing evidence of prior infection.



Dr Stephen Bloom

Eastern Health’s Gastroenterology and Hepatology departments have embarked on an exciting community-based project that aims to identify patients with severe liver scarring (cirrhosis) before signs and symptoms become apparent. Cirrhosis is a condition that can occur in patients of any age, gender or ethnicity.

Unfortunately, up to a third of patients with cirrhosis have no clinical or biochemical features to suggest the diagnosis and many patients present to Eastern Health with advanced disease and associated complications. The most important consequences of cirrhosis are liver failure, internal bleeding and primary liver cancer (hepatocellular cancer or HCC). These complications can be difficult to manage or in the case of advanced HCC, are incurable.

According to Dr John Lubel, who is the Director of Hepatology at Eastern Health: “For some time we have used an ultrasound device called a Fibroscan® to measure liver stiffness.

“The device generates a shear wave that propagates through the liver and the velocity of this impulse approximates with the stiffness of the liver tissue examined.



This project was developed by Dr John Lubel (Eastern Health) and Dr William Kemp (Alfred Health) as a collaborative project through the Melbourne Liver Group, which comprises all the Directors of Hepatology in Victoria. The project is being piloted by Eastern Health with Dr Stephen Bloom undertaking the research as part of his PhD through Monash University. It is funded by the Victorian Cancer Council and Dr Bloom is supported by Monash University Eastern Health Clinical School. This project is further supported by Medicare Locals, Networking Health Victoria and primary care physicians (GPs) across the region.

*“The stiffness measurement correlates well with the degree of fibrosis (scar) within the liver and it is therefore possible to determine the likelihood of cirrhosis and institute appropriate management without the need for a liver biopsy.*

*“The scan can be rapidly performed, is safe and painless, and provides a numerical value or score for liver stiffness. Until relatively recently, the limitation of the unit was that it was difficult to transport. The manufacturers of this device have now overcome this problem by developing a mobile unit that can be easily transported.”*

The majority of patients with viral, alcoholic or fatty liver disease are managed in the community.

This project, called CATCH (Community based Approach Targeting Cirrhosis and Hepatocellular carcinoma) will take the Fibroscan® directly into the community to screen patients with known liver disease who have not been seen at a tertiary centre and have not previously had a scan.

*“It is hoped that identification of patients with advanced fibrosis or cirrhosis in the community will allow early intervention to prevent some of the complications. Furthermore, these patients will be entered into cancer screening programs in the hope of identifying liver cancer at an early stage when curable therapies are still possible.” ■*

\*Source: Hepatitis Australia, July 2014 <http://www.hepatitisaustralia.com/fast-facts-on-hep-b/>

# HEALTH LITERACY AND QUALITY OF LIFE IN PATIENTS RECEIVING DIALYSIS

According to Kidney Health Australia, at the end of 2012, 11,446 people were receiving dialysis treatment in Australia\*. Dialysis treatment is life-saving for people whose kidneys have stopped working, the impact of which is significant. Provision of written information for patients, its relevance, usefulness and readability can also impact on an individual's quality of life.

Patients receiving dialysis undergo an enormous change to their lifestyle in order to stay alive after their kidneys stop working. Following diagnosis, patients receive a lot of information about their treatment choices and how they will need to adapt to changes in lifestyle, diet and regular dialysis, all of which will impact on their enjoyment of life at a basic level.

In order to best support patients, the Eastern Health Integrated Renal Service undertook a survey of 100 patients receiving dialysis through their satellite dialysis centres or home dialysis using a quality of life questionnaire, a recently developed health literacy questionnaire, a depression anxiety and stress scale and a modified questionnaire about the effect of diet changes on quality of life.

*"The aim of our research survey was to identify specific areas that contribute to reduced quality of life and particularly whether there was any link between a person's ability to understand information about their health and quality of life,"* said Dr Matthew Roberts, Acting Director of Eastern Health's Integrated Renal Service.

*"A secondary aim was to look for a relationship between food restrictions that patients receiving dialysis must adhere to and quality of life. By undertaking this study, we are gaining experience in assessing the quality of life and other important aspects of our patients' care and hopefully identify areas where this can be improved."*

Dr Roberts said the Health Literacy Questionnaire identified people with different degrees of health literacy and the team was exploring the characteristics of these groups.

