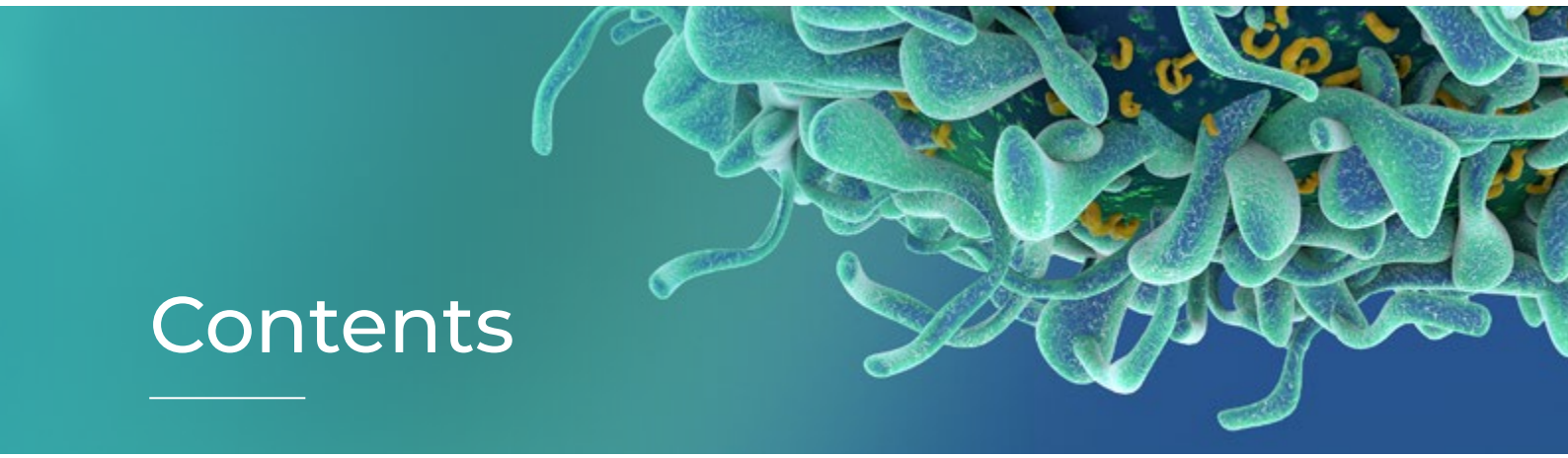
NHMRC
Clinical Trials Centre

RESEARCH REPORT 2017

THE UNIVERSITY OF SYDNEY



Contents

2017 HIGHLIGHTS

190

CURRENT EMPLOYEES

57

ACTIVE TRIALS

44M

ANNUAL INCOME

188

PEER REVIEWED PUBLICATIONS

90K

NUMBER OF STUDY PARTICIPANTS SINCE ESTABLISHMENT

800

NATIONAL & INTERNATIONAL COLLABORATORS

Director's **Report**

Professor John Simes MD, MBBS, MSC, FRACP
DIRECTOR

2017 has proven to be another highly successful year for the CTC, as we continue to lead high-quality clinical research, develop new trials methodology and integrate trial evidence. Our trials are supported by research work in methodology, translational studies and evidence synthesis through meta-analyses and economic evaluation. This ensures that our trials are firmly grounded in real-world needs and offer best practice evidence-based answers to clinical questions, as well as supporting key health policy decisions. This report offers examples of our work in 2017 from each of our clinical areas: oncology, cardiovascular disease, diabetes and perinatal medicine, which together account for a substantial part of Australia's disease burden. It also highlights some of our significant achievements throughout the year, which demonstrate the breadth, quality and value of our collaborative work.

The CTC continues to grow, and now employs 190 staff members. In 2017, our annual income also grew, increasing by approximately $10 M to $44.37 M; largely driven by significant increases in trials grants from government funding, peer-reviewed research grants, and pharmaceutical companies; a clear indication of the excellence and impact of our work.

A number of notable achievements over the last year demonstrate the excellence of this work. Our contributions to national and international investigator-initiated clinical trials and associated research in oncology have led to improvements in quality of life, survival and cancer control, as well as to new research questions. Examples of some of our trials in the areas of breast, gastrointestinal, gynaecological, lung, brain and kidney cancer, which we are conducting in collaboration with other national and international investigator groups, are highlighted in this report. These examples show how research into new treatments for cancer has increasingly moved towards immunotherapy and personalised medicine, where the treatment strategy is determined on the basis of the patient's tumour genetic profile, rather than on their diagnosis, which has been the traditional approach.

Currently, less than one in ten people with cancer access clinical trials, especially those with rare cancers. The current challenge is to develop an effective infrastructure that enables these patients to participate in precision medicine trials. The Molecular Screening and Therapeutics (MoST) programme, a collaboration led by the CTC and the Garvan Institute of Medical Research, takes an innovative approach to addressing this challenge by linking a molecular screening platform with multiple clinical trials, with the treatment strategy for each patient being determined by their genetic information, independently of the type of tumour they have. Together with our participating treatment sites, we are screening 1,000 patients for a series of up to 12 parallel signal-seeking trials. We are continuing to work with clinical researchers, key government and industry stakeholders to expand the programme and offer more patients with limited treatment options a viable alternative based on their unique molecular information.


John Simes


Vera Terry


Tony Keech & Susan Lohan

Among our oncology trials, a highlight of this year was the selection of the ALaCaRT trial by the American Society of Clinical Oncology for inclusion in *Clinical Cancer Advances 2017*, the Society's annual review of progress against cancer and emerging trends in the field. ALaCaRT aimed to determine whether routine use of laparoscopic surgery was an appropriate alternative to open surgery for the treatment of advanced rectal cancer, and was featured as one of the year's major international achievements in clinical research and care. This trial was a collaborative study run by the Australasian Gastro-Intestinal Trials Group, the Colorectal Surgical Society of Australia and New Zealand and the CTC. The outcome showed that open surgery may be better for certain patients, and that further research is necessary to identify the factors that determine which patients will benefit most from which type of surgery.

In cardiology, this year a major highlight was the publication of the findings of the FOURIER trial in the *New England Journal of Medicine*, one of the most important general medical journals. FOURIER is a major international multicentre collaborative RCT that looked at the effect of further lowering LDL cholesterol by treatment with a new drug, evolocumab, in patients with existing cardiovascular disease who were already taking moderate-to-high doses of a statin to control their LDL-C levels. This group of patients is already at high risk of further cardiac events, such as death, heart attack, stroke, or hospitalisation for unstable angina or revascularisation. In a major breakthrough for the management of cardiovascular disease, treatment with evolocumab was able to reduce the blood LDL-C levels of these high-risk patients by an average of 59%, to levels well within the recommended threshold for good cardiovascular health, which resulted in a 15% reduction in the risk of a major cardiac event, a significant improvement in outcomes for these patients. The FOURIER trial has highlighted the value of further lowering cholesterol treatment targets, and has already led to changes in clinical management and treatment practices in cardiovascular patients.

Study highlights from our Type 1 diabetes trials included the publication of the results of the REMOVAL trial in the prestigious specialty journal *Lancet Diabetes and Endocrinology*. REMOVAL investigated the effect of adding metformin, a medication commonly used to improve glucose control in Type 2 diabetes, to insulin to protect adults with Type 1 diabetes against atherosclerosis. Metformin use resulted in a small but statistically significant reduction in LDL-C levels, as well as a reduction in the mean maximum thickening of the inner layers of the carotid artery, a measure of atherosclerotic disease. Moreover, metformin also mitigated the decline of renal function seen in these patients, and while patients on metformin reported an average 2U/day reduction in their insulin dose, the rates of severe hypoglycaemic episodes and diabetic ketoacidosis did not increase. Our findings will help to refine the treatment guidelines for the

Val Gebski • BIOSTATISTICS

Chee Lee & Sally Lord • BIOSTATISTICS

management of these patients. In other diabetes trials, recruitment continues for the FAME-1 Eye study, which is evaluating whether fenofibrate protects against the progression of established eye disease in patients with Type 1 diabetes, and for trials of advanced insulin pumps and glucose sensors, as well as the search for better ways of producing insulin when the pancreas fails.

Achievements in neonatology trials this year include the publication of the results from the Australian Placental Transfusion Study (APTS) in the *New England Journal of Medicine*. This study assessed whether waiting 60 seconds after birth before clamping the umbilical cord, instead of clamping it immediately, could improve outcomes in babies born before 30 weeks of gestation. The results showed that mortality before 36 weeks may be reduced by almost one third by delayed cord clamping. A systematic review, led by the CTC's Professor William Tarnow-Mordi and Professor Lisa Askie, assessed morbidity and mortality outcomes from 18 trials around the world—including the APTS trial—which compared delayed versus immediate cord clamping in nearly 3,000 babies born before 37 weeks gestation. This review also found clear evidence that delayed clamping reduced hospital mortality by a third and is safe for both mothers and premature babies. It confirmed the outcomes of the APTS trial, and has attracted strong attention from neonatal care professionals around the world, as well as local and international media, and has already resulted in changes in clinical practice.

Clinical trials in extremely premature babies are challenging, in that these studies must often be very large to detect moderate benefits, and thousands of children may be needed to be enrolled to show a definite result. Professor Tarnow-Mordi, our director of neonatal and perinatal trials, is a strong advocate for the Advancing Large, collectively Prioritized Health Outcomes Assessment (ALPHA) Collaboration, which aims to prioritise research questions in perinatal care and promote large-scale, highly efficient perinatal trials of health outcomes via the assessment of 5,000 to 50,000 or more participants through international cooperation and collaboration.

Each year the CTC's methodological experts make substantial contributions to our own trials and many other international trials within a wide variety of clinical areas. Biostatistics is the core of most clinical research projects, and our biostatisticians are committed to sharing their expertise in consulting, postgraduate courses and regular workshops, as well as training biostatisticians for Australian research though the Biostatistics Collaboration of Australia.

One of the CTC's main objectives is to contribute to bridging the gap between research evidence and clinical practice. The Systematic Reviews and Health Technology Assessment group undertakes systematic reviews, health technology assessments and economic evaluations to integrate trial and other evidence and enable effective decision-making in health policy and clinical practice.

Rachael Morton • HEALTH ECONOMICS

In highlights from 2017, the CTC Health Economics team, led by Professor Rachael Morton, worked with the School of Public Health and the Melanoma Institute Australia to assess the impact on the national health budget of a specialised surveillance programme for people at high risk of melanoma. In Australia, melanoma represents 10% of all new cancer diagnoses, and represents a significant cost to our health care system. Specialised surveillance for those at high risk has the potential to significantly reduce these costs by allowing early detection, and thus early treatment, which is usually curative. The CTC's evaluation estimated that 18% of all patients diagnosed with melanoma in Australia each year would be eligible for specialised surveillance rather than routine care. If all eligible patients received specialised care, the cumulative cost to our healthcare system over five years would be $93.5 million, while the cost of routine care for these individuals would be $120.7 million over the same period, saving a total of $27.2 million, providing an excellent example of the value of economic evaluation of health care interventions.

The CTC also hosts the editorial base of the Cochrane Breast Cancer Group, which tackles a broad array of topics in breast cancer and leads the review and publication of evidence from breast cancer research undertaken by its 800 active contributors. In 2017, the group marked 20 years of facilitating and coordinating reviews and updates of breast cancer evidence for the world. This year the group published a review examining the latest evidence on bisphosphonates, a medication commonly used to treat osteoporosis, in breast cancer. Bisphosphonates are thought to help treat cancer by reducing cancer growth in the bone. New trials assessing these medicines have been under recent scrutiny by international cancer agencies and healthcare systems, and there were several important findings from this review of women with early breast cancer. Bisphosphonates were found to lower the risk of cancer spreading to the bone, and also increased survival and reduced the risk of recurrence, but only in post-menopausal women. This review has highlighted the importance of bisphosphonates for post-menopausal women with early breast cancer, and added to the evidence base to support a change in clinical practice.

The CTC's future continues to look bright. We are pleased to be the recipients of a new NHMRC Program grant for 2019–2023 inclusive, which will underpin all the value-added research embedded into our clinical trials. New projects in telehealth and remote image acquisition in Indigenous Australians with diabetes being screened for eye disease are underway, as well as digital technologies to recruit and follow up subjects via phone-based applications.

We are delighted to announce our forthcoming 30th anniversary celebrations, coming up early in 2019. This is an opportunity to showcase the biggest breakthroughs in Australian health care arising from clinical trials, and how the landscape of clinical trials, in terms of design, scale and conduct will need to change and adapt for the next 30 years.

30 YEAR ANNIVERSARY

All our achievements depend on the efforts of many people. We are fortunate to work with exceptional individuals in our collaborating investigator groups and other research organisations, both in Australia and internationally. Congratulations also to all our PhD and other students, who contribute enormously to our endeavours. We recognise and appreciate the efforts of all our CTC staff; their dedication to excellence and the quality of their work together with all our collaborating clinical research colleagues is reflected in the major achievements highlighted in this report.

Directors' **Achievements**

In 2017, John Simes and Tony Keech both received prestigious awards in recognition of their outstanding contributions to research. Prof Simes was awarded the University of Sydney Vice Chancellor's Award for Excellence in Research, while Prof Keech received the Royal Prince Alfred Hospital Foundation Medal for Research Excellence.

Throughout his career, Prof Simes has been a tireless advocate for the value of clinical trials, and in addition to serving as the Director of the CTC since its inception in 1988, he has contributed to the establishment and development of six Australasian collaborative cancer research groups and their peak organisation, the Australian Clinical Trials Alliance. He is also the founding director of the Sydney Catalyst Translational Research Centre, which brings together cross-disciplinary teams in a more integrated approach to cancer research, where he oversees a range of translational research initiatives, including implementation studies in lung cancer and molecular therapeutic studies in advanced cancer.

Prof Simes has played key roles in numerous trials across a range of therapeutic areas, most notably the LIPID study, which demonstrated survival benefits from long-term treatment with statins in patients with coronary heart disease and the FIELD trial, which showed that fenofibrate treatment reduced microvascular complications in patients with diabetes. He has also been involved in multiple trials in breast, gastro-intestinal, genitourinary and other cancers that have assessed chemotherapy, radiation therapy, surgery and novel targeted therapies, as well as several studies evaluating the optimal use of treatments in neonatal medicine. His work has influenced current practice and health policy, as well as ongoing research.

Prof Keech, who has served as the Deputy Director of the CTC since 1993, received the RPAH Research Excellence Award in recognition of his achievements in the areas of cardiovascular disease and diabetes.

Prof Simes and Prof Keech at the Vice Chancellor's Awards ceremony

He has led or co-led several very large cardiovascular trials, including the Heart Protection study in the UK and the LIPID study in Australia. The treatments used in these trials—statins—have changed clinical practice and led to significant improvements in the survival of people with coronary heart disease. Prof Keech's research on fenofibrate in type 2 diabetes (the FIELD trial) was the first to find robust evidence of the value of a fibrate drug to reduce retinopathy, amputations, nephropathy, renal filtration injury and total cardiovascular events in these patients, offering insights into the poorly understood mechanisms of microvascular diabetic complications.

Through his leadership of landmark clinical trials and systematic reviews, Prof Keech has played a pivotal role in translating research into policy and practice changes, guidelines, new drug indications and PBS subsidy support criteria. His research continues to influence the treatment of people with a myocardial infarct or those at risk of cardiovascular disease, those with diabetes, the health outcomes of premature babies, and clinician training in both clinical medicine and medical research. In combining trial evidence, he has made major contributions to prospective individual patient data meta-analysis and advancing trial methods which directly affect health practice.

ONCOLOGY EXECUTIVE

Collaboration and Partnership in **National and International Studies in Cancer**

Oncology trials

Our collaborative approach to designing and running trials with five of the 13 national cancer cooperative groups is what makes the CTC Oncology group unique. Together, we have successfully secured competitive funding from government and non-government sources to carry out investigator-initiated trials to improve outcomes for patients with cancer.

We have collaborated in over 180 projects and have recruited many thousands of patients in breast, oesophageal, gastric, colorectal, lung, gynaecological, neurological and urogenital cancers locally and globally.

The CTC is the coordinating centre for the:

- Australasian Gastro-Intestinal Trials Group (AGITG)
- Australia and New Zealand Gynaecological Oncology Group (ANZGOG)
- Australasian Lung Cancer Trials Group (ALTG)
- Cooperative Trials Group for Neuro-Oncology (COGNO)
- Australian and New Zealand Urogenital and Prostate Cancer Trials Group (ANZUP)

The CTC also supports the statistical activities of the Australia and New Zealand Breast Cancer Trials Group (ANZBCTG) and the Primary Care Collaborative Cancer Clinical Trials Group (PC4).

The CTC covers the full range of responsibilities involved in conducting clinical trials — from assisting in establishing new groups by creating a research governance structure and terms of reference, identifying important questions related to public health, through to large-scale trial operations in collaboration with national and international research groups.

These include concept and protocol development, randomisation, data collection, ethics and regulatory compliance, on-site monitoring and audit, and data analyses and manuscript preparation.

BREAST CANCER: THE AUSTRALIA AND NEW ZEALAND BREAST CANCER TRIALS GROUP

The Australian and New Zealand Breast Cancer Trials Group (ANZBCTG) conducts a number of multicentre national and international clinical trials that together involve over 700 researchers. These trials cover all aspects of breast cancer, including new treatments, prevention, quality of life and treatment cost-effectiveness. The CTC is the biostatistical centre for all trials coordinated by the ANZBCTG, and has a formal relationship with the group spanning almost 30 years.

GASTRO-INTESTINAL CANCER:
THE AUSTRALASIAN GASTRO-INTESTINAL TRIALS GROUP

The AGITG is a multidisciplinary collaborative group of medical and research professionals conducting clinical trials and related biological research to improve treatments for gastro-intestinal cancers: those of the oesophagus, stomach, liver, pancreas, gallbladder, colorectal and anus.

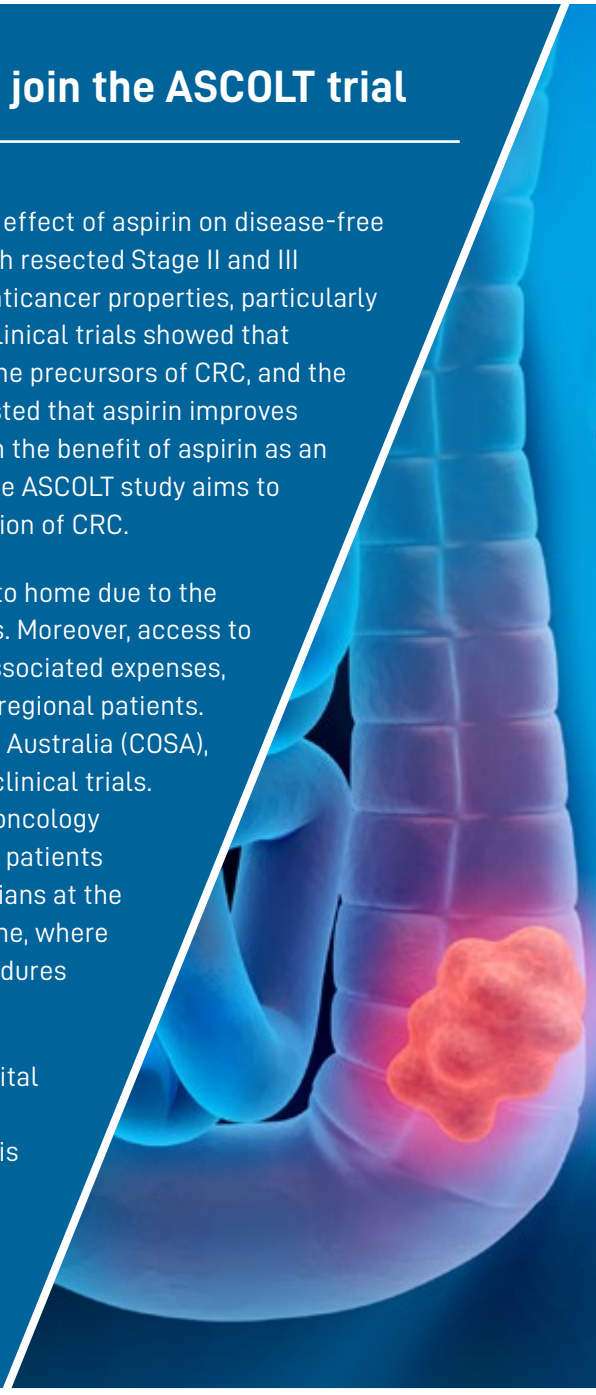
The AGITG has collaborated with the CTC since 1991, conducting 48 trials involving over 4,000 patients treated at 90 sites in Australia, eight sites in New Zealand and 47 sites located across Asia, Europe and North America. Our research has changed treatment practices for patients with gastro-intestinal tumours, improving their life expectancy and their quality of life.

Tele-trial model allows rural patients to join the ASCOLT trial

The ASCOLT trial is an international clinical trial investigating the effect of aspirin on disease-free survival and overall survival as adjuvant treatment in patients with resected Stage II and III colorectal cancer (CRC). Evidence is emerging that aspirin has anticancer properties, particularly in gastro-intestinal cancers. High-quality evidence from earlier clinical trials showed that long-term use of aspirin can reduce the development of polyps, the precursors of CRC, and the incidence of CRC. However, although several studies have suggested that aspirin improves survival in patients with a diagnosis of localised CRC, evidence on the benefit of aspirin as an adjuvant agent in patients with a history of CRC is still lacking. The ASCOLT study aims to provide definitive proof of the role of aspirin in secondary prevention of CRC.

Rural patients often have trouble accessing clinical trials closer to home due to the limited availability of clinical trial sites in rural and regional areas. Moreover, access to distant clinical trial sites involves long-distance travel and the associated expenses, which pose barriers to participation in clinical trials for rural and regional patients. The tele-trial model, proposed by the Clinical Oncology Society of Australia (COSA), can offer an opportunity to rural and regional patients to access clinical trials. This model allows the principal investigator from an established oncology clinical trial centre (primary site), to consent, recruit and manage patients from a rural and regional centre (remote site). Patients and clinicians at the remote site link to the primary site via videoconference in real time, where the principal investigator and trial staff ensure that all trial procedures are completed.

The ASCOLT trial is piloting the tele-trial model with Orange Hospital as the primary site and Dubbo Hospital as a remote site to enable participation of patients in rural and remote New South Wales. This model has proven highly successful in ASCOLT. Since activation in October 2017, three patients have been recruited at the Orange–Dubbo tele-trial site. The patients and clinical staff from both Orange and Dubbo have been extremely enthusiastic.