*"We hope this will assist us in the way we provide education about treatment options to people with chronic kidney disease."* ■



Dialysis patient Thomas with nurse AJ Tan



This is a collaborative study between nephrologists Dr Louis Huang, Dr Matthew Roberts and Dr Darren Lee, clinical psychologist Dr Sarity Dodson and her student Tanya Osicka, renal dietitians Mel Corken, Anne-Marie Desai and Shaylyn Bertino, and the dialysis nursing staff responsible for satellite centres and home dialysis. The Health Literacy Questionnaire was developed at Deakin University, in particular through Dr Sarity Dodson.

\*ANZDATA Registry Report 2013



# DOES PROVIDING “SUPERSNACKS” MAKE A DIFFERENCE?



The success of the Supersnack project was possible through the collaborative efforts of Eastern Health staff from food services, ward support and dietetics, together with oncology patients.

Oncology patients in the hospital inpatient setting are a vulnerable group when it comes to achieving nutrition goals, with malnutrition known to affect 40 per cent to 80 per cent of patients<sup>1</sup>. Generally, oncology patients find it challenging to choose food from hospital menus because their selections are usually required a day or more in advance. Appetite and food preferences can be greatly influenced by treatment side-effects, as are their overall desire for food and fluid.

*“An oncology patient’s senses of sight and sound can play a significant role in appetite stimulation and intake,”* said Eastern Health dietitian Emma Venn.

*“Traditional hospital food service models require patients to select their meal preferences up to 24 hours before service, with minimal options available.*

In an effort to improve food service options for this discrete group of patients, the “Supersnack” project investigated whether point of care food service models could improve food intake by allowing patients to make food and fluid decisions at the

time of the meal. This allowed them to choose what they **feel** like eating at the time, not what they **think** they will want to eat in advance. The project was funded by the Department of Health as part of the Malnutrition in Victorian Cancer Services statewide initiative.

This pilot study aimed to demonstrate improved oncology inpatient nutritional intake and meal satisfaction.

Consumer focus groups, stakeholder consultation, patient satisfaction and nutritional adequacy of the hospital menu were reviewed to define a Supersnack menu, source food and manage food safety and equipment over a three-week period.

The pilot was based on a similar program trialled at the Peter MacCallum Cancer Centre<sup>2</sup>.

Supersnack items included a variety of hot and cold options including, but not limited to, soft cakes and slices, flavoured milk, fresh fruit salad, soup, cheese and biscuits, and savoury pastries. Every day, 15 different food and drink options were available for

patients to select from, with flavour options being varied from day to day.

*“Food service and ward support staff were trained in point of care service delivery, with Supersnacks offered at morning and afternoon mid-meals during the pilot. Patient food intake, nutritional status and food service satisfaction data was collected,”* Emma said.

*“Twenty-four of a possible 32 patients participated in the study. At relatively little cost, the Supersnack menu significantly increased energy and protein intake at morning and afternoon tea, and there was no decrease in food service satisfaction. Oncology inpatients reported increased food and fluid options, and interactions with staff about food.”*

The Supersnack project received excellent feedback from allied health, nursing and support staff, and importantly, the project reinforced the use of food as a treatment of choice for malnutrition in oncology patients.

Given the positive feedback received from patients and the potential impact on the patient experience and health outcomes, ongoing funding for the implementation of a Supersnack food service has been sought.

*“Being able to choose menu items in real time gave oncology patients a sense of empowerment and the increased variety of snacks assisted in meeting patient needs, considering common symptoms experienced.”* ■



Mel Browney iss  
Catering Services,  
Shep and  
Emma Venn

<sup>1</sup> Stratton, R. A review of reviews: A new look at the evidence for oral nutritional supplements in clinical practice. *Clinical Nutrition Supplements*. 2007; 2: 5-23.

<sup>2</sup> Loeliger J (2011) *Developing a novel nutrition support program to improve nutritional outcomes for ambulatory patients in the Chemotherapy Day Unit (CDU)*. Western and Central Melbourne Integrated Cancer Services and Peter MacCallum Cancer Centre. Final Report.

Shep is undergoing treatment for cancer. As a consequence of his chemotherapy management program, Shep sometimes finds it difficult to eat. On occasion, his appetite is significantly reduced or he finds it difficult to chew and at other times, some foods leave an unpleasant after-taste in his mouth. For Shep, these side-effects of chemotherapy are not uncommon among oncology patients, which make them highly susceptible to malnutrition.