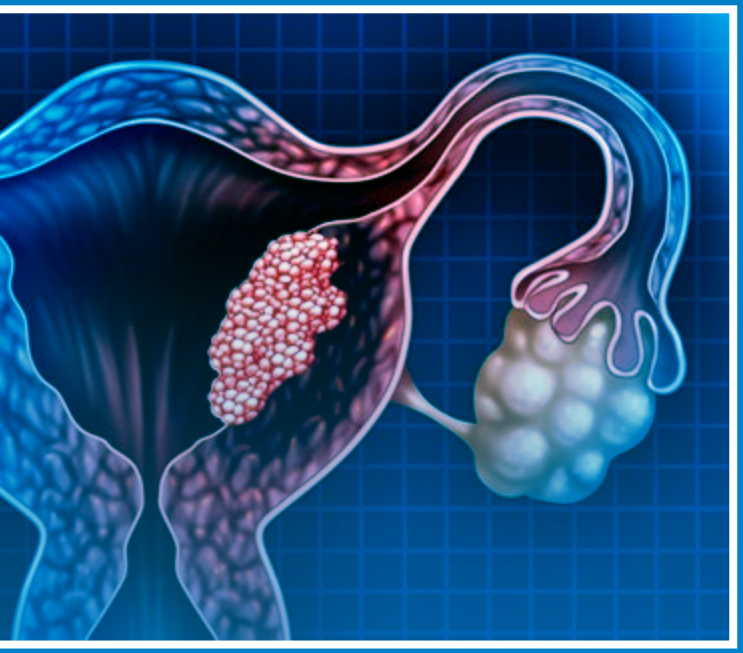


GYNAECOLOGICAL CANCER: THE AUSTRALIA AND NEW ZEALAND GYNAECOLOGICAL ONCOLOGY GROUP

ANZGOG is the peak national gynaecological cancer clinical trials organisation for Australia and New Zealand, and aims to improve outcomes and quality of life for women with gynaecological cancer by conducting and promoting cooperative clinical trials and undertaking multidisciplinary research into the causes, prevention and treatments of these cancers.

ANZGOG collaborates with 26 study groups in other countries through its membership of the International Gynaecological Cancer Intergroup (GCIG). Current ANZGOG-CTC collaborative trials are investigating chemotherapy, immunotherapy, hormone blockers and exercise for a range of gynaecological cancers.

The PHAEDRA study: Immune therapy for endometrial cancer



The management of recurrent endometrial tumours includes hormonal therapies for lower-grade and hormone receptor positive tumours, while platinum-based chemotherapy regimens are given as the first-line treatment for recurrent higher-grade subtypes. Second and subsequent line treatments include chemotherapeutic and other hormonal agents, all with limited response rates of approximately 15% or less.

There is a clear need to explore novel therapeutic options in this tumour type. Our recognition of the interplay between tumour cells and the immune system has evolved, and we now know that the evasion of normal immunological recognition and control is central in tumorigenesis and metastasis. PD-L1 is part of the B7/CD28 family and is a ligand for the death receptor programmed death receptor 1 (PD-1). The interaction between PD-1 and PD-L1 inhibits memory T cells in the periphery, protecting them from immune regulatory controls and destruction.

In endometrial cancers, cytoplasmic PD-L1 expression has been reported in up to 92% of tumours, particularly MMR (mismatch repair) deficient and Type II subsets, where the tumour mutation load is expected to be higher. Thus, there is a strong rationale for the exploratory use of immune checkpoint inhibitors for these tumour types, particularly when current therapeutic options remain dismal. PHAEDRA is utilising durvalumab (MEDI 4736) to assess its effect on women with advanced endometrial cancer (both MMR-proficient and deficient) and the subsequent tumour response to immune checkpoint inhibition.

LUNG CANCER: THE AUSTRALASIAN LUNG CANCER TRIALS GROUP

The ALTG is Australia and New Zealand's lung and thoracic cancer clinical research group, and works in collaboration with the CTC to run clinical trials aiming to reducing the incidence, morbidity and mortality of lung and other thoracic cancers and improve the quality of life of these patients, their carers and families.

The CTC and the ALTG are currently recruiting patients to trials of new therapies in lung cancer (BR.31, BR.34, and OSCILLATE) and mesothelioma (DREAM), as well as a trial of radiotherapy and antibody therapy for advanced lung cancer (NIVORAD) and early referral to palliative care in patients with a recent diagnosis of advanced thoracic cancer (PEARL).

DREAM

Australia has the second highest incidence and death rate for malignant pleural mesothelioma (MPM). Standard first-line chemotherapy for MPM consists of cisplatin and pemetrexed. The majority of patients that do not respond to first-line therapy develop disease progression once treatment is stopped, and there is no accepted or approved second-line treatment. This means that there is a strong unmet clinical need for improving first-line therapy in MPM, and the DREAM study, led by Professor Anna Nowak, aims to do this.

DREAM is a Phase II trial of the anti-programmed cell death ligand-1 (PD-L1) checkpoint inhibitor, durvalumab, combined with the standard first-line chemotherapy currently used in MPM. The study opened to recruitment in December 2016 and concluded enrolment in September 2017, eight months ahead of schedule, with participants enrolled from ten centres across Australia. Professor Nowak presented the early data from DREAM highlighting the benefits of combined therapy applications for patients with MPM at the American Society for Clinical Oncology (ASCO) Congress in Chicago in June 2018. A follow-up Phase III DREAM trial is being planned.

BRAIN CANCER: THE COOPERATIVE TRIALS GROUP FOR NEURO-ONCOLOGY

COGNO was established in 2007 to develop a coordinated, well-structured approach to the management of large-scale multicentre neuro-oncology trials. Its main aim is to conduct investigator-initiated and collaborative group trials addressing important clinical questions in patients with brain tumours.

The group is based at the CTC, and is currently collaborating with the CTC to recruit patients to three trials investigating novel therapeutic strategies for patients with glioma and glioblastoma, with three ongoing trials also in process.

Jenny Chow, executive officer for the Cooperative Trials Group for Neuro-Oncology (COGNO)

NUTMEG: A new glioblastoma trial using an immunotherapy treatment (nivolumab) in elderly patients

Glioblastoma (GBM, astrocytoma WHO Grade IV) is the most common brain tumour in adults, representing approximately 80% of all primary malignant brain tumours. The median age at diagnosis is > 64 years. Survival is worse in older patients, who represent the majority of GBM cases. Sadly, many do not live more than 10 months beyond the diagnosis.

COGNO has gained ethical approval to run a new clinical trial aimed at testing the effectiveness, safety and tolerability of an immunotherapy treatment (nivolumab) in combination with standard chemotherapy with temozolomide (TMZ) to see if this improves the overall survival of GBM patients aged 65 years or older. The NUTMEG (NivolUmab and TeMozolomide vs Temozolomide alone in newly diagnosed Elderly patients with Glioblastoma) trial aims to recruit 102 patients across approximately 18 sites in Australia, beginning in early 2018. Depending on the results, the study team may extend NUTMEG into a subsequent larger trial (Phase III). The importance of this trial is that it is focussing on the elderly population, who are usually excluded from participating in GBM clinical trials.

The NUTMEG trial has a comprehensive research plan, using advanced MRIs, tissue and DNA analysis to understand the function and key pathways of the immune system in GBM. The trial will also investigate patient subgroups based on biomarker analyses to determine who may derive greater benefit from immunotherapy treatments such as nivolumab.

Interim results: Feasibility and safety outcomes for the VERTU study

The MGMT gene encodes a protein required for the repair of damaged DNA, thereby preventing potentially carcinogenic mutations. Modifications, such as methylation, of the promoter region of this gene have been implicated in a range of different cancers, including GBM.

There are no effective treatments available for GBM patients with unmethylated MGMT promoter regions. The investigators in the VERTU trial aim to evaluate the combination of the PARP inhibitor veliparib with radiotherapy and adjuvant temozolomide to improve progression-free and overall survival outcomes of GBM patients with unmethylated MGMT.

The VERTU trial opened to accrual in October 2015 and reached the criteria for the interim feasibility and safety analysis at the end of 2017 when 60 patients (Arm A = 39, Arm B = 21) had completed radiotherapy (Stage 1). Acceptable feasibility and safety criteria for study continuation was defined as ≥70% of patients on the experimental arm completing ≥70% of the planned treatment with ≤30% of patients having any ≥ Grade (G) 3 Adverse Events (AEs).

The results of the interim analysis satisfied the predefined criteria and the study will continue until the accrual target (120 patients) is reached, which is anticipated in late 2018. Efficacy endpoints will be analysed and reported after the completion of accrual (Stage 2).

UROGENITAL CANCER: THE AUSTRALIAN AND NEW ZEALAND UROGENITAL AND PROSTATE CANCER TRIALS GROUP

ANZUP collaborates with the CTC in clinical trial research to improve the treatment of bladder, kidney, testicular and prostate cancers. ANZUP brings together a range of professional disciplines and groups involved in researching and treating prostate and other urogenital cancers, and is currently running eight trials in kidney (2), prostate (4) and bladder (2) and testicular (1) cancer in collaboration with the CTC.

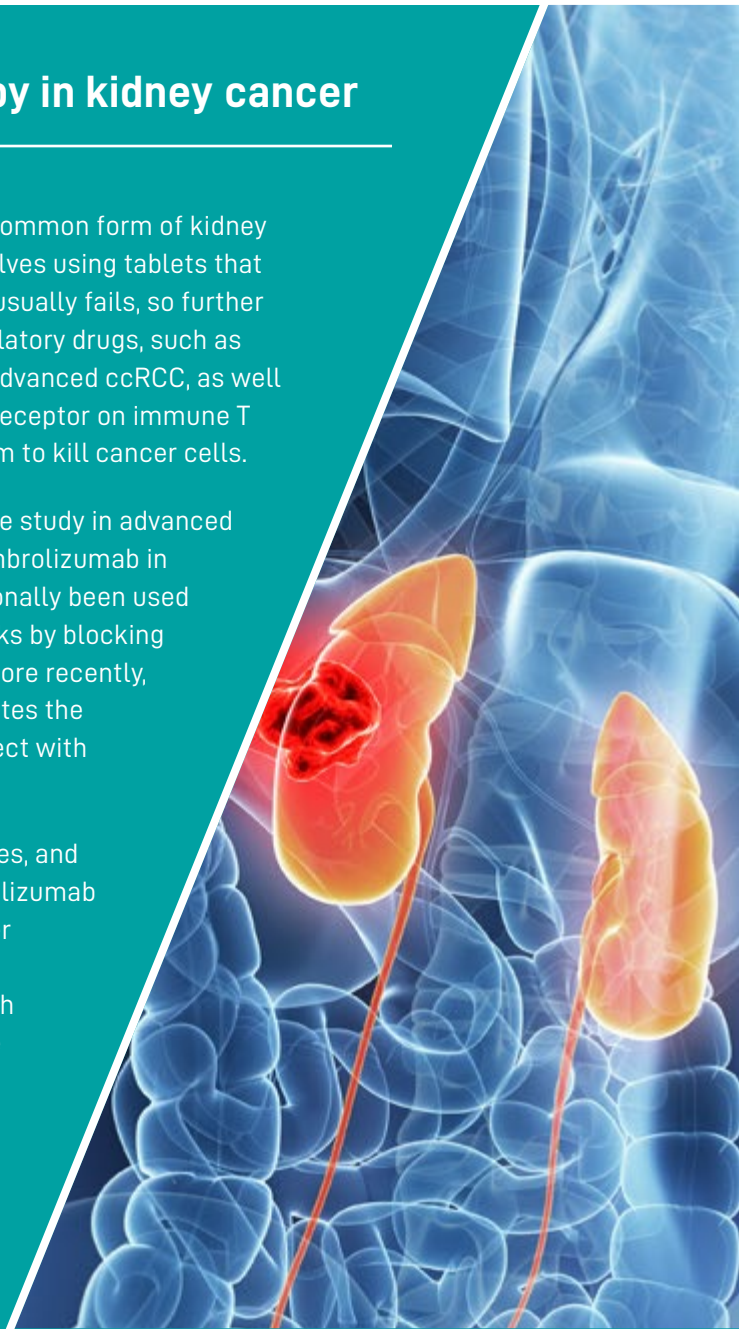
ANZUP also works closely with its consumer advisory panel to achieve better understanding of consumer and community perspectives on issues related to their clinical trials and to ensure that results are communicated back to patients and the community.

KEYPAD: A trial of immunotherapy in kidney cancer

Clear cell renal cell carcinoma (ccRCC) is the most common form of kidney cancer. Mainstay treatment for advanced ccRCC involves using tablets that block the blood supply to the cancer. This treatment usually fails, so further therapy options are required. Recently, immunomodulatory drugs, such as pembrolizumab, have been shown to be effective in advanced ccRCC, as well as in other cancers. They work by targeting the PD-1 receptor on immune T cells, which then mobilises a person's immune system to kill cancer cells.

The ANZUP-CTC Phase II KEYPAD trial is a second-line study in advanced ccRCC designed to test the activity and safety of pembrolizumab in combination with denosumab, a drug that has traditionally been used for bone support. Denosumab is an antibody that works by blocking a signalling molecule called RANK ligand (RANKL). More recently, studies have found that blocking RANKL also stimulates the immune system and potentially has a synergistic effect with other immunomodulatory drugs to fight cancer.

This trial will recruit 70 patients over 15 Australian sites, and all participants on the study will receive both pembrolizumab and denosumab. The study aims to determine whether giving both drugs together will improve tumour response and survival in advanced kidney cancer. Both pembrolizumab and denosumab have very favourable individual safety profiles, and the study will also assess their tolerability as a combination.



PRECISION MEDICINE IN CANCER: RIGHT PATIENT, RIGHT DRUGS, RIGHT TIME

Precision medicine — that is, treatment based on an individual's specific molecular biomarker landscape — is built on a spectrum of research that includes clinical trials and laboratory studies. Biological markers such as gene mutations and abnormal protein levels may predict the response of a patient with cancer to a particular treatment or forecast survival. These markers can be used as a tool to select the right treatment and allow it to be delivered at the right time for the individual patient.

Some trials may require patients to undergo molecular testing of their tissue or blood for a specific biomarker, or group of biomarkers called 'signatures', as part of their screening to enter a trial. Some examples highlighted here are EMBRACE, a breast and ovarian cancer trial; NUTMEG, a brain cancer trial (page 13); and MoST, a molecular screening programme linking patients with a range of tumour types to multiple trials of anticancer drugs (page 16).

The CTC and its collaborative groups extend their cancer trials in a translational research spectrum covering clinical trials, laboratory studies and meta-analyses of combined data. In most of the trials that the CTC designs and coordinates, patients have the choice to donate their biological samples for research that benefits other patients and helps the design of future trials. A range of samples are donated for biomarker studies; for example, prostate cancer tissue and bloods have been collected from over 1,000 patients on the international ENZAMET trial; excess fluid built up in the abdomen (ascites) was collected from patients with ovarian cancer on the REZOLVE trial. The AUTO-CHECK translational research study is gathering patient samples from six cancer trials of immunotherapy drugs with four cooperative trials groups to study side effects related to the patients' immune system (page 15).

Patient tissue and blood components such as white blood cells, circulating tumour DNA and circulating tumour cells, are being studied with scientific collaborators across Australia and internationally. Cutting-edge techniques known as '-omics' are used to study large numbers of genes (genomics), proteins (proteomics) and mRNA (transcriptomics) in these samples.

The CTC is a member of the virtual research consortium, Sydney Catalyst, the Translational Cancer Research Centre of Central Sydney and Regional NSW. Sydney Catalyst draws outstanding teams of clinicians and researchers together from over 20 leading NSW institutions. Together, they undertake translational research across the full continuum through basic biosciences, molecular biomarker discoveries, clinical trials, descriptive research, qualitative studies and implementation of best evidence-based care into practice.

In 2017, CTC researchers and their colleagues presented results and progress of various studies identifying prognostic markers or markers predicting individual responses to particular treatments, at major international meetings. These included trials of gastro-intestinal cancer (CO.17 and CO.20), pancreas cancer (IMPACT) and brain cancer (VERTU).

Burcu Vachan & Kate Wilson • ONCOLOGY

The AUTO-CHECK study: A translational research study across six cancer trials and four cooperative trials groups

AUTO-CHECK is a translational research study of patients receiving immunotherapy. A group of these patients develop side effects after they receive this class of anticancer drug. The study explores whether there are biological flags that predict which patients develop particular side effects related to the immune system.

This is the first study of cancer patients run at the CTC of this breadth. Patients are drawn from six cancer clinical trials with four cooperative trials groups: ALTG, ANZGOG, ANZUP and COGNO. These trials span five tumour types: mesothelioma (DREAM); non-small cell lung (NIVORAD, ILLUMINATE), endometrial (PHAEDRA), renal cell (KEYPAD) and glioblastoma multiforme (NUTMEG), with all patients receiving immune checkpoint inhibitor drugs.

Patients donate several blood samples for research during their treatment. A proportion is sent to a central lab at the Australian National University within 24 hours to isolate white blood cells. These samples will undergo analysis for changes in the different groups of white blood cells (T cells and B cells). Other components of the blood and tumour tissue from the patients will also be studied using research platforms such as genomics (analysing a large number of genes). One aim is to see if those patients who develop immune-related side effects share any particular gene variants or unusual characteristics in their white blood cells.

AUTO-CHECK was developed through the Genomics Cancer Clinical Trials Initiative (GCCTI) and is funded by Cancer Australia. This translational research study brings together clinicians and researchers from a broad range of disciplines with the hope of identifying those patients best suited to receive immune checkpoint inhibitor drugs to treat their cancer.

MOST: A MOLECULAR SCREENING AND THERAPEUTICS PROGRAMME USING GENETIC INFORMATION FROM TUMOURS TO FIND TREATMENT OPTIONS FOR PATIENTS, ESPECIALLY THOSE WITH RARE OR NEGLECTED CANCER.

Cancer is fundamentally driven by genetic changes, and understanding the genetic basis for cancer development and progression has been critical to the advances in treatment options, and particularly in personalised medicine.

The greatest impact of personalised medicine will likely be in patients with rare cancers, who account for 30% of all cancer deaths and are under-represented in traditional trials. Currently, less than one in ten people with cancer access clinical trials, especially those with rare cancers. The challenge is to develop an effective infrastructure to facilitate these patients' participation in precision medicine trials.

The MoST programme uses a novel master protocol that is agnostic to cancer cell type to link a molecular screening platform with multiple clinical trials. Together with our partners in the Garvan Institute of Medical Research and participating treatment sites, we are screening 1,000 patients for a series of up to 12 parallel signal-seeking trials

Needless to say, the demand for this programme has been high. Since mid-2016, over 500 patients with almost 30 types of cancer, mostly rare cancers, have been genetically screened. Of these patients, over 200 patients qualified for treatment on a MoST clinical trial or for other treatment options around the country. The MoST programme has completed recruitment to nearly five out of the eight substudies that are open within 12 months. We are developing a further four trials based on the types of molecular signals that we are finding in the screened population.

We are continuing to work with key government and industry stakeholders to expand the programme and offer more patients with limited treatment options a viable alternative based on their molecular information.

Preventing
Cardiovascular Disease


Li Ping • CARDIOLOGY

Cardiovascular disease is still the leading cause of early death in Australia, while in the developing countries the prevalence of cardiovascular risk factors has increased greatly, led by demographic and economic changes. In Australia, and indeed elsewhere, better treatments mean that more people are living longer with heart disease. The burden of chronic heart disease is a national health priority here in Australia, and a target of CTC research into prevention and treatment.

Cardiovascular risk is known to be related to LDL cholesterol levels. Over the past decade, the International Cholesterol Treatment Trialists' collaboration, coordinated by the CTC and the Clinical Trial Service Unit at Oxford, has published the results of several major studies on cholesterol lowering with statin therapy and the subsequent reduction in heart attacks, strokes and other cardiovascular events. Moreover, long-term follow-up data from the CTC's original LIPID trial of statin treatment shows that these treatment benefits persist over at least 16 years, and are not associated with any increased risk of cancer, or increased rate of death from other causes.

Another important question now in cardiology is whether even lower LDL cholesterol levels (less than 1.0 mmol/L), which can be achieved only with treatment with newer drugs, the PCSK9 inhibitors, can further reduce cardiovascular risk. This is currently being tested in several international mega-trials, including the Further Cardiovascular Outcomes Research in Patients with Elevated Risk (FOURIER) study. The CTC has been an important contributor to the FOURIER study, which looked at the effect of treatment with evolocumab, a PCSK9 inhibitor, in patients with existing cardiovascular disease who were already taking moderate-to-high doses of a statin to control their LDL-C levels. This group of patients is already at high risk of further major cardiac events, such as heart attack, stroke, or even death. FOURIER showed that treatment with evolocumab was able to further reduce the blood LDL-C levels of these high-risk patients by an average of 59%, to levels well within the recommended threshold for good cardiovascular health. This was accompanied by a 15% reduction in the risk of a major cardiac event, a significant improvement in outcomes for these high-risk patients, showing the value of further lowering cholesterol treatment targets.[147]

Substudies conducted within FOURIER showed that treatment with evolocumab was equally effective in cardiac patients with diabetes as those without diabetes, and that this medication did not affect blood glucose levels or increase the rate of new onset diabetes in cardiac patients, and thus it is effective and safe for use in patients with and without co-existing diabetes.[148] When the participants were stratified into groups according to the blood levels of LDL-C they achieved after four weeks of study treatment (independently of whether this was placebo or evolocumab), a clear relationship was obvious between low LDL-C levels and a lower risk of major cardiovascular events, extending down to very low levels of less than 0.2 mmol/L, and no safety concerns were found with these low levels, providing further evidence in support of the value of further lowering cholesterol treatment targets.[63] This important study has already led to changes in clinical management and treatment practices for these high-risk cardiovascular patients, and while the cost of this treatment is currently a limiting factor, if these therapies are able to be implemented as routine practice, will dramatically change outcomes in cardiovascular disease.

Diabetes and its **Complications**

INTERNATIONAL MULTIFACETED RESEARCH IN DIABETES

Diabetes mellitus, which is associated with elevated glucose levels, and with widespread disturbances in carbohydrate, fat and protein metabolism, is a major health problem in Australia and the rest of the world. Diabetes causes a death somewhere in the world every six seconds, and a leg amputation every 20 seconds. It is the commonest cause of working-age adult-onset blindness in the Western world, a common cause of kidney failure, and at least doubles the risk of heart disease.

Diabetes, including the common Type 1 and Type 2 forms, is an important area of clinical practice and also of the CTC's research: in the laboratory, with people with diabetes, in advocacy and in training the next generation of medical researchers.

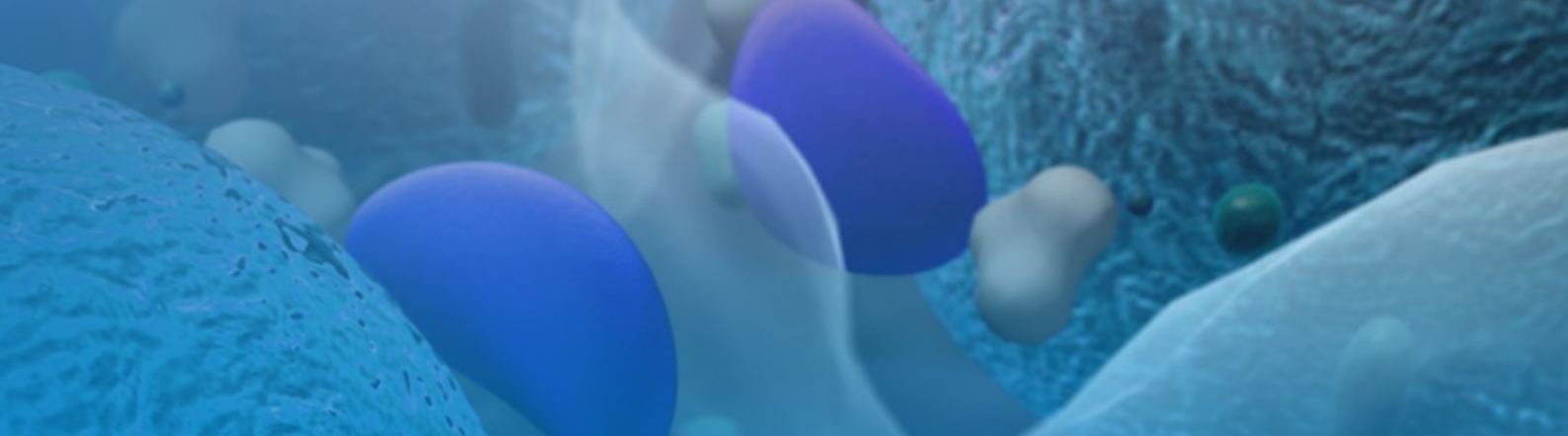
The CTC's diabetes group, with its national and international collaborators and trainees approaches this devastating disorder from multiple directions: preventing the onset and progression of diabetes complications;[129] the early prediction of diabetes complications;[12, 91, 92, 125, 177, 178] trials of advanced insulin pumps;[82] advocacy for diabetes care in disadvantaged regions;[46, 139] and understanding how to replace failed insulin production.[170]

Clinical study highlights in Type 1 diabetes in 2017 include reporting results of the REMOVAL trial of adding metformin to insulin to protect adults with Type 1 diabetes against atherosclerosis,[129] ongoing recruitment for the FAME-1 Eye Study, which is evaluating whether fenofibrate tablets protect against progression of eye disease, and clinical trials of advanced insulin pumps and glucose sensors.[177] In Type 2 diabetes a Centre for Research Excellence in Diabetic Retinopathy grant allowed progress in studies related to improving eye care in Indigenous Australians and an NHMRC and National Science Foundation China grant explored new molecular and biochemical markers that may predict diabetes complications.[125]

Cutting-edge laboratory research advancing the understanding of the molecular regulation of insulin gene expression is being led by the Islet Biology and Diabetes group. Laboratory research has helped advance understanding of the cellular processes of insulin production, identifying molecular biomarkers of diabetes progression and understanding the role of gut microbes in obesity and Type 2 diabetes.

These projects involve national and international teams of clinicians, scientists and trainees from short-term summer students to postdoctoral and senior fellows, and are funded by various non-profit agencies, including the NHMRC and the Juvenile Diabetes Research Foundation (International and Australia).

Alicia Jenkins • DIABETES



Benefits of metformin, a Type 2 diabetes glucose control tablet, added to insulin in adults with Type 1 diabetes: The REversing with MetfOrmin Vascular Adverse Lesions (REMOVAL) Trial

The low-cost glucose control tablet metformin has been used for over 60 years for glucose control in Type 2 diabetes, in which it also reduces cardiovascular disease events and mortality. Metformin's vascular benefits may relate to its favourable effects on glucose levels, blood fats (lipoproteins), inflammation, blood clotting and oxidative stress. Interest in metformin as an insulin adjunct in Type 1 diabetes has arisen because of the benefits and challenges of optimising glycaemia and the increased rates of being overweight or obese, which is associated with increased vascular complications. Metformin is commonly used off-label in overweight or obese people with Type 1 diabetes, though this is based on relatively small short-duration studies, none of which included chronic complication endpoints.

The REMOVAL trial is the largest and longest trial of metformin in Type 1 diabetes and the first to evaluate a vascular end-point: carotid artery intima medial thickness (cIMT), and included substudies of blood vessel reactivity and of heart structure and function. In this multicentre international trial, 428 adults aged 40 years or more with at least five years of Type 1 diabetes and three or more cardiovascular disease risk factors were randomised to placebo or metformin (1g twice daily, or lower if not tolerated) added to their insulin treatment for three years.

REMOVAL participants had a mean age of 55 years, with 33 years of Type 1 diabetes; 71% were overweight or obese, blood pressure of 130/72 mmHg, LDL-C 2.1 mmol/l; 82% were on statins, 73% on blood pressure drugs, and 39% were on platelet inhibitors. Relative to placebo, metformin use was associated with a transient 0.24% (2.6 mmol/mol) HbA1c reduction, with small but significant reductions in LDL-C levels (0.13 mmol/l), weight loss (1.17 kg), and a 2 U/day reduction in insulin dose.

Metformin use (mean daily dose 1.4 g) reduced the rate of thickening of the cIMT; which did not reach statistical significance for mean far wall cIMT, but was statistically significant for mean maximum far wall cIMT, which includes atherosclerotic plaque (-0.01mm, p=0.0093). Metformin use was also associated with significantly less renal function decline. Vascular reactivity and retinopathy progression did not differ between treatment arms. Metformin use was not associated with increased rates of severe hypoglycaemia or diabetic ketoacidosis, nor were there any cases of lactic acidosis. As anticipated, metformin use was associated with higher rates of gut upset and low Vitamin B12 levels, but overall safety and tolerability were good. Further analyses, including subgroup analyses and the results of the cardiac structure and function substudies and biomarkers are in progress. The REMOVAL results are the most robust available to help clinicians and their adult Type 1 diabetes patients decide whether to use metformin in addition to insulin.

The REMOVAL study results were presented at special two-hour symposiums at the 2017 American Diabetes Association and European Association for the Study of Diabetes conferences, and have been published in Lancet Diabetes and Endocrinology,[129] and have been the topic of several editorials and review articles.

BIOMARKER TEAM

Biomarker **Lab**

The biomarker team uses clinical, biochemical and molecular assays to assess diabetes and blood vessel health and is skilled in their use in studies ranging from small local studies to major international clinical trials. Short and long-term students, national and international collaborators access this resource.

This year paediatric endocrinologist Dr Yoon Hi Cho completed her PhD related to diabetes in youth, Mr Daniel Calandro completed his MPhil related to two growth factors in Type 2 diabetes in the FIELD trial (and also graduated from medical school) and adult endocrinologist Dr Emma Scott commenced her PhD studies related to markers of vascular health and glucose variability in Type 1 and Type 2 diabetes.

The team completed their work on the main REMOVAL trial[129] showing some benefit of adding metformin a Type 2 diabetes drug to insulin in high cardiovascular disease risk adults with Type 1 diabetes, and are continuing leading a related Australian sub-study on heart function. They also commenced biobanking-related support of ongoing multicentre advanced insulin pump trials and of the FAME-1 Eye trial (also establishing and running the central eye grading facility). A major three-year NHMRC grant related to novel (proteomics and mRNA analyses) risk factors from the FIELD study biobank was awarded.

Accepted (in 2017) papers based on assays from the CTC-based laboratory included a study showing higher than previously recommended egg intake did not adversely affect heart health risk factors in adults with Type 2 diabetes* and that blood levels of a growth factor FGF21 predicted future need for glucose control tablets or insulin injections in adults with Type 2 diabetes in the FIELD trial.** Major improvements were also made in measuring telomere length (which controls how long cells can live for) in human blood samples, which is to be used in major international studies.

*Fuller NR, Sainsbury A, Caterson ID, Denyer G, Fong M, Gerofi J, Leung C, Lau NS, Williams KH, Januszewski AS, Jenkins AJ, Markovic TP. Effect of a high-egg diet on cardiometabolic risk factors in people with type 2 diabetes: the Diabetes and Egg (DIABEGG) Study-randomized weight-loss and follow-up phase. *Am J Clin Nutr*. 2018;107(6):921–931.

**Ong KL, O'Connell R, Januszewski AS, Jenkins AJ, Xu A, Sullivan DR, Barter PJ, Scott RS, Taskinen MR, Waldman B, Colman PG, Best JD, Simes JR, Rye KA, Keech AC; FIELD study investigators. Baseline Circulating FGF21 Concentrations and Increase after Fenofibrate Treatment Predict More Rapid Glycemic Progression in Type 2 Diabetes: Results from the FIELD Study. *Clin Chem*. 2017;63(7):1261–1270.

Islet Cell **Biology**

This was an exciting year for the Diabetes and Islet Biology Group. Associate Professor Anand Hardikar was offered a Visiting Professorship from the Danish Diabetes Academy (DDA; https://www.danishdiabetesacademy.dk) for two years (2017–2018), enabling him to strengthen his existing research and collaborative networks in the EU.

Another major achievement for the group was a Helmsley Trust award of the DREAM Nano Study grant to CIA Hardikar. This project progresses A/Prof. Hardikar's idea of converting the current lab-based microRNA prediction technology to a nanotechnology (lab-on-chip) platform that enables rapid (~5 minutes) and cost-effective (< $1/test) detection of microRNAs from the circulation. If successful, this will facilitate population screening to stratify individuals at risk of future diabetes, aid in the development of new therapies that slow the death of insulin-producing cells and provide an assay to monitor the death of transplanted insulin-producing cells. This funding is managed through the JDRF Australia T1D Clinical Research Network, which also funds A/Prof. Hardikar for his JDRF Australia Career Development Award.

This year, Dr Mugdha Joglekar continues her JDRF International Advanced Post-doctoral Fellowship related to the fundamental biological mechanisms of insulin loss and detection in Type 1 diabetes using human cells and animal models. Dr Joglekar was also awarded an Australia-India Early/Mid-Career Fellowship grant to support her travel to India for assessment of patient samples to measure circulating markers of death of insulin-producing cells. In addition, she is the chief investigator on a new Diabetes Australia Research grant to study mechanisms of immune regulation by specialised cells derived from human islets in the pancreas.

Finally, 2017 marked the completion/award of two of A/Prof Hardikar's PhD students (Dr. Ryan Farr and Dr. Wilson Wong), and an Honour's student (Ms. Ella Glover). Further progress was made on clinical research projects funded by the NHMRC, JDRF Australia, Qatar National Research Fund and Diabetes Australia.

In the picture (L to R): Anand Hardikar with collaborators; Lena Eliasson, Claudiane Guay, Louise Dalgaard and Jens H. Nielsen after a DDA talk delivered at the Panum Institute, Copenhagen, Denmark.

A Better Future for **Newborns**

The CTC's neonatal and perinatal trials are at the forefront in addressing the causes of mortality and morbidity in these babies and developing interventions to promote healthy survival. The CTC's neonatal research program focuses on areas of need, such as neonatal infection, oxygen therapy and simple cost-effective measures to reduce health problems and improve outcomes for these high-risk babies.

Clinical trials in extremely premature babies are challenging, in that they must often be very large to detect moderate benefits, and thousands of children may be needed to show a definite result. Some disorders are rare, so accrual can be slow. The effects of preterm birth may not unfold for some years, so long-term follow-up is needed to capture effects on physical, mental and social development.

The CTC neonatology group and the WINNER Centre for Newborn and Perinatal Research advocate for systemic and methodological improvements in the way clinical trials are conducted to keep them manageable and affordable. These strategies include embedding clinical trials in routine care, closer partnerships between clinicians and parents, use of high-quality point-of-care data and the exploration of opt-out consent in low-risk comparative effectiveness research.

The group has built a range of international partnerships with clinicians and researchers working to improve the lifelong consequences of neonatal and perinatal disorders. Parents and family members with experience of having a premature infant are important members of these partnerships, contributing their experience and views in the choice of research questions and the design and interpretation of neonatal trials.

Dr Tarnow-Mordi, the CTC's director of neonatal and perinatal trials, is a strong advocate for the ALPHA Collaboration, which aims to prioritise research questions in perinatal care and promote large-scale, highly efficient perinatal trials of health outcomes via the assessment of 5,000 to 50,000 or more participants through international cooperation and collaboration.

Alpana Ghadge & William Tarnow-Mordi • NEONATOLOGY

New ways of treating iron deficiency anaemia in pregnant women: the LEAP-1 study

Iron deficiency anaemia is the world's commonest nutritional deficiency, and affects over 2 billion people world-wide, with women and children at greatest risk, particularly in the developing countries. Iron deficiency anaemia is very common in pregnancy, and is associated with poorer outcomes, including low birth weight, pre-term birth, and small-for-gestational age babies. The usual treatment for iron deficiency anaemia is supplementation with oral iron sulphate either in liquid or tablet form, but some women do not tolerate iron supplementation in this way well, while others do not absorb iron in this form efficiently. Other forms of iron supplementation may more both more tolerable and more effective for these women. The Lactoferrin Evaluation in Anaemia in Pregnancy (LEAP-1) study will evaluate the effects of oral bovine lactoferrin, an iron-binding protein found in milk, versus iron sulphate in iron deficiency anaemia in pregnancy. The study aims to see if bovine lactoferrin administration during pregnancy improves the iron status of pregnant women with iron deficiency anaemia, and foetal growth and neonatal iron status at birth.

New forms of treatment for iron deficiency are very important, particularly in the developing countries, where iron deficiency anaemia is extremely common and oral iron supplementation may not be available or affordable, but lactoferrin in the form of milk is already readily available. Moreover, preparing lactoferrin from milk involves a simple, cheap process, and may make iron supplementation much more widely available to those who need it most.

Integrating Trial Evidence for **Policy and Practice**

The Systematic Reviews and Health Technology Assessment group at the CTC undertakes work to integrate trial and other evidence to enable effective decision-making in health policy and clinical practice.

The group's projects include systematic reviews for the International Cochrane Collaboration, mainly in breast cancer, and reviews of new technology where effectiveness or suitability for funding needs to be established.[203, 206] The group also has expertise in individual participant data meta-analyses, answering important clinical questions across a range of areas; for example, maternal and child health.[6, 36] The CTC also hosts the Cochrane Prospective Meta-analysis Methods group.

The CTC's Medical Test Research group evaluates new tests and technology to gather evidence regarding their value in clinical decision-making. In 2017, the group collaborated in a meta-analysis on the value of high-sensitivity cardiac troponin T to rapidly rule out acute myocardial infarction.[134]

SYSTEMATIC REVIEWS, HEALTH TECHNOLOGY ASSESSMENT AND ECONOMICS EVALUATIONS TO ASSIST GOVERNMENT DECISION-MAKING AND POLICY

The CTC undertakes systematic reviews, health technology assessment and economics evaluations under contracts with the Commonwealth Department of Health and the NHMRC. The group develops systematic review protocols, critiques submitted evidence and conducts independent health technology assessment evaluations to assist the Medical Services Advisory Committee (MSAC) make decisions on new listings for the Medical Benefits Schedule. In 2017, this work spanned health areas that included oncology, gastroenterology and dermatology.[201, 203-206] The group also reviews evidence and provides methodological expertise to the NHMRC, which develops health guidelines for Australia. This work often addresses broad public health questions (see HTA highlight).

Lisa Askie & John Simes

Alcohol consumption evidence evaluation

During 2017, the CTC undertook an evaluation of evidence on the health effects of alcohol consumption for the NHMRC.

The Australian Burden of Disease Study found that alcohol use was the third leading risk factor contributing to the burden of disease and injury in Australia, responsible for 5% of the total burden. In March 2009, the NHMRC released the Australian Guidelines to Reduce Health Risks from Drinking Alcohol. At its 203rd session in March 2015, the Council of the NHMRC recommended to NHMRC's Chief Executive Officer that the 2009 Alcohol Guidelines be updated.

The purpose of the evaluation was to update the evidence on the health effects of alcohol consumption to assist the NHMRC in providing evidence-based guidance on the health benefits and harms of alcohol consumption. The CTC team worked with a reference group comprising experts in the field to undertake an 'overview of systematic reviews', with more than 50 predefined outcomes of interest.

Although the methodology of 'overviews' is based on that of systematic reviews, they present several unique challenges, including overlapping systematic reviews; variations in systematic review scope and purpose; quality of included research; updating; and synthesising and reporting the results. The use of overviews in the development of public health guidelines presents additional challenges, as randomised trials are rarely available. In undertaking the overview, the CTC team addressed some of these methodological challenges by using a combination of novel approaches and previously proposed strategies. The overview reported and assessed the evidence about the health effects of varying levels and/or patterns of alcohol consumption and identified gaps in the evidence, where no systematic reviews were found for an outcome.

ECONOMIC EVALUATION FOR BETTER DECISION-MAKING

As a discipline, health economics is concerned with issues related to the efficiency, effectiveness, value, financing and behaviours affecting health and healthcare systems. For example, new treatments must be shown to be effective against the condition they are designed to treat, acceptable to patients and healthcare professionals, feasible to deliver within the available healthcare structure, and provide value for money before they can be put into practice.

To do this, economic evaluation can be incorporated in clinical trials to simultaneously address the issues of effectiveness, acceptability, feasibility and cost-effectiveness. This is especially important when assessing the value of an intervention within a particular healthcare context. Economic evaluation also includes preference studies, which answer questions about patient, clinician or community preferences. These studies can inform the design of new interventions, prevention strategies or diagnostic tests and advise on incentives or reimbursement when designing health policy.

The CTC's health economics group leads methodological and applied research in the area of health equity, with a focus on the financial impact of cancer, particularly melanoma[11, 41, 118, 157, 187–189] and chronic kidney disease[24, 111, 154, 168, 174, 175, 182–184, 190] on individuals and households. In addition, the group is currently investigating the ways in which value of information analysis can inform trial design and health policy decision-making.

Evaluating evidence from melanoma research

Australia has the highest incidence of melanoma in the world. Based on the most recent data available, the AIHW estimates that over 14,300 new cases will be diagnosed in 2018; representing just over 10% of all new cancer diagnoses, and thus a significant cost to our healthcare system. The CTC Health Economics team, led by A/Prof Rachael Morton, has worked with the School of Public Health and the Melanoma Institute Australia to assess the impact of a specialised surveillance programme for people at high risk of melanoma, which aims to detect melanoma while it is still in an early, curable stage, on the national health budget. However, monitoring skin lesions can lead to overtreatment, is time-consuming for patients and clinics, and requires highly trained staff, so whether this approach offers value for money is an important question.

The CTC Health Economics team estimated the five-year healthcare budget impact of providing specialised surveillance for people at very high risk of a second or subsequent melanoma, compared to the cost of current routine care.[187] Data from the team's previously published cost-effectiveness analysis and the national Cancer Registry were used to estimate that 18% of all patients diagnosed with melanoma in Australia each year would be eligible for specialised surveillance rather than routine care. If all eligible patients received specialised care, the cumulative cost to our healthcare system over five years would be $93.5 million, while the cost of routine care would be $120.7 million over the same period, saving a total of $27.2 million. Specialised melanoma surveillance is therefore likely to provide substantial savings to our healthcare system.

People with melanoma often live with an intense fear that their disease may spread and become untreatable, and survivors live with the ongoing threat of disease recurrence, even after early

treatment. For this reason, current clinical guidelines recommend that psychological support is offered to all melanoma patients; however, many still report that their need for information and support are not being met. To address this issue, the CTC has collaborated with the Sydney School of Public Health and School of Psychology at the University of Sydney to develop and evaluate 'Melanoma Care', a new psychoeducational intervention specifically tailored for those at high risk of developing another melanoma. The intervention comprises a psychoeducational booklet covering the medical and psychosocial aspects of living with melanoma, with an emphasis on the emotional and social aspects, plus a Cancer Council booklet on melanoma, covering primarily the medical aspects, and 3–5 telephone support sessions with a trained psychologist.

The Melanoma Care intervention was tested in a pilot RCT designed to assess its acceptability and feasibility in a group of 24 adults at high risk of developing a subsequent primary melanoma.[41] Participants were randomised to receive either the Melanoma Care intervention or usual care, which consisted of their scheduled visits to the high-risk melanoma clinic. Participants in the intervention group were sent a study pack containing the Melanoma Care booklet, the Cancer Council booklet and the offer of 3–5 telephone support sessions two weeks before their usual 6-monthly high-risk clinic appointment, at which a complete dermatological examination was undertaken. For people who received three psychological sessions, these occurred one week before, one week after and three weeks after this clinic appointment. People who received five sessions participated in two additional sessions; the fourth occurred one week before their subsequent high-risk clinic appointment and the fifth occurred the following week. Participants in the control group received the Cancer Council booklet two weeks before their usual 6-monthly clinic visit.

The acceptability, feasibility, fear of cancer recurrence and other secondary psychosocial outcomes were assessed at baseline, one and six months after the intervention. Participants reported high levels of satisfaction with the intervention, and felt that they had benefited significantly from it, with the telephone-based psychological support sessions particularly appreciated. The quality of the information and support provided in the intervention was also highly rated. This study suggests that the Melanoma Care intervention is feasible in a clinical setting and acceptable to both patients and health professionals, and a larger RCT is currently being carried out to evaluate the efficacy and cost-effectiveness of this intervention.

Health Economics Team

COCHRANE BREAST CANCER GROUP

Commitment to trusted evidence for informed decisions on breast cancer

For trusted and reliable evidence on questions of health care, the leading information source is the international Cochrane Library. The NHMRC supports a national licence for the Cochrane Library so that all Australians can access unbiased, high-quality, evidence-based health care information at no cost to themselves.

The CTC hosts the Cochrane Breast Cancer Group, which tackles a broad array of topics in breast cancer including prevention, treatment and survivorship care. The group coordinates and leads the review and publication of evidence from breast cancer research undertaken by its 800 active contributors. The sustainability of the group depends on the diversity of its contributors (e.g., clinical fellows, people with lived experience), a balance between novice and experienced editors, and the enthusiasm of new learners and mentors.

In 2017, the group published a Cochrane Review examining the latest evidence on bisphosphonates in breast cancer.[121] Bisphosphonates, commonly used to treat osteoporosis, may help treat cancer by reducing cancer growth in the bone. New trials assessing these medicines have been under recent scrutiny by international cancer agencies and healthcare systems. The Cochrane Breast Cancer Group prioritised an update on this topic and the findings from the Cochrane Review became part of the National Institute for Health Research (NIHR) UK Signals program that helps clinicians cut through the noise of trial evidence.

There were several important findings from this Cochrane Review for women with early breast cancer. Bisphosphonates lowered the risk of cancer spreading to the bone. These medicines also increased survival, but the benefit in the whole group was small. Postmenopausal women had a benefit from bisphosphonates, with improved survival and reduced risk of cancer coming back, while premenopausal women did not. The review showed the renewed importance of bisphosphonates for women with early breast cancer and added to the evidence base to support a change in clinical practice.

AUSTRALIAN AND NEW ZEALAND CLINICAL TRIALS REGISTRY

Increasing transparency and reducing research waste

The Australian New Zealand Clinical Trials Registry (ANZCTR) continues to be an invaluable piece of national research infrastructure, facilitating the prospective registration of national and international clinical studies.