# REDUCING THE NEED FOR PRESCRIPTION MEDICATION

People affected by Borderline Personality Disorder frequently experience distressing emotional states, difficulty in relating to other people and self-harming behaviour. Diagnosis, treatment and ongoing management of this mental illness is complex and requires a co-ordinated approach by specialist clinicians, primary care practitioners (GPs), residential services and community-based groups.



Dr Jillian Broadbear and Dr Sathya Rao

**Borderline Personality Disorder (BPD)** is characterised by pervasive and stable impairments in personal identity and interpersonal functioning, accompanied by pathological personality traits. Despite a lack of evidence for the efficacy of pharmacotherapy in the treatment of BPD, most patients are prescribed multiple psychotropic medications, often on a long-term basis.

*"This is unsurprising given the complexity of BPD, significant presence of co-morbidities and the therapeutic nihilism that surrounds the disorder,"* said Dr Sathya Rao, Executive Clinical Director of Spectrum.

*"The best evidence suggests that long-term, BPD-specific psychotherapy is the most effective treatment. Successful treatment of BPD with psychotherapy may also improve co-morbid conditions, thereby reducing the need for prescription medication."*

Spectrum, part of Eastern Health's Statewide Services Program, supports and works with local area mental health

services to provide treatment for people with personality disorders and has been investigating the effectiveness of psychotherapy in the treatment of BPD.

*"We conducted a study in the residential BPD patient cohort at Spectrum, using the longitudinal measurement of prescription drug use before, during and after the treatment program,"* said Dr Jillian Broadbear, Senior Research Fellow at Spectrum.

Seventy-four female participants aged 19 to 55 with a primary diagnosis of BPD took part in the study. Most had more than one personality disorder, as well as multiple co-morbid mood disorders. Participants' self-reported use of psychotropic medications was ascertained at three points – admission, discharge from the program (three to six months) and one year post-discharge.

The Structured Clinical Interview for DSM-IV (SCID) was administered at intake, discharge from the residential program and again at the 12-month follow-up. Participants also completed the Beck Depression Inventory, one of the most widely used instruments for measuring the severity of depression.

*"Our residential treatment program included individual and group psychotherapy for the treatment and management of BPD,"* Dr Rao said.

*"We saw a significant reduction in the prescription of psychotropic medications, including anxiolytics, antidepressants and mood stabilisers in our residential program. This was accompanied by significant decreases in the incidence and severity of self-rated depression as well as clinician-assessed ratings of personality disorder, including BPD."*



## SURVEY

- 1 What was the pattern of psychotropic drug utilisation on admission?
- 2 Did it change following three to six months of an intensive inpatient psychotherapy program?
- 3 Were changes maintained 12 months post-discharge?
- 4 Were changes in the utilisation of pharmacotherapy associated with improvements in BPD and/or co-morbid disorder symptom severity?

*"This suggests that three to six months of BPD-specific psychotherapy as part of a residential milieu program has lasting benefits, not only for BPD but also for a range of co-existing mental health problems, in addition to the reduced need for prescription medication."*

Dr Broadbear said that although not all participants achieved clinical remission during this relatively brief intervention, they were impressed that improvements at discharge were consolidated and retained 12 months later, while patients were being case-managed within community mental health services.

*"This finding is consistent with the BPD management guidelines recently published by the National Health and Medical Research Council of Australia (NHMRC, 2012) which advocates long-term BPD-specific psychotherapy with minimal reliance on pharmacotherapy."* ■