The Registry aims to improve the efficiency of Australian clinical trials by ensuring researchers, clinicians and the public can easily access information about ongoing trials that are open to recruitment, with the aim of increasing participation in clinical trials. Information collected by the national Registry allows policy-makers and others to identify potential gaps between current trial research activity and health priorities.

The registration of all clinical trials before they begin is an important step in improving the transparency of healthcare research. It enables everyone to know what research is being done and whether any results may be missing from the published scientific records. By having access to the results of all trials that are conducted, we can reduce research waste.

In 2017, the ANZCTR registered over 1,400 Australian and New Zealand studies and around 250 internationally run studies; 138 each month on average. Registry staff also published a landmark report entitled *The Clinical Trials Landscape in Australia 2006–2015*.[202]

This report represents one of the most comprehensive assessments of clinical trial activity in Australia ever undertaken. It also highlights the importance of the national clinical trials registry in ensuring Australia's leading role in promoting research transparency, both here and internationally.

The ANZCTR team has also continued to actively engage with the research community to promote the value of trial registration. In 2017, the team presented three posters at the Global Evidence Summit in Cape Town, South Africa, and gave two oral presentations at the Australasian Cochrane Symposium in Melbourne. The presentations focused on improving the usability and efficiency of trial registration and updating processes, comparing potential for bias between prospectively and retrospectively registered trials, and evaluating the influence of funding source on study characteristics. The team also co-authored a journal publication outlining the standards for registration of diagnostic accuracy studies.[95]

A number of enhancements were also made to the ANZCTR website in 2017; for example, the addition of a postcode search functionality to help consumers and health professionals more easily locate clinical trials within their area, and the introduction of logic rules/automated checks to make it simpler for users to register their trials accurately and keep their records up-to-date.

Between 2005 and 2017

14,805

trials were registered on the ANZCTR, over

10,000

of which involved participants from Australia.

The ANZCTR continued its partnership with both Australian Clinical Trials (www.australianclinicaltrials.gov.au) and Australian Cancer Trials (www.australiancancertrials.gov.au) by providing direct 'live' feeds of trials to populate these government websites. The Registry also engaged with ANZGOG, ClinTrialRefer and Sonic Health Care to provide new data feeds for these systems.

Biostatisticians:
The methodological underpinning of ideas

When study concepts are proposed by potential investigators, before proceeding to a more formal development of these ideas key methodological principles need to be discussed to ensure the scientific integrity of the proposed study. This includes issues of the study design, outcome choice and their frequency of measurement, aspects of the sample size together with potential non-adherence to treatment, as well as methods of statistical analyses. Addressing these issues will help ensure that the study will provide solid evidence on the activity of the intervention(s) to encourage further development, or their implementation in clinical practice.

The CTC biostatisticians provide the underpinning to allow such studies to proceed, whether funded by research grants (where the methodological science is rigorously evaluated in the peer review process) or external funders, who also evaluate the prospect of obtaining sufficient clinical activity for applicability to a wider patient population. CTC's success in obtaining funding for such projects reflects the quality of the methodological contribution to these study concepts.

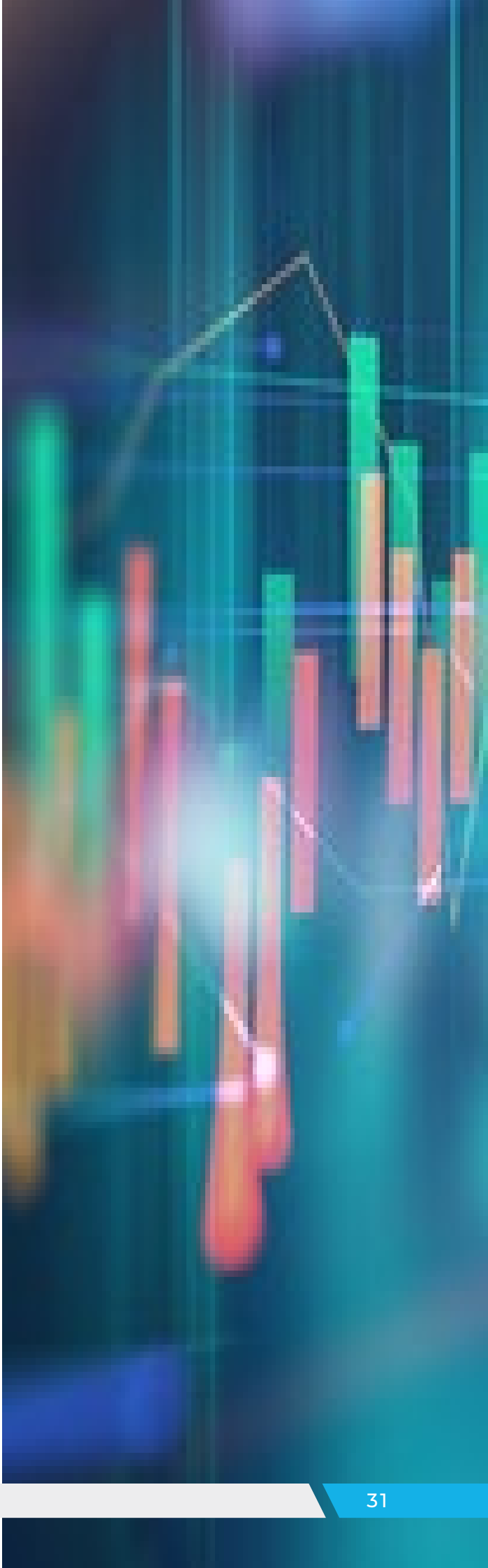
CTC Biostatisticians

CTC statisticians work closely alongside investigators on trials initiated and managed through the CTC to evaluate and test new therapies in a number of important disease areas. These include oncology (many types), diabetes (type I and II), neonatal disorders and cardiovascular disease. Additionally, our biostatisticians apply methodological expertise to clinical research in a wide range of medical specialties involving external collaboration. They join with national and international groups to play a part in designing, analysing and reporting trials that are efficient and methodologically rigorous. Examples are recent achievements in oncology,[8,14,19,42,57,81,138] women's health,[21] infection,[116] neonatology,[22,164] cardiology,[45] and methods.[149]

CTC biostatisticians also engage with local hospitals (Nepean, Blacktown, Westmead, Westmead Children's Hospital, Royal North Shore and LifeHouse (RPAH), providing 'statistical clinics' and outreach, including in the areas of radiation oncology, rheumatology, molecular studies, women's health and paediatric diseases.

The biostatistics research program is underpinned by methodological research carried out by the group's biostatisticians, post-doctoral research fellows and PhD students. During 2017, along with core members of the biostatistics group, three visiting academics and two post-doctoral research fellows were working on CTC-related methodological research. In addition, one PhD student completed their thesis on biostatistical methods. Specific research projects included:

- **Semi-parametric regression models for biomarker data:** novel statistical methods were developed for modelling the variability of biomarker data and understanding factors that affect this variability. These models are useful for understanding the effects of biomarker variability on outcomes and for adjusting risk factor models for measurement error and regression dilution. New computational algorithms and software were developed as part of this research.
- **Regression models for risk differences, rate differences and relative risks:** new computational methods for fitting risk factor models in terms of risk differences, relative risks and rate differences were developed. Such risk factors are more interpretable than standard models expressed in terms of odds ratios, but are more difficult to implement due to computational challenges involved in fitting the models. This project included the development of new more stable computational techniques and the publication of freely available open-source software for implementing these new methods.
- **Treatment effect estimation in randomised trials:** Multiple projects were undertaken studying the impact of various study design features on the estimation of treatment effects, including the impact of interim analyses, treatment switching and the use of surrogate outcomes for assessing treatment effects. As well as understanding the impact of these design features, methods for adjusting treatment effect estimates were also studied in these projects.
- **The importance of censoring in competing risks analysis:** This project examined the properties of estimates from competing risk models when the 'censoring distribution' is mis-specified. Using an example from stem cell transplantation in multiple myeloma, we illustrate that estimation of this censoring distribution can affect the accuracy and conclusions of a competing risks analysis, so it is important that this issue is considered carefully when analysing time-to-event data in the presence of competing risks.



Current CTC Trials

TRIAL	PARTICIPANTS	TARGET	ACCRUAL
ONCOLOGY			
Current trials			
Cannabis CINV: Pilot and definitive trials of cannabis extract for prevention of secondary nausea and vomiting (CTC, Lambert, NSW Health, Tilray study)	Adults with cancer with significant nausea or vomiting during Cycle 1 of intravenous chemotherapy	330	35
MOST 1: Single-arm, open-label, signal-seeking, Phase Ib/IIa trial of the CDK4/6 inhibitor palbociclib in patients with tumours with amplified D-type cyclins or CDK4 or inactivation of CDKN2A (CTC-led study with the Garvan Institute)	Patients with tumours with amplified D-type cyclins or CDK4 or inactivation of CDKN2A	16	16
MOST 2: Single-arm, open-label, signal-seeking, Phase IIa trial of the activity of durvalumab (MEDI4736) in combination with tremelimumab in patients with advanced rare or neglected cancers (CTC-led study)	Patients with advanced rare or neglected cancers	64	64
MOST 3: Single-arm, open-label, signal-seeking, Phase IIa trial of the activity of olaparib in combination with durvalumab in patients with tumours with homologous recombination repair defects (CTC-led study)	Patients with tumours with homologous recombination repair defects	48	9
Breast cancer (collaborating with the Royal Australasia n College of Surgeons)			
Trials in follow-up			
SNAC 1: Sentinel node biopsy versus axillary clearance (RACS and CTC study)	Women with a single operable breast tumour <3 cm, stratified by factors including age and tumour size	1,000	1,088
SNAC 2: Sentinel node biopsy versus axillary clearance (RACS and CTC study)	Women with operable breast cancer, stratified by factors including age and tumour size	1,012	326

TRIAL	PARTICIPANTS	TARGET	ACCRUAL
Gastro-intestinal cancer (collaborating with AGITG)			
Trials in start-up			
LIBERATE: A Phase II study evaluating liquid biopsies to profile metastatic CRC (AGITG and CTC study)	Male and female patients aged ≥18 years old with chemotherapy naïve metastatic CRC	100	N/A
MONARCC: A randomised Phase II study of panitumumab monotherapy and panitumumab plus 5-fluorouracil as first-line therapy for RAS and BRAF wild-type metastatic CRC (AGITG and CTC study)	Elderly patients, >70 years, with histologically confirmed *RAS* and *BRAF* wild-type metastatic CRC who have not have previously received chemotherapy and/or targeted therapy for their metastatic disease who are suitable for panitumumab alone or panitumumab plus 5-FU	80	N/A
SPAR: A randomised, placebo-controlled Phase II trial of simvastatin in addition to standard chemotherapy and radiation in preoperative treatment for rectal cancer (AGITG and CTC study)	Patients aged >18 years with biopsy-proven rectal adenocarcinoma (or high-grade dysplasia on biopsy with radiological evidence of invasive tumour) planned for concurrent long-course pCRT using fluoropyrimidine-based chemotherapy	75	N/A
Current trials			
ACTICCA-1: Phase III trial of adjuvant gemcitabine and cisplatin chemotherapy compared with standard treatment (AIO-led (Germany), AGITG and CTC study)	Patients with biliary tract cancer after resection	50 (ANZ)	2 (ANZ)
ALT-GIST: Imatinib alternating with regorafenib compared to imatinib alone for GIST (AGITG, SSG, EORTC and CTC study)	Adults with previously untreated metastatic gastro-intestinal stromal tumours	76	78 (21 ANZ)
ASCOLT: Aspirin for Dukes C and high-risk Dukes B CRCs (National Cancer Institute (Singapore)-led, AGITG and CTC study)	Patients with CRC who have completed surgery and other treatment	1200 (Int'l) 300 (ANZ)	267 (ANZ)
CONTROL NETS: Phase II open-label trial of lutetium-177 octreotate added to capecitabine and temozolomide for neuroendocrine tumours (AGITG and CTC study)	Patients with pancreatic or midgut neuroendocine tumours	72	65
INTEGRATE II: Phase III trial comparing regorafenib and placebo for oesophagogastric cancer (AGITG and CTC-led international study)	Patients with refractory advanced oesophageal or gastric cancer	350	42
InterAACT: Phase II open-label trial comparing cisplatin plus 5-fluorouracil versus carboplatin plus paclitaxel for anal cancer (Cancer Research UK, AGITG and CTC study)	Patients with locally recurrent or metastatic anal cancer	20 (ANZ)	3 (ANZ)
NABNEC: Phase II study of nab-paclitaxel and carboplatin as first-line treatment (AGITG and CTC study)	Patients with advanced gastro-intestinal neuroendocrine carcinoma	70	14
TOPGEAR: Randomised Phase II–III trial of preoperative chemoradiotherapy versus preoperative chemotherapy for gastric cancer (ATITG and CTC-led international study)	Patients with resectable gastric cancer suitable for these treatments	620	388 (185 ANZ)

TRIAL	PARTICIPANTS	TARGET	ACCRUAL
Gastro-intestinal cancer (collaborating with AGITG) *continued*			
Trials in follow-up			
A La CART: Australian Phase III randomised trial of laparoscopy-assisted resection compared with open resection (AGITG and CTC study)	Patients with primary rectal cancer	470	475
DOCTOR: Phase II trial of preoperative cisplatin, 5-fluorouracil and docetaxel with or without radiotherapy for oesophageal cancer (AGITG and CTC study)	Patients with resectable adenocarcinoma of the oesophagus not responsive to chemotherapy	60	66
ICECREAM: Irinotecan-cetuximab evaluation and cetuximab response evaluation among mutants (AGITG- and CTC-led international study)	Patients with *KRAS* wild-type metastatic colorectal carcinoma	100	101
Gynaecological cancer (collaborating with ANZGOG)			
Trials in start-up			
EMBRACE: Phase II clinical trial of the PARP inhibitor, olaparib, in HR-deficient advanced breast and ovarian cancer (GCCTI, including ANZGOG and CCT)	Patients with either: a) metastatic TNBC; or b) relapsed platinum-sensitive HGSOC; who have an eligible tumour molecular analysis result and have not received prior treatment for metastatic/relapsed disease	60	N/A
Current trials			
ECHO: Exercise during chemotherapy for ovarian cancer (ANZGOG and CTC study)	Women with newly diagnosed ovarian cancer starting treatment	80	21
PHAEDRA: Durvalumab (MEDI-4736) in endometrial cancer progressing after one or more lines of chemotherapy: a Phase II trial in mismatch repair deficient (MMR-d) and mismatch repair competent (MMR-c) cohorts (ANZGOG and CTC study)	Adult women with advanced, unresectable endometrial cancer that is either MMR-proficient and progressing after 1–3 lines of chemotherapy, or MMR-deficient and progressing after 0–3 lines of chemotherapy. Key eligibility criteria include known MMR status, one or more target lesions according to RECIST 1.1, ECOG performance status 0–2, adequate organ function, and no contraindication to treatment with durvalumab	70	56
STATEC: A randomised trial of non-selective versus selective adjuvant therapy in high-risk apparent Stage 1 endometrial cancer (UCL-led, ANZGOG and CTC study)	Women aged 16 years or above, that have histologically confirmed high-risk apparent International Federation of Gynecology and Obstetrics (FIGO) Stage I endometrial cancer	2,000 (int'l)	1 (?ANZ)
Trials in follow-up			
ICON 6: Safety and efficacy of cediranib in combination with standard chemotherapy (MRC-led, ANZGOG and CTC study)	Women with platinum-sensitive relapsed ovarian cancer	400 (Int'l)	17 (ANZ) 486 (Int'l)
ICON 8: Dose-fractionated chemotherapy compared with 3-weekly chemotherapy for ovarian cancer (MRC-led, ANZGOG and CTC study)	Women with ovarian, fallopian tube or primary peritoneal cancer	145 (ANZ) 1,485 (Int'l)	70 (ANZ) 1,566 (Int'l)

TRIAL	PARTICIPANTS	TARGET	ACCRUAL
Outback: Phase III trial of addition of adjuvant chemotherapy to standard chemoradiation as primary treatment for cervical cancer (ANZGOG- and CTC-led international study)	Women with locally advanced cervical cancer	900	926
OVAR2.21: Noninferiority Phase III trial of bevacizumab + gemcitabine and carboplatin compared with bevacizumab + doxorubicin and carboplatin (GCIG-led, ANZGIG and CTC study)	Women with recurrent cancer sensitive to platinum-based treatment	120 (ANZ) 654 (Int'l)	76 (ANZ) 680 (Int'l)
OVAR 16: Pazopanib versus placebo for ovarian cancer (AGO-led, ANZGOG and CTC study)	Women without disease progression after chemotherapy for epithelial ovarian, fallopian tube, or primary peritoneal cancer	900 (Int'l)	65 (ANZ) 940 (Int'l)
PARAGON: Phase II study of anastrozole in gynaecological cancers (ANZGOG- and CTC-led international study)	Women with potentially hormone-responsive gynaecological cancers	350 (Int'l)	226 (ANZ) 333 (Int'l)
PORTEC 3: Chemoradiation and adjuvant chemotherapy compared with with pelvic radiation alone in high-risk endometrial carcinoma (ANZGOG- and CTC-led international study)	Women with advanced endometrial carcinoma	120 (ANZ) 670 (Int'l)	122 (ANZ) 688 (Int'l)
REZOLVE: Phase II study to evaluate the safety and potential palliative benefit of intraperitoneal bevacizumab (DGOG-led, ANZGOG and CTC study)	Women with symptomatic ascites due to advanced chemotherapy-resistant ovarian cancer	24	24
Genitourinary cancer (collaborating with ANZUP)			
Trials in start-up			
THERAP: Randomised Phase II trial of ^{177}Lu labelled PSMA-DKFZ-617 versus cabazitaxel in men with progressive metastatic castration-resistant prostate cancer (ANZUP and CTC study)	Men with castration-resistant prostate cancer suitable for chemotherapy with cabazitaxel (surgical or medical castration, and previous chemotherapy with docetaxel. Previous enzalutamide and/or abiraterone is permitted), ECOG performance status 0–2. ^{68}Ga-PSMA PET/CT must show high PSMA avidity without discordant disease on FDG PET/CT	200	0
Current trials			
BCG+MMC: Phase III trial of adding mitomycin C to BCG as adjuvant intravesical therapy for bladder cancer (ANZUP and CTC study)	Patients with high-risk, non-muscle-invasive bladder cancer	500	151
ENZARAD: Phase III trial of enzalutamide in androgen-deprivation therapy with radiation therapy for high-risk, clinically localised prostate cancer (ANZUP and CTC study)	Men with high-risk localised prostate cancer	800	677
P3BEP: Phase III trial of accelerated versus standard BEP (ANZUP, ANZGOG and CTC study)	Patients with intermediate and poor-risk metastatic germ-cell tumours	90	44
Pain Free TRUS B: Phase III trial of methoxyflurane with periprostatic local anaesthesia to reduce discomfort of transrectal ultrasound-guided prostate biopsy (ANZUP and CTC study)	Men scheduled to undergo first TRUS biopsy of the prostate	420	162

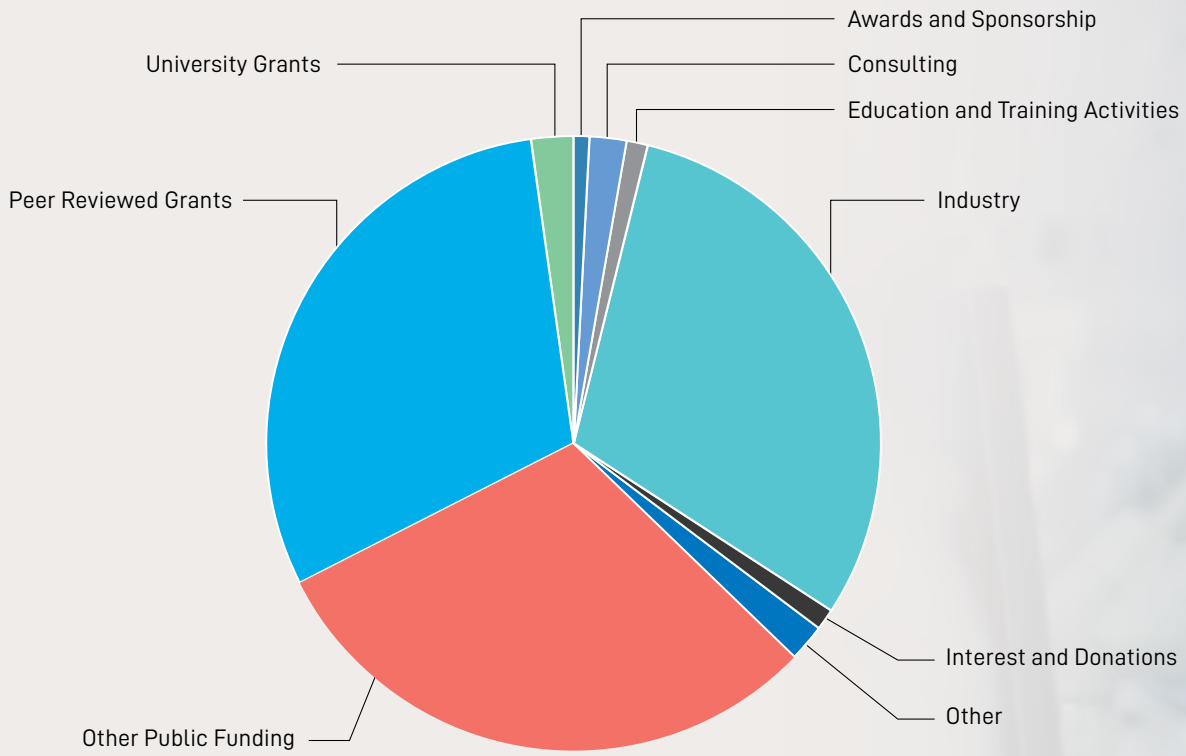
TRIAL	PARTICIPANTS	TARGET	ACCRUAL
Genitourinary cancer (collaborating with ANZUP) *continued*			
KEYPAD: Denosumab and pembrolizumab in clear cell renal carcinoma: a Phase II trial (ANZUP and CTC study)	Adults with unresectable or metastatic ccRCC progressing after treatment with a VEGFR TKI. Key eligibility criteria include target lesion(s) according to RECIST 1.1, good performance status (ECOG PS 0–2), no history of significant autoimmune disease, tumour sample available (archival or recent biopsy), and no previous treatment with immunotherapy	70	1
Trials in follow-up			
BL 12: Phase II trial comparing nab-paclitaxel with paclitaxel (CCTG-led, ANZUP and CTC study)	Patients with metastatic urinary tract cancer and previous platinum therapy	100 (ANZ)	38 (ANZ)
ENZAMET: Phase III trial of enzalutamide in androgen-deprivation therapy for metastatic prostate cancer (ANZUP and CTC international study)	Men with metastatic prostate cancer	1,100	674 (ANZ) 1,125 (Int'l)
SORCE: Adjuvant sorafenib for renal cell carcinoma (MRC-led, ANZUP and CTC trial)	Patients with resected renal cell carcinoma at intermediate or high risk of relapse	250 (ANZ) 1,656 (Int'l)	168 (ANZ) 1,711 (Int'l)
Lung cancer (collaborating with ALTG)			
Trials in start-up			
ILLUMINATE: A Phase II trial of durvalumab (MEDI4736) and tremelimumab with chemotherapy in metastatic EGFR mutant non-squamous non-small cell lung cancer (NSCLC) following progression on EGFR tyrosine kinase inhibitors (ALTG, CTC and National Taiwan University Hospital study)	Adults with relapsed *EGFR*-mutated non-squamous NSCLC	50 (ANZ) 100 (Int'l)	N/A
STIMULI: A randomised open-label Phase II trial of consolidation with nivolumab and ipilimumab in limited-stage SCLC after chemoradiotherapy (ATOP-led, ALTG and CTC study)	Radically treated limited-stage SCLC following completion of thoracic radiotherapy concomitant to chemotherapy and PCI	50 (ANZ) 260 (Int'l)	N/A
Current trials			
BR.31: Phase III study of adjuvant MEDI4736 (CCTG-led, ALTG and CTC study)	Patients with resected primary Stage IB (>4 cm), II or IIIA NSCLC	200	30
BR34: A randomised trial of durvalumab and tremelimumab +/- platinum-based chemotherapy in patients with high-risk metastatic (Stage IV) squamous or non-squamous NSCLC (CCTG-led, ALTG and CTC study)	Patients with documented evidence of metastatic (Stage IV per 4.1.2) squamous or non-squamous NSCLC and be planned for standard first-line therapy	300	109
NIVORAD: Nivolumab and stereotactic ablative body radiotherapy (SABR) versus nivolumab alone (ALTG and CTC study)	Patients with advanced NSLC progressing after chemotherapy	120	2