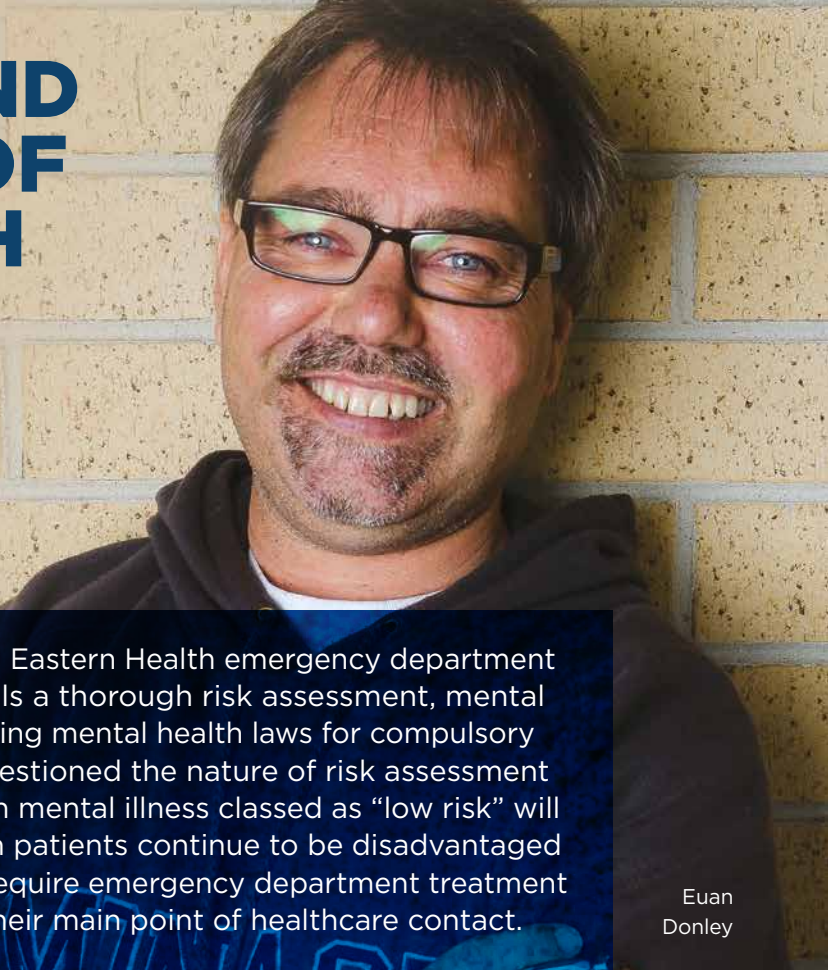
This research was carried out by Spectrum, a statewide personality disorder service (part of Eastern Health), with informed consent provided by all participating clients. Spectrum staff involved in this research were Dr Sathya Rao, Ms Rosemary Thomas (currently at Montrose Allied Health Centre), Dr Julian Nesci (currently at Austin Health Adult Eating Disorder Inpatient Program; The Melbourne Clinic DBT Program) and Dr Jillian Broadbear.



**s p e c t r u m**  
Personality Disorder Service for Victoria



# ASSESSMENT AND MANAGEMENT OF MENTAL HEALTH PATIENTS IN EMERGENCY DEPARTMENTS



Euan Donley

This year, nearly 6000 people will present to an Eastern Health emergency department with a mental health issue. Typically, this entails a thorough risk assessment, mental state examination, discharge planning and utilising mental health laws for compulsory treatment, if required. Recent literature has questioned the nature of risk assessment and its efficacy. For example, many people with mental illness classed as “low risk” will commit suicide while many more mental health patients continue to be disadvantaged in the community. Most of this population will require emergency department treatment multiple times in their lifetime, which may be their main point of healthcare contact.

This research examines multiple perspectives of mental health assessment and treatment, and how emergency departments can improve outcomes and quality of life.

Euan Donley, a senior social worker with the Eastern Health Psychiatric and Emergency Department Response Team and a PhD candidate at Monash University, is researching issues related to assessment and management of mental health patients in the emergency department. This is being undertaken using multiple research studies via a mixed method and thematic analysis.

The first of these studies was recently completed and examined how cigarette breaks are used to manage difficult behaviours in emergency departments and how this strategy is incongruent with smoking bans across health networks.

*“The research project identified that cigarette breaks were often used for mental health patients because it appeared to alleviate patient distress in a crisis and prevent more invasive treatment options,”* Euan said.

*“Even though emergency department staff are generally in favour of smoke-free workplaces, there are barriers to adopting recommended practice.”*



Euan Donley is a senior social worker with the Eastern Health Psychiatric and Emergency Department Response Team and a PhD candidate at Monash University. His work on the use of cigarette breaks in emergency departments and consumer reporting on experiences of psychiatric assessment have been published and presented nationally and internationally. Euan has also had other international publications examining suicide risk assessment, management of frequent presenters and dealing with persistent complainers.