TRIAL	PARTICIPANTS	TARGET	ACCRUAL
OSCILLATE: Alternating osimertinib and gefitinib in patients with EGFR T790M positive NSCLC (ALTG and CTC study)	Adults with advanced, EGFR-mutated NSCLC that have acquired resistance to first or second generation *EGFR*-TKIs and are *EGFR*-T790M mutation positive	45	1
PEARL: Palliative care Early in Advanced Lung cancers (ALTG and CTC study)	The target population is adults with advanced NSCLC, SCLC or MPM that has been newly diagnosed within the last 60 days	200	20
Trials in follow-up			
DREAM: A Phase II trial of durvalumab with first-line chemotherapy in mesothelioma with a safety run-in (ALTG and CTC study)	Adults commencing first-line doublet chemotherapy with cisplatin and pemetrexed for MPM	54	55
Brain cancer (collaborating with COGNO)			
Trials in start-up			
CODEL: Phase III Intergroup study of radiotherapy with concomitant and adjuvant temozolomide versus radiotherapy with adjuvant PCV chemotherapy in patients with 1p/19q co-deleted anaplastic glioma or low-grade glioma (ALLIANCE-led, EORTC, COGNO and CTC study)	Patients with newly diagnosed co-deleted 1p/19q anaplastic glioma or high-risk low-grade glioma	360	N/A
NUTMEG: A randomised Phase II study of nivolumab and temozolomide vs temozolomide in newly diagnosed elderly glioblastoma (COGNO and CTC study)	Newly diagnosed patients with histologically confirmed supratentorial GBM (Grade IV astrocytoma), aged 65 years or older who have not received any treatment for GBM other than surgery	102	N/A
Current trials			
ACED: Phase II study of acetazolamide + dexamethasone v dexamethasone alone for cerebral oedema (COGNO and CTC study)	Adults with recurrent or progressive high-grade glioma, who require dexamethasone or dose increase for cerebral oedema	84	12
VERTU: Veliparib, radiotherapy and temozolomide in unmethylated MGMT glioblastoma (COGNO and CTC study)	Patients with newly diagnosed resected glioblastoma with an unmethylated *MGMT* gene promoter	120	84
Trials in follow-up			
CATNON: Phase III trial of concurrent and adjuvant temozolomide chemotherapy for anaplastic glioma (EORTC, COGNO and CTC study)	Patients with non-1p/19q-deleted anaplastic glioma	100 (ANZ) 748 (Int'l)	82 (ANZ) 751 (Int'l)
CARDIOVASCULAR DISORDERS			
Trials in follow-up			
FIELD: Fenofibrate intervention and event lowering in diabetes (CTC-led study)	Patients with Type 2 diabetes	8,000	9,795
LIPID: Long-term intervention with pravastatin in ischaemic disease (CTC-led study)	Patients with a history of coronary heart disease	9,000	9,014

TRIAL	PARTICIPANTS	TARGET	ACCRUAL
DIABETES			
Trials in start-up			
e-PREDICE: Early prevention of diabetes complications in people with hyperglycaemia in Europe and Australia (BIONE and CTC, international study)	Adults with hyperglycaemia	100 (Australia) 3,000 (Int'l)	N/A
Current trials			
FAME1-Eye: Fenofibrate and microvascular events in Type 1 diabetes (CTC-led study)	Adults with Type 1 diabetes and nonproliferative retinopathy	450	6
Performance of closed-loop artificial pancreas at home compared with best available technology (St Vincent's Hospital Melbourne, JDRF, Medtronic, CTC study)	People with Type 1 diabetes: paediatric cohort adult cohort	120 160	39 41
REMOVAL: Effects of metformin added to insulin on atheroma progression (CTC, University of Glasgow and NHS-led study)	Adults with Type 1 diabetes at risk of cardiovascular disease	105 (ANZ) 450 (Int'l)	41 (ANZ)
T4DM: A randomised, placebo-controlled, Phase III trial adding testosterone to a lifestyle programme to prevent Type 2 diabetes (University of Adelaide and CTC-led study)	Men with prediabetes or newly diagnosed diabetes and low testosterone	1,000	1,007
Trials in follow-up			
TEAMSnet: Using internet and mobile technologies for coordinated diabetes and heart care (University of Melbourne, Fred Hollows Foundation, AMSANT, CERA and CTC study)	Indigenous people from remote and rural Australian communities	600	600
NEONATAL DISORDERS			
Trials in start-up			
TORPIDO2: Targeted oxygenation in the respiratory care of premature infants at delivery: effects on developmental outcome (CTC-led study)	Neonates born before 29 weeks gestation	1,200	9
Current trials			
LEAP: Lactoferrin evaluation in anaemia in pregnancy (CTC-led study)	Pregnant women with anaemia	900	40
PAEAN: Preventing adverse outcomes of neonatal hypoxic ischaemic encephalopathy (CTC-led study)	Newborn infants with signs of brain damage	300	80
Trials in follow-up			
APTS: Australian placental transfusion study (CTC-led study)	Neonates born before 30 weeks gestation	1,600	1,633
	Infants born weighing under 1,500 g	1,100	1,542

Funding

The CTC continues to receive highly sought-after national and international peer reviewed funding, as well pharmaceutical industry support. Our annual income grew significantly in 2017, increasing by approximately $10 M to $44.37 M; largely driven by increases in trials grants from government funding, peer-reviewed research grants, and pharmaceutical companies. This reflects the quality of our research, the strength of our collaborative relationships and our innovative edge in academic clinical trials.



Staff

CTC Executive

R John Simes, BSc (Med) (Hons), MB BS (Hons), MD, SM, FRACP, FAHMS, director and senior principal research fellow

Anthony C Keech, MB BS, MSc, FRACP, FCSANZ, FAHMS, deputy director and senior principal research fellow

Wendy Hague, MB BS, MBA, PhD, Clinical Trials Program Director

Vera Terry, BSc, PhD, LLB, GradDipLP, MIP, MBA, general manager

Executive support

Paulette Anderson, executive assistant to the director

Susan Lohan, BA, executive assistant to the deputy director

Oncology trials

Oncology trials

Martin R Stockler, MB BS (Hons), MSc, FRACP, cancer trials co-director and professor

Oncology trials managers

Burcu Vachan, BSocSc (Hons), MPH, DipMan, DipBus, oncology programme manager, operations

Kate Sawkins, BAppSc (Phty) (Hons), oncology programme manager, development

Danielle Miller, BSc (Hons) MPH, oncology programme manager, development (acting)

Christine Aiken, BSocSc, MHlthSc, AGITG

Candace Carter, BSc, ANZGOG, COGNO

Sarah Chinchen, BSc (Hons), MPH, ALTG

Xanthi Coskinas, BHlthSc, GradDipHIM, MSc (ClinEpi), ANZUP

Kate Ford, MHSc, GradDipClinEpi, ANZUP

Cheryl Friend, RN, MN, AGITG

Kim Gillies BA (Hons), MHlthSc, ANZGOG

Margot Gorzeman, MSc, ANZUP

Merryn Hall, BSc, COGNO

Hannora Jurkovic, BMedSc, BA, ALTG

Ann Livingstone, RN, MHlthServMgt, GradDipHE, ALTG

Rebecca Mister, BSc, MSc, SNAC

Jenna Mitchell, BHSc (Hons), ALTG

Martijn Oostendorp, MSc, AGITG

Lucille Sebastian, BSc (Hons), PhD, MoST

John Stark, BSc, ANZGOG

Eric Tsobanis, BScN (Hons), MBA, AGITG

Kate Wilson, BA, MPH, AGITG

Nicole Wong, RN, BN, BSc (Hons), ANZUP, Cannabis CINV

Oncology trials staff

Lisa Bailey, BAppSc

Lesley Brassel, BMgmt, DipEvents

Hannah Cahill, BAppSc, BA

David Cannan, BSc(Hons)

Yvonne Cheung, BSc (Hons), PhD

Jennifer Chong, AdvDipNutrMed

Georgina Dukoska, BSc (Psych)

Lauren Fisher, BSc, BA (InSt)

Tara Flores, BAppSc

Marzena Kucharska-Kelly, BSc (Hons)

Ailsa Langford BSc (Hons)

Sandra Lee, BSc (Hons)

Joseph Levitt, RN

Juanita Lopez Gaitan, BSPhys (Hons), MBiomedSc

Jade Lor-Chan, BA, BPsySci

Catherine Lu, BN, RN

Catherine O'Connor, RN, BN

Jody O'Connor, BHlthSc, MPH

Danielle Parker, BAppSci (Hons)

Raynelle Penaflor, BPharm, GradCertClinTPrac

Uzma Rayani, MMedSc (Drug Dev)

Tet Ricafort, BS Ind Pharm

Thida Thien, BPsych (Hons), PhD

Evonne Tim, BSc (Hons)

Emily Tu, BSc (Hons), PhD

Tina Van Tonder, BHlthSc, MOrth

Jaclyn Verghis, BA, MIntS

Kate Walker, BSc (Hons)

Mariya Walker, BSc, GradDipInflmm

Anna Walsh, BSc

Portia Westall, BAnVetBioSc (Hons)

Diana Winter, BMedSci

Annie Yeung, BSc

Sarah York, BSc (ExSci), MIPH

Ethics coordinator

Garry Chang, BMedSc (Hons), PhDLara Hall, DipNutr, DipBotMed, DipCom

Oncology research fellows

Mustafa Khasraw, MBChB, MD, MRCP, FRACP, clinical lead, COGNO

Chee K Lee, MB BS (Hons), MMedSc, MBiostat, PhD, FRACP, clinical lead

Katrin M Sjoquist, BSc (Med), MB BS, MClinTRes, FRACP, clinical lead, AGITG and ANZGOG trials

Belinda Kiely BSc (Med), MBBS, FRACP, PhD, clinical research fellow and oncology prognostication programme lead

Peey Sei Kok, MB ChB, clinical research fellow, ALTG and ANZGOG trials

Nicola Lawrence, BHB, MB ChB, FRACP, clinical research fellow, ANZUP trials

Antony Mersiades, BMedSci, MBBS, FRACP, clinical research fellow, ALTG and cannabis CINV trials

Namrata Nayar, MBBS, FRACP, AGITG and ANZUP trials

Monica Tang, MBBS, clinical research fellow, AGITG and ANZGOG trials

Oncology translational research

Philip J Hogg, BSc, PhD, FAHMS, chair, translational cancer research

Anthony S Don, BSc (Hons), PhD

Garry Chang, BMedSc (Hons), PhD, translational research assistant

Michelle Parry, BSc, PhD, translational research officer

Sonia Yip, BSc (Hons), PhD, translational research lead, senior research fellow

Cooperative Trials Group for Neuro-Oncology

Jenny Chow, AssocDip, executive officer

Mythily Sachchithananthan, PhD, project coordinator, Brain Cancer Biobanking Australia

Yi Feng, BE (Aeronautical) (Hons), administrative assistant

Neonatal trials

William O Tarnow-Mordi, MRCP(UK), FRCPCH, professor and coordinator of neonatal trials

Marina Zadonskaia, administration assistant

Alpana Ghadge, BSc, MSc, PhD, GradCert TradeMarksLawPract, neonatal programme manager

Rebecca Brown, BMedSc (Hons), trial coordinator

Sarah Finlayson, BSc(Adv) (Hons), GradCertPharmMed, trial coordinator

Elisabeth Coates, BS, trial coordinator

Cardiovascular trials

FIELD follow-up

Li Ping Li, BMed, GradCertDM, project manager

San Yip Chan, administrative assistant

Sandra Healey, BA (Hons), GradDipFA, RN, substudy coordinator

LIPID follow-up

Helen Pater, BAppSc, project manager

Diabetes trials

REMOVAL

Helen Pater, BAppSc, project manager

T4DM

Karen Bracken, BEc, MPH, project manager

Caitlin van Holst Pellekaan, BMedSc (Hons), data manager

Sandra Healey, BA (Hons), GradDipFA, RN, clinical trial assistant

FAME1 Eye

Andrzej S Januszewski, MD, PhD, MClinTRes, senior research fellow, project manager

Li Ping Li, BMed, GradCertDM, project manager

Quality assurance

Phillipa Smith, BPharm (Hons), MSc, head of quality assurance

Karen Wilkinson, DipTeach, BA, PostgradDip Psychol, MRQA, trials auditor

Clinical data management

Mark Maclean, BA, DCR (T), CM, head

Salma Fahridin, BAppSc (HIM), MHlthSc (CDM), clinical data project manager

Ilka Kolodziej, BAppSc (Hons), MPH

Nicole McKay, BAppSc (HIM), clinical data coordinator

Louisa Muhuthia, BPsychSci

Sharmila Siriragavan, BMedSc, GradCertBiostat

Sandhya Waghulde, DCEngg, GradDipCS, BusMgtCert, PM

Site management

Rebecca Mister, BSc, MSc, head

Diabetes molecular medicine and telehealth

Alicia J Jenkins, MB BS, MD, FRACP, FRCP, professor of diabetes and vascular medicine

Sven-Erik Bursell, PhD, professor of telehealth

Anandwardhan A Hardikar, BSc,MSc, PhD, associate professor, JDRF T1D Clinical Research Network Fellow

Andrzej S Januszewski, MD, PhD, MClinTRes senior research fellow

Mugdha Joglekar, BSc, MSC, PhD, Juvenile Diabetes Research Foundation research fellow

Priya Panchalingam, BA (Comms), administration assistant

Chris Ryan, BSc, BIS, telehealth programme manager

Sarang Satoor, BSc, MSc, research fellow

Wilson Wong, BSc (Hons), clinical trials assistant

Systematic reviews and health technology assessment

Lisa M Askie, BN, MPH, PhD, director, and principal research fellow

Sara Carrillo, MSc, project officer

Jenny Chow, AssocDip, executive officer

Sally J Lord, MB BS, DipPaed, MS, FRACGP, epidemiologist and senior research fellow

Lukas P Staub, MD, PhD, epidemiologist and senior research fellow

Lene Seidler, MSc, research fellow

Health technology assessment

Samara Lewis, BA/BSc (Hons), PhD, project manager

Mark Ayson, MB ChB, GradDipPH, project officer

Saskia Cheyne, MSc, project officer

Cochrane breast cancer group

Melina Willson, BSc (Hons)/BA, PhD, managing editor

Slavica Berber, BSc (Hons), PhD, trial search coordinator

Ava Grace Tan-Koay, BSc (Hons), MAIT, MPH, trial search coordinator

Australian New Zealand Clinical Trials Registry

Kylie E Hunter, BA, BA (Hons), MPH, senior project officer

Slavica Berber, BSc (Hons), PhD, project officer

Ailsa Langford BSc (Hons), project officer

Ryan Sausa, BE, computer systems officer

Thuyen Vu, BSc, computer systems officer

Ava Grace Tan-Koay, BSc (Hons), MAIT, MPH, project officer

Health economics

Rachael Morton, MScMed (ClinEpi) (Hons), PhD, director

Mbathio Dieng, MPH, PhD, research fellow

Nikita Khanna, MEc, research assistant

Ann Livingstone, RN, MHlthServMgt, GradDipHE, economics evaluator

Adrain Siu, BPharm, research assistant

Anh Tran, PhD, research fellow

Biostatistics and consulting

Val J Gebski, BA, MStat, professor and principal research fellow

Vanessa Cochrane, administrative officer

H Malcolm Hudson, BSc (Hons), PhD, honorary professor

Ian C Marschner, BSc (Hons), PhD, professor

Alan Coates MD FRACP AStat, honorary clinical professor

Senior biostatisticians

Karen Byth, BSc (Hons), MSc, PhD, DIC, CStat RSS, senior lecturer

Adrienne C Kirby, BSc (Hons), MSc, senior lecturer

Andrew J Martin, BA, MA, GradDip, PhD, AStat, senior lecturer

Rachel L O'Connell, BMath, MMedStat, PhD, research fellow

Research fellows

Elizabeth H Barnes, BAppSc, MStat

Christopher SB Brown, BSc, MBiostat

Biostatisticians

Rebecca Asher, BSc, MSc

Mark W Donoghoe, BSc (Adv)(Hons), PhD

David Espinoza, BArch (Hons), BSc (Hons), MBiostat

Emma Gibbs, BSc, MSc

Kristy P Robledo, BScAgr (Hons), MBiostat, PhD

Simone Marschner, BSc (Hons), MSc

Biostatistics Collaboration of Australia

Erica Jobling, executive officer

Emily Higginson, BA/BSc, senior administration officer

Information systems

Infrastructure

Dinh Tran, BMath, MCompSc, infrastructure manager

Ha Le, BIT, computer systems officer

Asanka Perera, BSc, computer systems officer

Ryan Sausa, BE, computer systems officer

Thuyen Vu, BSc, computer systems officer

Database administration

Anh Tai Nguyen, BMath, database administrator

Software development

Colin Sutton, BSc, MSc, IT systems development manager

Seshu Atluri, BE, software engineer

Business administration

Vera Terry, BSc, PhD, LLB, GradDipLP, MIP, MBA, general manager

Libby Cregan, administration assistant

Lena Germinarios, administration assistant

Finance

Paul Smyth, BCom, CPA, finance manager

Agnes Ho, MPracAcc, CPA, finance officer

Maki Joseph, DipEd, finance officer

Carlos Sterling, BEng, MBA, finance officer

Human resources

Cynthia Carr, BEd (HRD), human resources and administration manager

Suzanne Everett, BSW, human resources and administration coordinator

Publications

Rhana Pike, BA, MA, GradCert, ELS, CMPP, MWC

Research students

Anupriya Agarwal

Ryan Farr, BSc, MPhil

Jordan Fulcher, BSc (Med), MB BS, FRACP

Deme Karikios, BSc, MB BS, FRACP

Nicola Lawrence, BHB, MB ChB, FRACP

Michael Fogarty

Anna Martin

Adrian Sui

Boris Waldman, BSc, MB BS

Wilson Wong, BSc (Hons)

Academic staff

Hany Abed, BPharm, MBBS, PhD, research fellow

Lisa M Askie, BN, MPH, PhD, associate professor and principal research fellow

Elizabeth H Barnes, BAppSc, MStat, research fellow

Christopher SB Brown, BSc, MBioStat, research fellow

Karen Byth, BSc (Hons), MSc, PhD, DIC, CStat RSS, senior lecturer

Val J Gebski, BA, MStat, professor and principal research fellow

Wendy Hague, MB BS, MBA, PhD, research fellow

Anandwardhan A Hardikar, BSc, MSc, PhD, associate professor and JDRF T1D Clinical Research Network Fellow

Philip J Hogg, BSc, PhD, senior principal research fellow and professor

Mugdha Joglekar, BSc, MSC, PhD, research fellow

Andrzej S Januszewski, MD, PhD, senior research fellow

Alicia J Jenkins, MB BS, MD, MRCP, FRACP, FRCP, professor

Anthony C Keech, MB BS, MSc, FRACP, FCSANZ, FAHMS, principal research fellow and professor

Adrienne C Kirby, BSc (Hons), MSc, senior lecturer

Mustafa Khasraw, MBChB, MD, MRCP, FRACP, senior research fellow

Henry Ko, BEng (Med)(Hons), PhD, research fellow

Peey Sei Kok, MB ChB, research fellow

Nicola Lawrence, BHB, MB ChB, FRACP, research fellow

Chee K Lee, MB BS (Hons), MMedSc, MBiostat, PhD, FRACP, senior research fellow

Sally (Sarah) J Lord, MB BS, DipPaed, MSc, FRACGP, senior research fellow

Ian C Marschner, BSc (Hons), PhD, professor

Andrew J Martin, BA, MA, GradDip, PhD, AStat, senior lecturer

Rachael Morton, MScMed (ClinEpi) (Hons), PhD, associate professor

Rachel L O'Connell, BMath, MMedStat, PhD, senior research fellow

Lene Seidler, MSc, research fellow

R John Simes, BSc(Med)(Hons), MB BS (Hons), MD, SM, FRACP, FAHMS, senior principal research fellow and professor

Katrin M Sjoquist, BSc (Med), MB BS, MClinTRes, FRACP, senior research fellow

Lukas P Staub, MD, PhD, epidemiologist and senior research fellow

Martin R Stockler, MB BS (Hons), MSc, FRACP, professor

William O Tarnow-Mordi, MRCP (UK), FRCPCH, professor

Sonia Yip, BSc (Hons), PhD, senior research fellow

Publications

Book chapters

1. Butow P, Tattersall MHN, **Stockler MR**. Discussing prognosis and communicating risk. In: Kissane DR, Bultz B, Butow P, Finlay I, editors. Handbook of Communication in Oncology and Palliative Care, 2nd ed. Oxford: Oxford University Press; 2017.

Journal articles

2. Abbott LM, Magnusson RS, **Gibbs E**, Smith SD. Smartphone use in dermatology for clinical photography and consultation: Current practice and the law. Australasian Journal of Dermatology. 2017: 10.1111/ajd
3. Alam P, Guzman Rojas R, Kamisan Atan I, **Mann K**, Dietz HP. The 'bother' of obstructed defecation. Ultrasound in Obstetrics and Gynecology. 2017;49(3):394–397.
4. Arnold R, Pianta TJ, Pussell BA, Kirby A, **O'Brien K**, **Sullivan K**, **Holyday M**, Cormack C, Kiernan MC, Krishnan AV. Randomized, controlled trial of the effect of dietary potassium restriction on nerve function in CKD. Clinical Journal of the American Society of Nephrology. 2017;12(10):1569–1577.
5. Arnott C, Strange G, Bullock A, **Kirby AC**, O'Donnell C, Radford DJ, Grigg LE, Celermajer DS. Pulmonary vasodilator therapy is associated with greater survival in Eisenmenger syndrome. Heart. 2017: 10.1136/heartjnl-2017-311876
6. **Askie LM**, Darlow BA, Davis PG, Finer N, Stenson B, Vento M, Whyte R. Effects of targeting lower versus higher arterial oxygen saturations on death or disability in preterm infants. Cochrane Database of Systematic Reviews. 2017;4:CD011190.
7. Bai PY, Wittert G, Taylor AW, Martin SA, Milne RW, **Jenkins AJ**, **Januszewski AS**, Shi Z. The association between total phthalate concentration and non-communicable diseases and chronic inflammation in South Australian urban dwelling men. Environmental Research. 2017;158:366–372.
8. Bamias A, **Gibbs E**, **Khoon Lee C**, **Davies L**, Dimopoulos M, Zagouri F, **Veillard AS**, Kosse J, Santaballa A, Mirza MR, Tabaro G, Vergote I, Bloemendal H, Lykka M, Floquet A, **Gebski V**, Pujade-Lauraine E. Bevacizumab with or after chemotherapy for platinum-resistant recurrent ovarian cancer: Exploratory analyses of the AURELIA trial. Annals of Oncology. 2017;28(8):1842–1848.
9. Bartlett FR, Donovan EM, McNair HA, Corsini LA, Colgan RM, Evans PM, Maynard L, Griffin C, Haviland JS, Yarnold JR, **Kirby AM**. The UK heartspare study (Stage II): Multicentre evaluation of a voluntary breath-hold technique in patients receiving breast radiotherapy. Clinical Oncology. 2017;29(3):e51–e56.
10. Barz C, Melloh M, Staub LP, **Lord SJ**, Merk HR, Barz T. Reversibility of nerve root sedimentation sign in lumbar spinal stenosis patients after decompression surgery. European Spine Journal. 2017;26(10):257–2580.
11. Bell KJL, Mehta Y, Turner RM, **Morton RL**, **Dieng M**, Saw R, Guitera P, McCaffery K, Low D, Low C, Jenkins M, Irwig L, Webster AC. Fear of new or recurrent melanoma after treatment for localised melanoma. Psycho-Oncology. 2017;26(11):1784–1791.
12. Benitez-Aguirre PZ, **Januszewski AS**, Cho YH, Craig ME, **Jenkins AJ**, Donaghue KC. Early changes of arterial elasticity in type 1 diabetes with microvascular complications—A cross-sectional study from childhood to adulthood. Journal of Diabetes and Its Complications. 2017;31(12):1674–1680.
13. Bennett IE, Field KM, Hovens CM, Moffat BA, Rosenthal MA, Drummond K, Kaye AH, Morokoff AP. Early perfusion MRI predicts survival outcome in patients with recurrent glioblastoma treated with bevacizumab and carboplatin. Journal of Neuro-Oncology. 2017;131(2):321–329.
14. Bonaventura A, **O'Connell RL**, Mapagu C, Beale PJ, McNally OM, Mileshkin LR, Grant PT, Hadley AM, Goh JCH, **Sjoquist KM**, Martyn J, DeFazio A, Scurry J, **Friedlander ML**, PARAGON I. PARAGON (ANZGOG-0903): Phase 2 study of anastrozole in women with estrogen or progesterone receptor-positive platinum-resistant or -refractory

recurrent ovarian cancer. International Journal of Gynecological Cancer. 2017;27(5):900–906.

15. Borgquist S, Giobbie-Hurder A, Ahern TP, Garber JE, Colleoni M, Lang I, Debled M, Ejlertsen B, von Moos R, Smith I, **Coates AS**, Goldhirsch A, Rabaglio M, Price KN, Gelber RD, Regan MM, Thurlimann B. Cholesterol, cholesterol-lowering medication use, and breast cancer outcome in the BIG 1-98 study. Journal of Clinical Oncology. 2017;35(11):1179–1188.
16. Brakoulias V, Starcevic V, Belloch A, **Brown C**, Ferrao YA, Fontenelle LF, Lochner C, Marazziti D, Matsunaga H, Miguel EC, Reddy YCJ, do Rosario MC, Shavitt RG, Shyam Sundar A, Stein DJ, Torres AR, Viswasam K. Comorbidity, age of onset and suicidality in obsessive-compulsive disorder (OCD): An international collaboration. Comprehensive Psychiatry. 2017;76:79–86.
17. Brazionis L, **Jenkins A**, **Keech A**, **Ryan C**, **Bursell SE**, TEAMSnet Study Group. An evaluation of the telehealth facilitation of diabetes and cardiovascular care in remote Australian Indigenous communities: Protocol for the telehealth eye and associated medical services network [TEAMSnet] project, a pre-post study design. BMC Health Services Research. 2017;17(1):13.
18. Burgess NG, Bassan MS, McLeod D, Williams SJ, **Byth K**, Bourke MJ. Deep mural injury and perforation after colonic endoscopic mucosal resection: A new classification and analysis of risk factors. Gut. 2017;66(10):1779–1789.
19. Burgess NG, Hourigan LF, Zanati SA, Brown GJ, Singh R, Williams SJ, Raftopoulos SC, Ormonde D, Moss A, **Byth K**, Mahajan H, McLeod D, Bourke MJ. Risk stratification for covert invasive cancer among patients referred for colonic endoscopic mucosal resection: A large multicentre cohort. Gastroenterology. 2017;153(3):732–742, e731.
20. Calopedos RJS, Chalasani V, **Asher R**, Emmett L, Woo HH. Lutetium-177-labelled anti-prostate-specific membrane antigen antibody and ligands for the treatment of metastatic castrate-resistant prostate cancer: A systematic review and meta-analysis. Prostate Cancer Prostatic Disease. 2017;20(3):352–360.
21. Canfell K, Caruana M, **Gebski V**, Darlington-Brown J, Heley S, Brotherton J, Gertig D, Jennett CJ, Farnsworth A, Tan J, Wrede CD, Castle PE, Saville M. Cervical screening with primary HPV testing or cytology in a population of women in which those aged 33 years or younger had previously been offered HPV vaccination: Results of the COMPASS pilot randomised trial. PLoS Medicine. 2017;14(9):e1002388.
22. Carr D, **Barnes EH**, Gordon A, Isaacs D. Effect of antibiotic use on antimicrobial antibiotic resistance and late-onset neonatal infections over 25 years in an Australian tertiary neonatal unit. Archives of Disease in Childhood Fetal and Neonatal Edition. 2017;102(3):F244–F250.
23. Casali PG, Zalcberg J, Le Cesne A, Reichardt P, Blay JY, Lindner LH, Judson IR, Schoffski P, Leyvraz S, Italiano A, Grunwald V, Pousa AL, Kotasek D, Sleijfer S, Kerst JM, Rutkowski P, Fumagalli E, Hogendoorn P, Litiere S, Marreaud S, van der Graaf W, Gronchi A, Verweij J, European Organisation for Research & Treatment of Cancer of the Soft Tissues, Italian Sarcoma Group Bone Sarcoma Group, Australasian Gastrointestinal Trials Group. Ten-year progression-free and overall survival in patients with unresectable or metastatic GI stromal tumors: Long-term analysis of the European Organisation for Research and Treatment of Cancer, Italian Sarcoma Group, and Australasian Gastro-Intestinal Trials Group intergroup phase III randomized trial on imatinib at two dose levels. Journal of Clinical Oncology. 2017;35(15):1713–1720.
24. Caskey FJ, **Morton RL**. Optimising care for children with kidney disease. Lancet. 2017;389(10084):2084–2086.
25. Caudwell-Hall J, Kamisan Atan I, **Martin A**, Guzman Rojas R, Langer S, Shek K, Dietz HP. Intrapartum predictors of maternal levator ani injury. Acta Obstetricia et Gynecologica Scandinavica. 2017;96(4):426–431.
26. Chambers SK, Occhipinti S, Foley E, Clutton S, Legg M, Berry M, **Stockler MR**, Frydenberg M, Gardiner RA, Lepore SJ, Davis ID, Smith DP. Mindfulness-based cognitive therapy in advanced prostate cancer: A randomized controlled trial. Journal of Clinical Oncology. 2017;35(3):291–297.
27. Chan DL, Pavlakis N, Schembri GP, Bernard EJ, Hsiao E, Hayes A, Barnes T, Diakos C, **Khasraw M**, Samra J, Eslick E, Roach PJ, Engel A, Clarke SJ, Bailey DL. Dual somatostatin receptor/FDG PET/CT imaging in metastatic neuroendocrine tumours: Proposal for a novel grading scheme with prognostic significance. Theranostics. 2017;7(5):1149–1158.
28. Chan DL, **Sjoquist KM**, Goldstein D, Price TJ, **Martin AJ**, Bang YJ, Kang YK, Pavlakis N. The effect of anti-angiogenic agents on overall survival in metastatic oesophago-gastric cancer: A systematic review and meta-analysis. PLoS ONE. 2017;12(2):e0172307.
29. Chim L, Salkeld G, Kelly P, Lipworth W, Hughes DA, **Stockler MR**. Societal perspective on access to publicly subsidised medicines: A cross sectional survey of 3080 adults in Australia. PLoS ONE. 2017;12(3):e0172971.
30. Chin S, Hayden AJ, **Gebski V**, Cross S, Turner SL. Long-term patient reported urinary function following external beam radiotherapy for prostate cancer. Clinical Oncology. 2017;29(7):421–428.
31. Cho YH, Craig ME, **Januszewski AS**, Benitez-Aguirre P, Hing S, **Jenkins AJ**, Donaghue KC. Higher skin autofluorescence in young people with type 1 diabetes and microvascular complications. Diabetic Medicine. 2017;34(4):543–550.
32. Clark W, Bird P, Diamond T, Gonski P, **Barnes E**, **Gebski V**. Criticisms of the VAPOUR trial in a recent commentary are unsubstantiated and incorrect. Evidence-Based Medicine. 2017;22(3):116–117.
33. Cohen PA, Brand A, Sykes P, Wrede DCH, McNally O, Eva L, Rao A, Campion M, **Stockler M**, Powell A, Codde J, Bulsara MK, Anderson L, Leung Y, Farrell L, Stoyles P. Excisional treatment in women with cervical adenocarcinoma in situ (AIS): A prospective randomised controlled non-inferiority trial to compare AIS persistence/recurrence after loop electrosurgical excision procedure with cold knife cone biopsy: Protocol for a pilot study. BMJ Open. 2017;7(8):e017576.
34. Coles CE, Griffin CL, **Kirby AM**, Titley J, Agrawal RK, Alhasso A, Bhattacharya IS, Brunt AM, Ciurlionis L, Chan C, Donovan EM, Emson MA, Harnett AN, Haviland JS, Hopwood P, Jefford ML, Kaggwa R, Sawyer EJ, Syndikus I,

Tsang YM, Wheatley DA, Wilcox M, Yarnold JR, Bliss JM, Trialists I. Partial-breast radiotherapy after breast conservation surgery for patients with early breast cancer (UK IMPORT LOW trial): 5-year results from a multicentre, randomised, controlled, phase 3, non-inferiority trial. Lancet. 2017;390(10099):1048–1060.

35. Conroy R, **Gebski V**, Latty D, Wang T, Stuart K, Ahern V. Whole breast hypofractionation: Trials, guidelines and clinical practice. Journal of Medical Imaging and Radiation Oncology. 2017;61(1):157–158.
36. Crowther CA, Middleton PF, Voysey M, **Askie L**, Duley L, Pryde PG, Marret S, Doyle LW, AMICABLE Group. Assessing the neuroprotective benefits for babies of antenatal magnesium sulphate: An individual participant data meta-analysis. PLoS Medicine. 2017;14(10):e1002398.
37. Damian DL, **Martin AJ,** Scolyer RA, Chen AC, Halliday GM. Authors' response to a reply to 'A phase II randomized controlled trial of nicotinamide for skin cancer chemoprevention in renal transplant recipients'. British Journal of Dermatology. 2017;176(2):552–553.
38. Daniels B, **Lord SJ**, **Kiely BE**, Houssami N, Haywood P, Lu CY, Ward RL, Pearson SA, HER2 Therapy Observational Study Investigators. Use and outcomes of targeted therapies in early and metastatic HER2-positive breast cancer in Australia: Protocol detailing observations in a whole of population cohort. BMJ Open. 2017;7(1):e014439.
39. Deveza LA, Hunter DJ, Wajon A, Bennell KL, Vicenzino B, Hodges P, Eyles JP, Jongs R, Riordan EA, Duong V, Min Oo W, **O'Connell R**, Meneses SR. Efficacy of combined conservative therapies on clinical outcomes in patients with thumb base osteoarthritis: Protocol for a randomised, controlled trial (combo). BMJ Open. 2017;7(1):e014498.
40. **Dieng M**, Kasparian NA, Cust AE, Costa DSJ, Tran A, Butow PN, Menzies SW, Mann GJ, **Morton RL**. Sensitivity of preference-based quality-of-life measures for economic evaluations in early-stage melanoma. JAMA Dermatol. 2017;154(1):52–59.
41. **Dieng M**, Kasparian NA, Mireskandari S, Butow P, Costa D, **Morton R**, Mann G, Menzies S, Cust A. Psychoeducational intervention for people at high risk of developing another melanoma: A pilot randomised controlled trial. BMJ Open. 2017;7(10):e015195.
42. **Ding PN**, **Lord SJ**, **Gebski V**, Links M, Bray V, Gralla RJ, Yang JC, **Lee CK**. Risk of treatment-related toxicities from EGFR tyrosine kinase inhibitors: A meta-analysis of clinical trials of gefitinib, erlotinib, and afatinib in advanced EGFR-mutated non-small cell lung cancer. Journal of Thoracic Oncology. 2017;12(4):633–643.
43. Dobler CC, Cheung K, Nguyen J, **Martin A**. Risk of tuberculosis in patients with solid cancers and haematological malignancies: A systematic review and meta-analysis. European Respiratory Journal. 2017;50(2): 10.1183/13993003.00157-2017
44. **Donoghoe MW**, **Gebski V**. The importance of censoring in competing risks analysis of the subdistribution hazard. BMC Medical Research Methodology. 2017;17(1):52.
45. Driscoll A, **Barnes EH**, Blankenberg S, Colquhoun DM, Hunt D, Nestel PJ, Stewart RA, West MJ, White HD, **Simes J**, Tonkin A. Predictors of incident heart failure in patients after an acute coronary syndrome: The lipid heart failure risk-prediction model. International Journal of Cardiology. 2017;248:361–368.
46. Duarte Gomez E, Gregory GA, Castrati Nostas M, Middlehurst AC, **Jenkins AJ**, **Ogle GD**. Incidence and mortality rates and clinical characteristics of type 1 diabetes among children and young adults in Cochabamba, Bolivia. Journal of Diabetes Research. 2017;2017:8454757.
47. Duchesne GM, Woo HH, King M, Bowe SJ, **Stockler MR**, Ames A, D'Este C, Frydenberg M, Loblaw A, Malone S, Millar J, Tai KH, Turner S. Health-related quality of life for immediate versus delayed androgen-deprivation therapy in patients with asymptomatic, non-curable prostate cancer (TROG 03.06 and VCOG PR 01-03 [TOAD]): A randomised, multicentre, non-blinded, phase 3 trial. Lancet Oncology. 2017;18(9):1192–1201.
48. Egger SJ, **Willson ML**, Morgan J, Walker HS, Carrick S, Ghersi D, Wilcken N. Platinum-containing regimens for metastatic breast cancer. Cochrane Database of Systematic Reviews. 2017;6(6):CD003374.
49. Emery JD, Jefford M, King M, Hayne D, **Martin A**, Doorey J, Hyatt A, Habgood E, Lim T, Hawks C, Pirotta M, Trevena L, Schofield P. Procare trial: A phase II randomized controlled trial of shared care for follow-up of men with prostate cancer. BJU International. 2017;119(3):381–389.
50. Farid-Kapadia M, **Askie L**, Hartling L, Contopoulos-Ioannidis D, Bhutta ZA, Soll R, Moher D, Offringa M. Do systematic reviews on pediatric topics need special methodological considerations? BMC Pediatrics. 2017;17(1):57.
51. Field KM, Fitt G, Rosenthal MA, **Simes J**, Nowak AK, **Barnes EH**, **Sawkins K**, Goh C, Moffat BA, Salinas S, Cher L, Wheeler H, Hovey EJ, Phal PM, CABARET/COGNO Investigators. Comparison between site and central radiological assessments for patients with recurrent glioblastoma on a clinical trial. Asia-Pacific Journal of Clinical Oncology. 2017: 10.1111/ajco.12806
52. Field KM, King MT, **Simes J**, **Espinoza D**, **Barnes EH**, **Sawkins K**, Rosenthal MA, Cher L, Hovey E, Wheeler H, Nowak AK. Health-related quality of life outcomes from cabaret: A randomized phase 2 trial of carboplatin and bevacizumab in recurrent glioblastoma. Journal of Neuro-Oncology. 2017;133(3):623–631.
53. Field KM, Phal PM, Fitt G, Goh C, Nowak AK, Rosenthal MA, **Simes J**, **Barnes EH**, **Sawkins K**, Cher LM, Hovey EJ, Wheeler H. The role of early magnetic resonance imaging in predicting survival on bevacizumab for recurrent glioblastoma: Results from a prospective clinical trial (CABARET). Cancer. 2017;123(18):3576–3582.
54. Fisher OM, **Lord SJ**, Falkenback D, Clemons NJ, Eslick GD, Lord RV. The prognostic value of tp53 mutations in oesophageal adenocarcinoma: A systematic review and meta-analysis. Gut. 2017;66(3):399–410.
55. Fonarow GC, **Keech AC**, Pedersen TR, Giugliano RP, Sever PS, Lindgren P, van Hout B, Villa G, Qian Y, Somaratne R, Sabatine MS. Cost-effectiveness of evolocumab therapy for reducing cardiovascular events in patients with atherosclerotic cardiovascular disease. JAMA Cardiol. 2017;2(10):1069–1078.
56. **Friedlander M**, Rau J, **Lee CK**, Meier W, Lesoin A, Kim JW, Poveda A, Buck M, Scambia G, Shimada M, Hilpert F,

King MT, Debruyne P, Bologna A, Malander S, Monk BJ, Petru E, Calvert P, Herzog TJ, Barrett C, du Bois A. Quality of life in patients with advanced epithelial ovarian cancer (EOC) randomized to maintenance pazopanib or placebo after first-line chemotherapy in the AGO-OVAR 16 trial. Measuring what matters—patient-centered end points in trials of maintenance therapy. Annals of Oncology. 2017: 10.1093/annonc/mdx796

57. **Gebski V**, **Gibbs E**, Gandhi M, Chatellier G, Dinut A, Pereira H, Chow PK, Vilgrain V. VESPRO: An individual patient data prospective meta-analysis of selective internal radiation therapy versus sorafenib for advanced, locally advanced, or recurrent hepatocellular carcinoma of the SARAH and SIRVENIB trials. JMIR Res Protoc. 2017;6(2):e17.
58. **Gebski V**, Janda M, Obermair A. Survival after laparoscopic vs abdominal hysterectomy—reply. JAMA. 2017;318(6):574–575.
59. Gendron DR, Lecours PB, Lemay AM, Beaulieu MJ, Huppe CA, Lee-Gosselin A, Flamand N, **Don AS**, Bissonnette E, Blanchet MR, Laplante M, Bourgoin SG, Bosse Y, Marsolais D. A phosphorylatable sphingosine analogue induces airway smooth muscle cytostasis and reverses airway hyperresponsiveness in experimental asthma. Front Pharmacol. 2017;8:78.
60. Giugliano RP, **Keech A**, Murphy SA, Huber K, Tokgozoglu SL, Lewis BS, Ferreira J, Pineda AL, Somaratne R, Sever PS, Pedersen TR, Sabatine MS. Clinical efficacy and safety of evolocumab in high-risk patients receiving a statin: Secondary analysis of patients with low LDL cholesterol levels and in those already receiving a maximal-potency statin in a randomized clinical trial. JAMA Cardiol. 2017;2(12):1385–1391.
61. Giugliano RP, Mach F, Zavitz K, Kurtz C, Im K, Kanevsky E, Schneider J, Wang H, **Keech A**, Pedersen TR, Sabatine MS, Sever PS, Robinson JG, Honarpour N, Wasserman SM, Ott BR, EBBINGHAUS Investigators. Cognitive function in a randomized trial of evolocumab. New England Journal of Medicine. 2017;377(7):633–643.
62. Giugliano RP, Mach F, Zavitz K, Kurtz C, Schneider J, Wang H, **Keech A**, Pedersen TR, Sabatine MS, Sever PS, Honarpour N, Wasserman SM, Ott BR, EBBINGHAUS Investigators. Design and rationale of the Ebbinghaus trial: A phase 3, double-blind, placebo-controlled, multicenter study to assess the effect of evolocumab on cognitive function in patients with clinically evident cardiovascular disease and receiving statin background lipid-lowering therapy: A cognitive study of patients enrolled in the FOURIER trial. Clinical Cardiology. 2017;40(2):59–65.
63. Giugliano RP, Pedersen TR, Park JG, De Ferrari GM, Gaciong ZA, Ceska R, Toth K, Gouni-Berthold I, Lopez-Miranda J, Schiele F, Mach F, Ott BR, Kanevsky E, Pineda AL, Somaratne R, Wasserman SM, **Keech AC**, Sever PS, Sabatine MS, FOURIER Investigators. Clinical efficacy and safety of achieving very low LDL-cholesterol concentrations with the PCSK9 inhibitor evolocumab: A prespecified secondary analysis of the FOURIER trial. Lancet. 2017;390(10106):1962–1971.
64. Graf A, McAuley SA, Sims C, Ulloa J, **Jenkins AJ**, Voskanyan G, O'Neal DN. Moving toward a unified platform for insulin delivery and sensing of inputs relevant to an artificial pancreas. Journal of Diabetes Science and Technology. 2017;11(2):308–314.
65. Graf A, Ward GM, Vogrin S, Sundararajan V, Sharifi A, De Bock MI, Jayawardene D, Loh MM, Horsburgh JC, Berthold CL, Paramalingam N, Bach LA, Colman PG, Davis EA, Grosman B, **Jenkins AJ**, Kumareswaran K, Kurtz N, Kyoong A, MacIsaac RJ, **Roy A**, Jones TW, O'Neal DN. Overnight counter-regulatory hormone levels and next day glycemia in adults with type 1 diabetes during closed-loop insulin delivery versus sensor-augmented pump with low-glucose suspend. Diabetes Technology and Therapeutics. 2017;19(7):438–439.
66. Gray B, **Kirby A**, Kabunga P, Freedman SB, Yeates L, Kanthan A, Medi C, **Keech A**, Semsarian C, Sy RW. Twelve-lead ambulatory electrocardiographic monitoring in Brugada syndrome: Potential diagnostic and prognostic implications. Heart Rhythm. 2017;14(6):866–874.
67. Haber PS, Elsayed M, **Espinoza D**, Lintzeris N, **Veillard AS**, Hallinan R. Constipation and other common symptoms reported by women and men in methadone and buprenorphine maintenance treatment. Drug and Alcohol Dependence. 2017;181:132–139.
68. Hakami NY, Ranjan AK, **Hardikar AA**, Dusting GJ, Peshavariya HM. Role of NADPH oxidase-4 in human endothelial progenitor cells. Front Physiol. 2017;8:150.
69. Harris C, **Ko H**, Waller C, Sloss P, Williams P. Sustainability in health care by allocating resources effectively (SHARE) 4: Exploring opportunities and methods for consumer engagement in resource allocation in a local healthcare setting. BMC Health Services Research. 2017;17(1):329.
70. Harris G, Jayamanne D, Wheeler H, Gzell C, Kastelan M, Schembri G, Brazier D, Cook R, Parkinson J, **Khasraw M**, Louw S, Back M. Survival outcomes of elderly patients with glioblastoma multiforme in their 75th year or older treated with adjuvant therapy. International Journal of Radiation Oncology, Biology, Physics. 2017;98(4):802–810.
71. Hayne D, **Stockler M**, McCombie SP, **Lawrence N**, **Martin A**, Sengupta S, Davis ID. BCG + mitomycin trial for high-risk non-muscle-invasive bladder cancer: Progress report and lessons learned. BJU International. 2017;119 Suppl 5(Suppl. 5):55–57.
72. Heiniger LE, Smith AB, Olver I, Grimison P, Klein B, Wootten A, Abbott JM, Price MA, McJannett M, Tran B, **Stockler MR**, Gurney H, Butow PN. e-TC: Development and pilot testing of a web-based intervention to reduce anxiety and depression in survivors of testicular cancer. European Journal of Cancer Care. 2017;26(6): 10.1111/ecc.12698
73. Hendrieckx C, Hagger V, **Jenkins A**, Skinner TC, Pouwer F, Speight J. Severe hypoglycemia, impaired awareness of hypoglycemia, and self-monitoring in adults with type 1 diabetes: Results from diabetes miles-australia. Journal of Diabetes and Its Complications. 2017;31(3):577–582.
74. Hendrieckx C, Poole LA, Sharifi A, Jayawardene D, Loh MM, Horsburgh JC, Bach LA, Colman PG, Kumareswaran K, **Jenkins AJ**, MacIsaac RJ, Ward GM, Grosman B, Roy A, O'Neal DN, Speight J. 'It is definitely a game changer': A qualitative study of experiences with in-home overnight closed-loop technology among adults with type 1 diabetes. Diabetes Technology and Therapeutics. 2017;19(7): 410–416.