*“The so-called cigarette break for this cohort of patients was deemed appropriate and reportedly made for a more stable environment for the patient, staff and others within the department.”*

Following his research into the advantages of cigarette breaks, Euan turned his focus to examining consumer experiences of psychiatric assessment in the emergency department.

*“Consumers reported an improvement in mood post-psychiatric assessment in the emergency department, particularly if there was a healthy therapeutic relationship with the mental health clinician,”* he said.

His current research, as part of his PhD, is examining the impact of National Emergency Access Targets on psychiatric assessments in the emergency department. These targets are designed to reduce patient waiting times and increase patient flow by applying time limits where possible in the emergency department.

This study is in the data collection phase and awaiting ethics approval in some Victorian health networks. Early data from multiple health networks shows clinicians reporting less patient time, less time with families, pressure to make a quicker decision – and that clock-watching is the wrong focus.

On the positive side, some networks report processes have become more streamlined, emergency department staff are compelled to communicate more promptly and patients do not wait as long for assessment and treatment. Early data is also providing insights into what type of patient profile is likely to be treated quicker and within targets.

Once more data for this study is collated from other networks, recommendations can be made regarding the most helpful ways mental health patients can be assessed and managed in emergency departments.

*“This would be beneficial not just to staff but the patients receiving the best possible mental health care in emergency departments.”* ■





# HeLP:

## HeALTH LITERACY IN PHARMACY PROJECT

“Health literacy” is a concept that is gaining significant attention in Australia and globally as the profound negative impacts of limited health literacy on service use, resource demand, health and quality of life are recognised.

The Australian Commission on Safety and Quality in Health Care (ACSQH) describes health literacy as “... how people understand information about health and healthcare, and how they apply that information to their lives, use it to make decisions and act on it.”

To address the issue of health literacy in the pharmacy setting an Eastern Health Clinical School federally-funded project developed, implemented and evaluated an intervention for community pharmacies.

*“In its recent National Statement on Health Literacy, the ACSQH emphatically states that Health literacy is a safety and quality issue. The three action areas that need to be addressed in a co-ordinated way are embedding health literacy into systems, ensuring effective communication and integrating health literacy into education,”* said Prof Peteris Darzins, Director of Geriatric Medicine at Eastern Health.

*“In the pharmacy setting, people with limited health literacy have an increased risk of medication misadventure, they may misunderstand warning labels and directions, and they may not access*

*their entitlements. The Health Literacy in Pharmacy project (HeLP) took an evidence-based approach to addressing the health literacy of pharmacy consumers and then developing an educational intervention for pharmacy staff.”*

Few interventions to manage the issue of health literacy exist and those that attempt to increase consumer health literacy mostly have limited success. Hence, the focus needs to shift to health professionals, to improve their skills and abilities, to reduce the effects of limited health literacy.

*“Given the high prevalence of limited health literacy and the lack of simple, useful screening tools, the team developed a ‘universal precautions’ approach. Simply put, this means assuming all consumers have limited health literacy unless it becomes clear this is not the case. The program,*

*designed for pharmacists and support staff, applies adult learning principles and attractive education delivery to enhance uptake,”* Prof Darzins said.

A cluster-randomised controlled trial was conducted to evaluate the uptake of the educational package. In total, 77 pharmacies were recruited across three states in Australia. Staff received training face-to-face or by electronic means, or they were allocated to a control group.

The use of the universal precautions approach was assessed before and after the training by simulated patients (mystery shoppers), and by direct observation and exit surveys of real consumers. Pharmacists and pharmacy staff were surveyed before and after the training regarding their attitudes and motivations towards health literacy. Selected features of the pharmacy environments were documented.





How much information do you think the mother is actually taking in from the pharmacist? An illustration of how environmental factors can affect health literacy.

Finally, the training and its implementation were also evaluated via focus group discussions or interviews.

*"The educational package was effective in improving some aspects of communication by pharmacists and pharmacy staff with consumers but the difficulty of changing behaviour was highlighted, particularly in relation to communication techniques," Prof Darzins said. "Teach-back techniques were not adopted as much as was desired. Information from the focus group research suggested reasons for this, providing scope for the refinement of the educational package."*

Overall, the attitudes to, and intentions to further implement and use the package in pharmacies, were positive but some organisational barriers to implementing universal precautions were identified.