75. Hong SS, Alison JA, Milross MA, **Robledo K**, Dignan R. Does continuous infusion of local anaesthesia improve pain control and walking distance after coronary artery bypass graft surgery? A randomised controlled trial. Physiotherapy. 2017;103(4):407–413.

76. Houssami N, **Hunter K**. The epidemiology, radiology and biological characteristics of interval breast cancers in population mammography screening. NPJ Breast Cancer. 2017;3:12.

77. Houssami N, Lang K, Hofvind S, Zackrisson S, Bernardi D, **Hunter K**, **Askie L**, Skaane P. Effectiveness of digital breast tomosynthesis (3d-mammography) in population breast cancer screening: A protocol for a collaborative individual participant data (IPD) meta-analysis. Translational Cancer Research. 2017;6(4):869–877.

78. Hovey EJ, Field KM, Rosenthal MA, **Barnes EH**, Cher L, Nowak AK, Wheeler H, **Sawkins K**, Livingstone A, Phal P, Goh C, **Simes J**, CABARET/COGNO Investigators. Continuing or ceasing bevacizumab beyond progression in recurrent glioblastoma: An exploratory randomized phase II trial. Neuro-Oncology Practice. 2017;4(3):171–181.

79. Itchins M, Arena J, Nahm CB, Rabindran J, Kim S, **Gibbs E**, Bergamin S, Chua TC, Gill AJ, Maher R, Diakos C, Wong M, Mittal A, Hruby G, Kneebone A, Pavlakis N, Samra J, Clarke S. Retrospective cohort analysis of neoadjuvant treatment and survival in resectable and borderline resectable pancreatic ductal adenocarcinoma in a high volume referral centre. European Journal of Surgical Oncology. 2017;43(9):1711–1717.

80. Jamil K, Zacharin M, Foster B, Donald G, Hassall T, Siafarikas A, Johnson M, Tham E, Whitewood C, **Gebski V**, Cowell CT, Little DG, Munns CF. Protocol for a randomised control trial of bisphosphonate (zoledronic acid) treatment in childhood femoral head avascular necrosis due to Perthes disease. BMJ Paediatr Open. 2017;1(1):e000084.

81. Janda M, **Gebski V**, **Davies LC**, Forder P, Brand A, Hogg R, Jobling TW, Land R, Manolitsas T, Nascimento M, Neesham D, Nicklin JL, Oehler MK, Otton G, Perrin L, Salfinger S, Hammond I, Leung Y, Sykes P, Ngan H, Garrett A, Laney M, Ng TY, Tam K, Chan K, Wrede CD, Pather S, Simcock B, Farrell R, Robertson G, Walker G, Armfield NR, Graves N, McCartney AJ, Obermair A. Effect of total laparoscopic hysterectomy vs total abdominal hysterectomy on disease-free survival among women with stage I endometrial cancer: A randomized clinical trial. JAMA. 2017;317(12):1224–1233.

82. Jayawardene DC, McAuley SA, Horsburgh JC, Gerche A, **Jenkins AJ**, Ward GM, MacIsaac RJ, Roberts TJ, Grosman B, Kurtz N, Roy A, O'Neal DN. Closed-loop insulin delivery for adults with type 1 diabetes undertaking high-intensity interval exercise versus moderate-intensity exercise: A randomized, crossover study. Diabetes Technology and Therapeutics. 2017;19(6):340–348.

83. Jefford M, Emery J, Grunfeld E, **Martin A**, Rodger P, Murray AM, De Abreu Lourenco R, Heriot A, Phipps-Nelson J, Guccione L, King D, Lisy K, Tebbutt N, Burgess A, Faragher I, Woods R, Schofield P. SCORE: Shared care of colorectal cancer survivors: Protocol for a randomised controlled trial. Trials. 2017;18(1):506.

84. Joly F, Hilpert F, Okamoto A, Stuart G, Ochiai K, **Friedlander M**, of the participants of the 5th Ovarian Cancer Consensus Conference. Fifth Ovarian Cancer Consensus Conference of the Gynecologic Cancer Intergroup: Recommendations on incorporating patient-reported outcomes in clinical trials in epithelial ovarian cancer. European Journal of Cancer. 2017;78:133–138.

85. Joseph PD, Caldwell PH, **Barnes EH**, Craig JC. Disease burden-research match? Registered trials in child health from low- and middle-income and high-income countries. Journal of Paediatrics and Child Health. 2017;53(7):667–674.

86. Jue TR, Nozue K, Lester AJ, Joshi S, Schroder LB, Whittaker SP, Nixdorf S, Rapkins RW, **Khasraw M**, McDonald KL. Veliparib in combination with radiotherapy for the treatment of MGMT unmethylated glioblastoma. Journal of Translational Medicine. 2017;15(1):61.

87. **Karikios DJ**, Chim L, **Martin A**, Nagrial A, Howard K, Salkeld G, **Stockler MR**. Is it all about price? Why requests for government subsidy of anticancer drugs were rejected in Australia. Internal Medicine Journal. 2017;47(4):400–407.

88. **Karikios DJ**, Mileshkin L, **Martin A**, Ferraro D, **Stockler MR**. Discussing and prescribing expensive unfunded anticancer drugs in Australia. ESMO Open. 2017;2(2):e000170.

89. Keall P, Nguyen DT, O'Brien R, Booth J, Greer P, Poulsen P, **Gebski V**, Kneebone A, Martin J. Stereotactic prostate adaptive radiotherapy utilising kilovoltage intrafraction monitoring: The TROG 15.01 SPARK trial. BMC Cancer. 2017;17(1):180.

90. **Keech AC**, **Jenkins AJ**. Triglyceride-lowering trials. Current Opinion in Lipidology. 2017;28(6):477–487.

91. Kelly CB, Hookham MB, Yu JY, **Jenkins AJ**, Nankervis AJ, Hanssen KF, Garg SK, Scardo JA, Hammad SM, Menard MK, Aston CE, Lyons TJ. Subclinical first trimester renal abnormalities are associated with preeclampsia in normoalbuminuric women with type 1 diabetes. Diabetes Care. 2017.

92. Kelly CB, Hookham MB, Yu JY, Lockhart SM, Du M, **Jenkins AJ**, Nankervis A, Hanssen KF, Henriksen T, Garg SK, Hammad SM, Scardo JA, Aston CE, Patterson CC, Lyons TJ. Circulating adipokines are associated with pre-eclampsia in women with type 1 diabetes. Diabetologia. 2017;60(12):2514–2524.

93. Kennedy N, Quinton A, **Brown C**, Peek MJ, Benzie R, Nanan R. Changes in maternal abdominal subcutaneous fat layers using ultrasound: A longitudinal study. Obesity Research and Clinical Practice. 2017;11(6):655–664.

94. **Ko H**, **Hunter KE**, Scott AM, **Ayson M**, **Willson ML**. A systematic review of performance-enhancing pharmacologicals and biotechnologies in the army. Journal of the Royal Army Medical Corps. 2017: 10.1136/jramc-2016-000752

95. Korevaar DA, Hooft L, **Askie LM**, Barbour V, Faure H, Gatsonis CA, **Hunter KE**, Kressel HY, Lippman H, McInnes MDF, Moher D, Rifai N, Cohen JF, Bossuyt PMM. Facilitating prospective registration of diagnostic accuracy studies: A STARD initiative. Clinical Chemistry. 2017;63(8):1331–1341.

96. Leary AF, Quinn M, Fujiwara K, Coleman RL, Kohn E, Sugiyama T, Glasspool R, Ray-Coquard I, Colombo N, Bacon M, Zeimet A, Westermann A, Gomez-Garcia E,

Provencher D, Welch S, Small W, Millan D, Okamoto A, Stuart G, Ochiai K, participants of the Fifth Ovarian Cancer Consensus Conference. Fifth Ovarian Cancer Consensus Conference of the Gynecologic Cancer Intergroup (GCIG): Clinical trial design for rare ovarian tumours. Annals of Oncology. 2017;28(4):718–726.

97. **Lee CK**, **Davies L**, Wu YL, Mitsudomi T, Inoue A, Rosell R, Zhou C, Nakagawa K, Thongprasert S, Fukuoka M, **Lord S**, **Marschner I**, Tu YK, Gralla RJ, **Gebski V**, Mok T, Yang JC. Gefitinib or erlotinib vs chemotherapy for EGFR mutation-positive lung cancer: Individual patient data meta-analysis of overall survival. Journal of the National Cancer Institute. 2017;109(6): 10.1093/jnci/djw279

98. **Lee CK**, Man J, **Lord S**, Links M, **Gebski V**, Mok T, Yang JC. Checkpoint inhibitors in metastatic EGFR-mutated non-small cell lung cancer-a meta-analysis. Journal of Thoracic Oncology. 2017;12(2):403–407.

99. Lee E, Campbell DE, **Barnes EH**, Mehr SS. Resolution of acute food protein-induced enterocolitis syndrome in children. Journal of Allergy and Clinical Immunology Practice. 2017;5(2):486–488, e481.

100. Lee YC, Bressel M, Grant P, Russell P, Smith C, Picken S, Camm S, **Kiely BE**, Milne RL, McLachlan SA, Hickey M, **Friedlander ML**, Hopper JL, Phillips KA, Kathleen Cunningham Foundation Consortium for Research into Familial Breast Cancer. Improved quality of risk-reducing salpingo-oophorectomy in Australasian women at high risk of pelvic serous cancer. Familia Cancer. 2017;16(4):461–469.

101. Leong T, Smithers BM, Haustermans K, Michael M, **Gebski V**, Miller D, Zalcberg J, Boussioutas A, Findlay M, **O'Connell RL**, Verghis J, Willis D, Kron T, Crain M, Murray WK, Lordick F, Swallow C, Darling G, **Simes J**, Wong R. TOPGEAR: A randomized, phase III trial of perioperative ECF chemotherapy with or without preoperative chemoradiation for resectable gastric cancer: Interim results from an international, intergroup trial of the AGITG, TROG, EORTC AND CCTG. Annals of Surgical Oncology. 2017;24(8):2252–2258.

102. Lester A, Rapkins R, Nixdorf S, **Khasraw M**, McDonald K. Combining PARP inhibitors with radiation therapy for the treatment of glioblastoma: Is PTEN predictive of response? Clinical and Translational Oncology. 2017;19(3):273–278.

103. Levert-Mignon A, Bourke MJ, **Lord SJ**, Taylor AC, Wettstein AR, Edwards M, Botelho NK, Sonson R, Jayasekera C, Fisher OM, Thomas ML, Macrae F, Hussey DJ, Watson DI, Lord RV. Changes in gene expression of neo-squamous mucosa after endoscopic treatment for dysplastic Barrett's esophagus and intramucosal adenocarcinoma. United European Gastroenterology Journal. 2017;5(1):13–20.

104. Liang L, Bernhardsson S, Vernooij RW, Armstrong MJ, Bussieres A, Brouwers MC, Gagliardi AR, Members of the Guidelines International Network Implementation Working Group. Use of theory to plan or evaluate guideline implementation among physicians: A scoping review. Implementation Science. 2017;12(1):26.

105. Liew G, Benitez-Aguirre P, Craig ME, **Jenkins AJ**, Hodgson LAB, Kifley A, Mitchell P, Wong TY, Donaghue K. Progressive retinal vasodilation in patients with type 1 diabetes: A longitudinal study of retinal vascular geometry. Investigative Ophthalmology and Visual Science. 2017;58(5):2503–2509.

106. Lin HM, Mahon KL, Spielman C, Gurney H, Mallesara G, **Stockler MR**, Bastick P, Briscoe K, Marx G, Swarbrick A, Horvath LG. Phase 2 study of circulating microRNA biomarkers in castration-resistant prostate cancer. British Journal of Cancer. 2017;116(8):1002–1011.

107. Lin HM, Mahon KL, Weir JM, Mundra PA, Spielman C, Briscoe K, Gurney H, Mallesara G, Marx G, **Stockler MR**, PRIMe Consortium, Parton RG, Hoy AJ, Daly RJ, Meikle PJ, Horvath LG. A distinct plasma lipid signature associated with poor prognosis in castration-resistant prostate cancer. International Journal of Cancer. 2017;141(10):2112–2120.

108. Lindemann K, **Gibbs E**, Avall-Lundqvist E, dePont Christensen R, Woie K, Kalling M, Auranen A, Grenman S, Hoegberg T, Rosenberg P, Skeie-Jensen T, Hjerpe E, Dorum A, **Gebski V**, Kristensen G. Chemotherapy vs tamoxifen in platinum-resistant ovarian cancer: A phase III, randomised, multicentre trial (OVARESIST). British Journal of Cancer. 2017;116(4):455–463.

109. Lindemann K, Kok PS, **Stockler M**, Sykes P, Brand A. Enhanced recovery after surgery for suspected ovarian malignancy: A survey of perioperative practice among gynecologic oncologists in Australia and New Zealand to inform a clinical trial. International Journal of Gynecological Cancer. 2017;27(5):1046–1050.

110. Lo BH, Klopper F, **Barnes EH**, Williams K. Agreement between concern about autism spectrum disorder at the time of referral and diagnosis, and factors associated with agreement. Journal of Paediatrics and Child Health. 2017;53(8):742–748.

111. Luckett T, Spencer L, **Morton RL**, Pollock CA, Lam L, Silvester W, Sellars M, Detering KM, Butow PN, Tong A, Clayton JM. Advance care planning in chronic kidney disease: A survey of current practice in Australia. Nephrology. 2017;22(2):139–149.

112. **Ma RCW**, Tsoi KY, Tam WH, Wong CKC. Developmental origins of type 2 diabetes: A perspective from China. European Journal of Clinical Nutrition. 2017;71(7):870–880.

113. **Martin AJ**, **Gibbs E**, **Sjoquist K**, Pavlakis N, **Simes J**, Price T, Shannon J, Gill S, Jain V, Liu G, Kannourakis G, Kim YH, Kim JW, Goldstein D, INTEGRATE I Investigators. Health-related quality of life associated with regorafenib treatment in refractory advanced gastric adenocarcinoma. Gastric Cancer. 2017: 10.1007/s10120-017-0754-1

114. McAuley SA, Ward GM, Horsburgh JC, Gooley JL, **Jenkins AJ**, MacIsaac RJ, O'Neal DN. Asymmetric changes in circulating insulin levels after an increase compared with a reduction in insulin pump basal rate in people with type 1 diabetes. Diabetic Medicine. 2017;34(8):1158–1164.

115. Meher S, Duley L, **Hunter K**, **Askie L**. Antiplatelet therapy before or after 16 weeks' gestation for preventing preeclampsia: An individual participant data meta-analysis. American Journal of Obstetrics and Gynecology. 2017;216(2):121–128, e122.

116. Mehr S, Frith K, **Barnes EH**, Campbell DE, FPIES Study Group. Food protein-induced enterocolitis syndrome in Australia: A population-based study, 2012–2014. Journal of Allergy and Clinical Immunology. 2017;140(5):1323–1330.

117. Mercieca-Bebber R, **Friedlander M**, Kok PS, Calvert M, Kyte D, **Stockler M**, King MT. Erratum to: The patient-reported outcome content of international ovarian cancer randomised controlled trial protocols. Quality of Life Research. 2017;26(8):2249–2250.

118. **Morton RL**, Tran A, Vessey JY, Rowbotham N, Winstanley J, Shannon K, Spillane AJ, Stretch J, Thompson JF, Saw RP. Quality of life following sentinel node biopsy for primary cutaneous melanoma: Health economic implications. Annals of Surgical Oncology. 2017;24(8):2071–2079.

119. Murphy C, Mukaro V, Tobler R, **Asher R**, **Gibbs E**, West L, Giuffre B, Baron-Hay S, **Khasraw M**. Evaluating the role of magnetic resonance imaging post neoadjuvant therapy for breast cancer in the NEONAB trial. Internal Medicine Journal. 2017: 10.1111/imj.13617

120. Murphy NJ, Eyles J, Bennell KL, Bohensky M, Burns A, Callaghan FM, Dickenson E, Fary C, Grieve SM, Griffin DR, Hall M, Hobson R, Kim YJ, Linklater JM, Lloyd DG, Molnar R, **O'Connell RL**, O'Donnell J, O'Sullivan M, Randhawa S, Reichenbach S, Saxby DJ, Singh P, Spiers L, Tran P, Wrigley TV, Hunter DJ. Protocol for a multi-centre randomised controlled trial comparing arthroscopic hip surgery to physiotherapy-led care for femoroacetabular impingement (FAI): The Australian FASHION trial. BMC Musculoskeletal Disorders. 2017;18(1):406.

121. O'Carrigan B, Wong MH, **Willson ML**, **Stockler MR**, Pavlakis N, Goodwin A. Bisphosphonates and other bone agents for breast cancer. Cochrane Database of Systematic Reviews. 2017;10:CD003474.

122. **Oei JL**, Finer NN, Saugstad OD, Wright IM, Rabi Y, **Tarnow-Mordi W**, Rich W, Kapadia V, Rook D, Smyth JP, Lui K, Vento M. Outcomes of oxygen saturation targeting during delivery room stabilisation of preterm infants. Archives of Disease in Childhood Fetal and Neonatal Edition. 2017: 10.1136/archdischild-2016-312366

123. **Oei JL**, Saugstad OD, Lui K, Wright IM, Smyth JP, Craven P, Wang YA, McMullan R, **Coates A**, Ward M, Mishra P, De Waal K, Travadi J, See KC, Cheah IG, Lim CT, Choo YM, Kamar AA, Cheah FC, Masoud A, **Tarnow-Mordi W**. Targeted oxygen in the resuscitation of preterm infants, a randomized clinical trial. Pediatrics. 2017;139(1): 10.1542/peds.2016-1452

124. **Oei JL**, Vento M, Rabi Y, Wright I, Finer N, Rich W, Kapadia V, Aune D, Rook D, **Tarnow-Mordi W**, Saugstad OD. Higher or lower oxygen for delivery room resuscitation of preterm infants below 28 completed weeks gestation: A meta-analysis. Archives of Disease in Childhood Fetal and Neonatal Edition. 2017;102(1):F24–F30.

125. **Ong KL**, **O'Connell R**, **Januszewski AS**, **Jenkins AJ**, Xu A, Sullivan DR, Barter PJ, Scott RS, Taskinen MR, **Waldman B**, Colman PG, Best JD, **Simes JR**, Rye KA, **Keech AC**, FIELD Study Investigators. Baseline circulating FGF21 concentrations and increase after fenofibrate treatment predict more rapid glycemic progression in type 2 diabetes: Results from the FIELD study. Clinical Chemistry. 2017;63(7):1261–1270.

126. Park SB, Kwok JB, **Asher R**, **Lee CK**, Beale P, Selle F, **Friedlander M**. Clinical and genetic predictors of paclitaxel neurotoxicity based on patient- versus clinician-reported incidence and severity of neurotoxicity in the icon7 trial. Annals of Oncology. 2017;28(11):2733–2740.

127. Pearce A, Haas M, Viney R, Pearson SA, Haywood P, **Brown C**, Ward R. Incidence and severity of self-reported chemotherapy side effects in routine care: A prospective cohort study. PLoS ONE. 2017;12(10):e0184360.

128. Pellise M, Burgess NG, Tutticci N, Hourigan LF, Zanati SA, Brown GJ, Singh R, Williams SJ, Raftopoulos SC, Ormonde D, Moss A, **Byth K**, P'Ng H, Mahajan H, McLeod D, Bourke MJ. Endoscopic mucosal resection for large serrated lesions in comparison with adenomas: A prospective multicentre study of 2000 lesions. Gut. 2017;66(4):644–653.