The HeLP project was funded under the Research and Development program of the Pharmacy Guild of Australia, which is funded by the Australian Government's Department of Health as part of the Fifth Community Pharmacy Agreement. The project was led by Gregory Duncan from the Eastern Health Clinical School. Professor Peteris Darzins from Eastern Health was a member of the team, with other collaborators from the Faculty of Pharmacy and Pharmaceutical Sciences at Monash University, the Pharmaceutical Society of Australia, Curtin University, University of Sydney, University of Technology Sydney and the University of Queensland.

*"Overall, the HeLP education program is accessible, useful and meaningful to pharmacy staff. Making the HeLP program widely available for community pharmacies and as a curriculum resource for pharmacy schools is warranted," Prof Darzins says.*

Possible next steps with this health literacy research include replication of


the research in other English-speaking countries and adaptation of the approach for other healthcare settings and for particular community groups.

This could include gaining a better understanding of, and developing possible approaches to, the health literacy needs of Australian indigenous people. ■





# BUILDING RESEARCH EXPERTISE AND EXPERIENCE



Since its establishment in 2011, the Eastern Health Foundation's Research Grants program has been making an impact on the nature and scope of research undertaken across Eastern Health.

Anne Gribbin and Mr Michael Armstrong

*"The number and nature of applications received has changed dramatically, as has the interest in conducting innovative and transformative research," said Eastern Foundation Director Anne Gribbin.*

There has been a total of 74 applications for grants to date, resulting in 12 projects sharing \$213,875 since 2011.

*"The standard of applications from all disciplines has increased. All applications are of a high quality and are well developed and costed projects in their own right," Anne said.*

*"Research leads us to question what we are doing and thus encourages evidence-based best practice – the benchmark for medical treatment in 2014."*

There is an increasing number of generous gifts from individuals and business donors to the Eastern Health Research Grants program that is not only making the program possible but playing an influential role in inspiring other donors to consider research as a worthy recipient of their generosity.

## Awardees of the 2013 research grants were:

| RESEARCHER           | DEPARTMENT          | AREA OF RESEARCH   | AMOUNT FUNDED |
|----------------------|---------------------|--|---------------|
| Dr Anthony Dear      | Medicine            | The use of a biomarker in the treatment of a blood cancer                | \$20,000      |
| Prof Ian Davis       | Medicine – Oncology | Differences in cell types in prostate cancer                             | \$15,000      |
| Dr Peter Brann       | Mental Health       | Wellbeing of young adult mental health patients                          | \$15,000      |
| Mr Michael Armstrong | Orthopaedic Surgery | Comparing the outcome of different approaches for hip joint replacement* | \$25,000      |

*\*This project was specifically supported by the Box Hill Golf Club*

The Foundation and Office of Research and University Relations are working together to build on the clinical expertise of medical, allied health and nursing staff to inform practice and further develop Eastern Health's capacity as a teaching hospital. The existing partnerships that Eastern Health has with universities and pharmaceutical research

organisations are invaluable and complement the Foundation's "friend-raising" and fundraising efforts.

*"The Foundation plays a unique role in research at Eastern Health as it has the independence to seek funds from different sources and for high-priority research projects aligned to the organisation's strategic objectives."* ■



# ABOUT EASTERN HEALTH

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Eastern Health provides a comprehensive range of high-quality acute, sub-acute, palliative care, mental health, drug and alcohol, residential care, community health and statewide specialist services to people and communities that are diverse in culture, age, socio-economic status, population and healthcare needs. We deliver clinical services to more than 750,000 people through eight programs from 29 locations. Our services are located across 2816 square kilometres in the east – the largest geographical catchment area of any metropolitan health service in Victoria. We employ more than 9500 staff and volunteers, deliver more than 950,000 episodes of patient care each year and manage a budget approaching \$750 million.

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## ACCESSING RESEARCH ACTIVITY REPORTS

Eastern Health is committed to building a culture of research and ensuring such research is embedded in everyday clinical practice. Eastern Health contributes to local, national and international research activity. This document provides selected snapshots that reflect the high-calibre research, commitment and strength of research programs across Eastern Health.

Copies of the 2014 Research Report are available by contacting The Office of Research and Ethics on **9895 9551** or via **[www.easternhealth.org.au/publications](http://www.easternhealth.org.au/publications)**

Current research activity program reports are available online from **[www.easternhealth.org.au](http://www.easternhealth.org.au)**







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