129. Petrie JR, Chaturvedi N, Ford I, Brouwers M, Greenlaw N, Tillin T, Hramiak I, Hughes AD, **Jenkins AJ**, Klein BEK, Klein R, Ooi TC, Rossing P, Stehouwer CDA, Sattar N, Colhoun HM, REMOVAL Study Group. Cardiovascular and metabolic effects of metformin in patients with type 1 diabetes (REMOVAL): A double-blind, randomised, placebo-controlled trial. Lancet Diabetes Endocrinol. 2017;5(8):597–609.

130. Petrie JR, Chaturvedi N, Ford I, Hramiak I, Hughes AD, **Jenkins AJ**, B EK, Klein R, Ooi TC, Rossing P, Sattar N, Stehouwer CD, Colhoun HM, Team RT. Metformin in adults with type 1 diabetes: Design and methods of reducing with metformin vascular adverse lesions (REMOVAL): An international multicentre trial. Diabetes, Obesity and Metabolism. 2017;19(4):509–516.

131. Phillips C, Jeffree R, **Khasraw M**. Management of breast cancer brain metastases: A practical review. Breast. 2017;31:90–98.

132. Phillips C, Jeffree R, **Khasraw M**. Reply to Dr Altundag from the authors of 'Management of breast cancer brain metastases; A practical review'. Breast. 2017;34:133.

133. Pickering H, Murray J, Lin CS, Cormack C, **Martin A**, Kiernan MC, Krishnan AV. Fampridine treatment and walking distance in multiple sclerosis: A randomised controlled trial. Clinical Neurophysiology. 2017;128(1):93–99.

134. Pickering JW, Than MP, Cullen L, Aldous S, Ter Avest E, Body R, Carlton EW, Collinson P, Dupuy AM, Ekelund U, Eggers KM, Florkowski CM, Freund Y, George P, Goodacre S, Greenslade JH, Jaffe AS, **Lord SJ**, Mokhtari A, Mueller C, Munro A, Mustapha S, Parsonage W, Peacock WF, Pemberton C, Richards AM, Sanchis J, **Staub LP**, Troughton R, Twerenbold R, Wildi K, Young J. Rapid rule-out of acute myocardial infarction with a single high-sensitivity cardiac troponin t measurement below the limit of detection: A collaborative meta-analysis. Annals of Internal Medicine. 2017;166(10):715–724.

135. Potter JE, Herkes RG, Perry L, Elliott RM, Aneman A, Brieva JL, Cavazzoni E, Cheng AT, O'Leary MJ, Seppelt IM, **Gebski V**, COMFORT Study Investigators. Communication with families regarding organ and tissue donation after death in intensive care (COMFORT): Protocol for an intervention study. BMC Health Services Research. 2017;17(1):42.

136. Pottie K, Mayhew AD, **Morton RL**, Greenaway C, Akl EA, Rahman P, Zenner D, Pareek M, Tugwell P, Welch V, Meerpohl J, Alonso-Coello P, Hui C, Biggs BA, Requena-Mendez A, Agbata E, Noori T, Schunemann HJ. Prevention and assessment of infectious diseases among children and adult migrants arriving to the European Union/European Economic Association: A protocol for a

suite of systematic reviews for public health and health systems. BMJ Open. 2017;7(9):e014608.

137. Pottie K, Welch V, **Morton R**, Akl EA, Eslava-Schmalbach JH, Katikireddi V, Singh J, Moja L, Lang E, Magrini N, Thabane L, Stanev R, Matovinovic E, Snellman A, Briel M, Shea B, Tugwell P, Schunemann H, Guyatt G, Alonso-Coello P. Grade Equity Guidelines 4: Considering health equity in grade guideline development: Evidence to decision process. Journal of Clinical Epidemiology. 2017;90:84–91.

138. Pujade-Lauraine E, Ledermann JA, Selle F, **Gebski V**, Penson RT, Oza AM, Korach J, Huzarski T, Poveda A, Pignata S, **Friedlander M**, Colombo N, Harter P, Fujiwara K, Ray-Coquard I, Banerjee S, Liu J, Lowe ES, Bloomfield R, Pautier P, Korach J, Huzarski T, Byrski T, Pautier P, Friedlander M, Harter P, Colombo N, Pignata S, Scambia G, Nicoletto M, Nussey F, Clamp A, Penson R, Oza A, Poveda Velasco A, Rodrigues M, Lotz J-P, Selle F, Ray-Coquard I, Provencher D, Prat Aparicio A, Vidal Boixader L, Scott C, Tamura K, Yunokawa M, Lisyanskaya A, Medioni J, Pécuchet N, Dubot C, de la Motte Rouge T, Kaminsky M-C, Weber B, Lortholary A, Parkinson C, Ledermann J, Williams S, Banerjee S, Cosin J, Hoffman J, Penson R, Plante M, Covens A, Sonke G, Joly F, Floquet A, Banerjee S, Hirte H, Amit A, Park-Simon T-W, Matsumoto K, Tjulandin S, Kim JH, Gladieff L, Sabbatini R, O'Malley D, Timmins P, Kredentser D, Laínez Milagro N, Barretina Ginesta MP, Tibau Martorell A, Gómez de Liaño Lista A, Ojeda González B, Mileshkin L, Mandai M, Boere I, Ottevanger P, Nam J-H, Filho E, Hamizi S, Cognetti F, Warshal D, Dickson-Michelson E, Kamelle S, McKenzie N, Rodriguez G, Armstrong D, Chalas E, Celano P, Behbakht K, Davidson S, Welch S, Helpman L, Fishman A, Bruchim I, Sikorska M, Słowińska A, Rogowski W, Bidziński M, Śpiewankiewicz B, Casado Herraez A, Mendiola Fernández C, Gropp-Meier M, Saito T, Takehara K, Enomoto T, Watari H, Choi CH, Kim B-G, Kim JW, Hegg R, Vergote I. Olaparib tablets as maintenance therapy in patients with platinum-sensitive, relapsed ovarian cancer and a brca1/2 mutation (solo2/engot-ov21): A double-blind, randomised, placebo-controlled, phase 3 trial. The Lancet Oncology. 2017;18(9):1274–1284.

139. Rakhimova GN, Alimova NU, Ryaboshtan A, **Waldman B**, **Ogle GD**, Ismailov SI. Epidemiological data of type 1 diabetes mellitus in children in Uzbekistan, 1998–2014. Pediatric Diabetes. 2017: 10.1111/pedi.12495

140. Read SA, O'Connor KS, Suppiah V, Ahlenstiel CLE, Obeid S, Cook KM, Cunningham A, Douglas MW, **Hogg PJ**, Booth D, George J, Ahlenstiel G. Zinc is a potent and specific inhibitor of ifn-lambda3 signalling. Nature Communications. 2017;8:15245.

141. Robbins SR, Melo LRS, Urban H, Deveza LA, **Asher R**, Johnson VL, Hunter DJ. Stepped care approach for medial tibiofemoral osteoarthritis (STREAMLINE): Protocol for a randomised controlled trial. BMJ Open. 2017;7(12):e018495.

142. Rokhsefat S, Morra DE, Offringa M, **Askie LM**, Kelly LE. Trial registration in pediatric surgery trials. Journal of Pediatric Surgery. 2017: 10.1016/j.jpedsurg.2017.10.049

143. **Roncolato FT**, **Gibbs E**, **Lee CK**, **Asher R**, **Davies LC**, **Gebski VJ**, **Friedlander M**, Hilpert F, Wenzel L, **Stockler MR**, King M, Pujade-Lauraine E. Quality of life predicts overall survival in women with platinum-resistant ovarian cancer: An AURELIA substudy. Annals of Oncology. 2017;28(8):1849–1855.

144. **Roncolato FT,** Joly F, **O'Connell R**, Lanceley A, Hilpert F, Buizen L, Okamoto A, Aotani E, Pignata S, Donnellan P, Oza A, Avall-Lundqvist E, Berek JS, Heitz F, Feeney A, Berton-Rigaud D, **Stockler MR**, King M, **Friedlander M**, The GCIG Symptom Benefit Group. Reducing uncertainty: Predictors of stopping chemotherapy early and shortened survival time in platinum resistant/refractory ovarian cancer—the GCIG Symptom Benefit Study. Oncologist. 2017;22(9):1117–1124.

145. Sabanathan D, Zhang A, Fox P, Coulter S, **Gebski V**, Balakrishnar B, Chan M, Liddle C, Gurney H. Dose individualization of sunitinib in metastatic renal cell cancer: Toxicity-adjusted dose or therapeutic drug monitoring. Cancer Chemotherapy and Pharmacology. 2017;80(2):385–393.

146. Sabanayagam C, Lye WK, **Januszewski A**, Banu Binte Mohammed Abdul R, Cheung GCM, Kumari N, Wong TY, Cheng CY, Lamoureux E. Urinary isoprostane levels and age-related macular degeneration. Investigative Ophthalmology and Visual Science. 2017;58(5):2538–2543.

147. Sabatine MS, Giugliano RP, **Keech AC**, Honarpour N, Wiviott SD, Murphy SA, Kuder JF, Wang H, Liu T, Wasserman SM, Sever PS, Pedersen TR, Committee FS, Investigators. Evolocumab and clinical outcomes in patients with cardiovascular disease. New England Journal of Medicine. 2017;376(18):1713–1722.

148. Sabatine MS, Leiter LA, Wiviott SD, Giugliano RP, Deedwania P, De Ferrari GM, Murphy SA, Kuder JF, Gouni-Berthold I, Lewis BS, Handelsman Y, Pineda AL, Honarpour N, **Keech AC**, Sever PS, Pedersen TR. Cardiovascular safety and efficacy of the PCSK9 inhibitor evolocumab in patients with and without diabetes and the effect of evolocumab on glycaemia and risk of new-onset diabetes: A prespecified analysis of the FOURIER randomised controlled trial. Lancet Diabetes Endocrinology. 2017;5(12):941–950.

149. Schou IM, **Marschner IC**. Design of clinical trials involving multiple hypothesis tests with a common control. Biomedical Journal. 2017;59(4):636–657.

150. Scott AM. Health technology assessment in Australia: A role for clinical registries? Australian Health Review. 2017;41(1):19–25.

151. Scott ES, Fulcher GR, Clifton-Bligh RJ. Sensor-augmented CSII therapy with predictive low-glucose suspend following total pancreatectomy. Endocrinology, Diabetes and Metabolism Case Reports. 2017;2017.

152. Segelov E, Lordick F, Goldstein D, Chantrill LA, Croagh D, Lawrence B, Arnold D, Chau I, Obermannova R, Price TJ. Current challenges in optimizing systemic therapy for patients with pancreatic cancer: Expert perspectives from the Australasian GastroIntestinal Trials Group (AGITG) with invited international faculty. Expert Review of Anticancer Therapy. 2017;17(10):951–964.

153. Seidler AL, Rethberg C, Schmitt J, Nienhaus A, Seidler A. Health utilities for chronic low back pain. Journal of Occupational Medicine and Toxicology. 2017;12:28.

154. Sellars M, Tong A, Luckett T, **Morton RL**, Pollock CA, Spencer L, Silvester W, Clayton JM. Clinicians' perspectives

on advance care planning for patients with CKD in Australia: An interview study. American Journal of Kidney Diseases. 2017;70(3):315–323.

155. Sharman JE, Stanton T, Reid CM, **Keech A**, Roberts-Thomson P, Stewart S, Greenough R, Stowasser M, Abhayaratna WP. Targeted lowering of central blood pressure in patients with hypertension: Baseline recruitment, rationale and design of a randomized controlled trial (the LOW CBP study). Contemporary Clinical Trials. 2017;62:37–42.

156. **Sjoquist KM**, Renfro LA, **Simes RJ**, Tebbutt NC, Clarke S, Seymour MT, Adams R, Maughan TS, Saltz L, Goldberg RM, Schmoll HJ, Van Cutsem E, Douillard JY, Hoff PM, Hecht JR, Tournigand C, Punt CJA, Koopman M, Hurwitz H, Heinemann V, Falcone A, Porschen R, Fuchs C, Diaz-Rubio E, Aranda E, Bokemeyer C, Souglakos I, Kabbinavar FF, Chibaudel B, Meyers JP, Sargent DJ, de Gramont A, Zalcberg JR, Fondation Aide et Recherche en Cancerologie Digestive G. Personalizing survival predictions in advanced colorectal cancer: The ARCAD nomogram project. Journal of the National Cancer Institute. 2017: 10.1093/jnci/djx253

157. Smit AK, **Espinoza D**, Newson AJ, **Morton RL**, Fenton G, Freeman L, Dunlop K, Butow PN, Law MH, Kimlin MG, Keogh LA, Dobbinson SJ, Kirk J, Kanetsky PA, Mann GJ, Cust AE. A pilot randomized controlled trial of the feasibility, acceptability, and impact of giving information on personalized genomic risk of melanoma to the public. Cancer Epidemiology, Biomarkers and Prevention. 2017;26(2):212–221.

158. Smit AK, Keogh LA, Newson AJ, Butow PN, Dunlop K, **Morton RL**, Kirk J, **Espinoza D**, Cust AE. Does personalized melanoma genomic risk information trigger conversations about skin cancer prevention and skin examination with family, friends and health professionals? British Journal of Dermatology. 2017;177(3):779–790.

159. Sorio R, Roemer-Becuwe C, Hilpert F, **Gibbs E**, Garcia Y, Kaern J, Huizing M, Witteveen P, Zagouri F, Coeffic D, Luck HJ, Gonzalez-Martin A, Kristensen G, Levache CB, **Lee CK**, **Gebski V**, Pujade-Lauraine E, AURELIA Investigators. Safety and efficacy of single-agent bevacizumab-containing therapy in elderly patients with platinum-resistant recurrent ovarian cancer: Subgroup analysis of the randomised phase III AURELIA trial. Gynecologic Oncology. 2017;144(1):65–71.

160. Stewart RAH, Colquhoun DM, **Marschner SL**, **Kirby AC**, **Simes J**, Nestel PJ, Glozier N, O'Neil A, Oldenburg B, White HD, Tonkin AM, LIPID Study Investigators. Persistent psychological distress and mortality in patients with stable coronary artery disease. Heart. 2017;103(23):1860–1866.

161. Sundaresan P, King M, **Stockler M**, Costa D, Milross C. Barriers to radiotherapy utilization: Consumer perceptions of issues influencing radiotherapy-related decisions. Asia-Pacific Journal of Clinical Oncology. 2017;13(5):e489–e496.

162. Tan AC, Heimberger AB, **Khasraw M**. Immune checkpoint inhibitors in gliomas. Current Oncology Reports. 2017;19(4):23.

163. Tan JW, Turner PJ, Valerio C, Sertori R, **Barnes EH**, Campbell DE. Striking the balance between primary prevention of allergic disease and optimal infant growth and nutrition. Pediatric Allergy and Immunology. 2017;28(8):844–847.

164. **Tarnow-Mordi W**, Cruz M, Morris JM, Mol BW. RCT evidence should drive clinical practice: A day without randomisation is a day without progress. British Journal of Obstetrics and Gynaecology. 2017;124(4):613.

165. **Tarnow-Mordi W**, Morris J, **Kirby A**, **Robledo K**, **Askie L**, Brown R, Evans N, Finlayson S, Fogarty M, **Gebski V**, Ghadge A, **Hague W**, Isaacs D, Jeffery M, **Keech A**, Kluckow M, Popat H, Sebastian L, Aagaard K, Belfort M, Pammi M, Abdel-Latif M, Reynolds G, Ariff S, Sheikh L, Chen Y, Colditz P, Liley H, Pritchard M, de Luca D, de Waal K, Forder P, Duley L, El-Naggar W, Gill A, Newnham J, Simmer K, Groom K, Weston P, Gullam J, Patel H, Koh G, Lui K, Marlow N, Morris S, Sehgal A, Wallace E, Soll R, Young L, Sweet D, Walker S, Watkins A, Wright I, Osborn D, **Simes J**, Australian Placental Transfusion Study Collaborative Group. Delayed versus immediate cord clamping in preterm infants. New England Journal of Medicine. 2017;377(25):2445–2455.

166. Tattersall MH, Jefford M, **Martin A**, Olver I, Thompson JF, Brown RF, Butow PN. Parallel multicentre randomised trial of a clinical trial question prompt list in patients considering participation in phase 3 cancer treatment trials. BMJ Open. 2017;7(3):e012666.

167. **Thavaneswaran S**, Kok PS, Price T. Evaluating the addition of oxaliplatin to single agent fluoropyrimidine in the treatment of locally advanced rectal cancer: A systematic review and meta-analysis. Expert Review of Anticancer Therapy. 2017;17(10):965–979.

168. Tong A, Manns B, Hemmelgarn B, Wheeler DC, Evangelidis N, Tugwell P, Crowe S, Van Biesen W, Winkelmayer WC, O'Donoghue D, Tam-Tham H, Shen JI, Pinter J, Larkins N, Youssouf S, Mandayam S, Ju A, Craig JC, Investigators S-H. Establishing core outcome domains in hemodialysis: Report of the Standardized Outcomes in Nephrology-Hemodialysis (SONG-HD) Consensus Workshop. American Journal of Kidney Diseases. 2017;69(1):97–107.

169. Tong PL, West NP, Cox AJ, **Gebski VJ**, Watts AM, Dodds A, de St Groth BF, Cripps AW, Shumack S. Oral supplementation with bovine whey-derived ig-rich fraction and lactoferrin improves SCORAD and DLQI in atopic dermatitis. Journal of Dermatological Science. 2017;85(2):143–146.

170. Umrani MR, Joglekar MV, Somerville Glover E, Wong W, **Hardikar AA**. Connexins and microRNAs: Interlinked players in regulating islet function? Islets. 2017;9(5):99–108.

171. van den Bent M, Gan HK, Lassman AB, Kumthekar P, Merrell R, Butowski N, Lwin Z, Mikkelsen T, Nabors LB, Papadopoulos KP, Penas-Prado M, **Simes J**, Wheeler H, Walbert T, Scott AM, Gomez E, Lee HJ, Roberts-Rapp L, Xiong H, Bain E, Ansell PJ, Holen KD, Maag D, Reardon DA. Efficacy of depatuxizumab mafodotin (ABT-414) monotherapy in patients with EGFR-amplified, recurrent glioblastoma: Results from a multi-center, international study. Cancer Chemotherapy and Pharmacology. 2017;80(6):1209–1217.

172. van den Bent MJ, Baumert B, Erridge SC, Vogelbaum MA, Nowak AK, Sanson M, Brandes AA, Clement PM,

Baurain JF, Mason WP, Wheeler H, Chinot OL, Gill S, Griffin M, Brachman DG, Taal W, Ruda R, Weller M, McBain C, Reijneveld J, Enting RH, Weber DC, Lesimple T, Clenton S, Gijtenbeek A, Pascoe S, Herrlinger U, Hau P, Dhermain F, van Heuvel I, Stupp R, Aldape K, Jenkins RB, Dubbink HJ, Dinjens WNM, Wesseling P, Nuyens S, Golfinopoulos V, Gorlia T, Wick W, Kros JM. Interim results from the CATNON trial (EORTC study 26053-22054) of treatment with concurrent and adjuvant temozolomide for 1p/19q non-co-deleted anaplastic glioma: A phase 3, randomised, open-label intergroup study. Lancet. 2017;390(10103):1645–1653.

173. van Vliet EO, **Askie L**, Mol BW, Oudijk MA. Antiplatelet agents and the prevention of spontaneous preterm birth: A systematic review and meta-analysis. Obstetrics and Gynecology. 2017;129(2):327–336.

174. Vanholder R, Annemans L, Brown E, Gansevoort R, Gout-Zwart JJ, Lameire N, **Morton RL**, Oberbauer R, Postma MJ, Tonelli M, Biesen WV, Zoccali C, European Kidney Health Alliance. Reducing the costs of chronic kidney disease while delivering quality health care: A call to action. Nature Reviews Nephrology. 2017;13(7):393–409.

175. Vanholder R, Annemans L, Brown E, Gansevoort R, Gout-Zwart JJ, Lameire N, **Morton RL**, Oberbauer R, Postma MJ, Tonelli M, Van Biesen W, Zoccali C, European Kidney Health Alliance. Further approaches to reduce the cost of renal replacement therapy. Nature Reviews Nephrology. 2017;13(11):720.

176. Vasista A, **Stockler MR**, West T, Wilcken N, **Kiely BE**. More than just the median: Calculating survival times for patients with HER2 positive, metastatic breast cancer using data from recent randomised trials. Breast. 2017;31:99–104.

177. Velayutham V, Benitez-Aguirre PZ, Craig ME, Liew G, Wong TY, **Jenkins AJ**, Donaghue KC. Innovative technology shows impact of glycaemic control on peripheral retinal vessels in adolescents with type 1 diabetes. Diabetologia. 2017;60(10):2103–2110.

178. Velayutham V, Benitez-Aguirre PZ, Craig ME, Liew G, Wong TY, **Jenkins AJ**, Donaghue KC. Erratum to: Innovative technology shows impact of glycaemic control on peripheral retinal vessels in adolescents with type 1 diabetes. Diabetologia. 2017;60(12):2541.

179. Velentzis LS, Caruana M, Simms KT, Lew JB, Shi JF, Saville M, Smith MA, **Lord SJ**, Tan J, Bateson D, Quinn M, Canfell K. How will transitioning from cytology to HPV testing change the balance between the benefits and harms of cervical cancer screening? Estimates of the impact on cervical cancer, treatment rates and adverse obstetric outcomes in Australia, a high vaccination coverage country. International Journal of Cancer. 2017;141(12):2410–2422.

180. Virdee PS, Moschandreas J, **Gebski V**, Love SB, Francis EA, Wasan HS, van Hazel G, Gibbs P, Sharma RA. Protocol for combined analysis of FOXFIRE, SIRFLOX, and FOXFIRE—global randomized phase III trials of chemotherapy +/- selective internal radiation therapy as first-line treatment for patients with metastatic colorectal cancer. JMIR Research Protocols. 2017;6(3):e43.

181. **Waldman B**, **Jenkins AJ**, Sullivan D, Ng MKC, **Keech AC**. HDL as a target for glycemic control. Current Drug Targets. 2017;18(6):651–673.

182. Walker RC, Howard K, **Morton RL**. Home hemodialysis: A comprehensive review of patient-centered and economic considerations. Clinicoeconomic Outcomes Research. 2017;9:149–161.

183. Walker RC, Marshall R, Howard K, **Morton RL**, Marshall MR. 'Who matters most?' Clinician perspectives of influence and recommendation on home dialysis uptake. Nephrology. 2017;22(12):977–984.

184. Walker RC, Walker S, **Morton RL**, Tong A, Howard K, Palmer SC. Maori patients' experiences and perspectives of chronic kidney disease: A New Zealand qualitative interview study. BMJ Open. 2017;7(1):e013829.

185. Wapnir IL, Gelber S, Anderson SJ, Mamounas EP, Robidoux A, Martin M, Nortier JW, Geyer CE, Jr., Paterson AH, Lang I, Price KN, **Coates AS**, Gelber RD, Rastogi P, Regan MM, Wolmark N, Aebi S, International Breast Cancer Study Group. Poor prognosis after second locoregional recurrences in the CALOR trial. Annals of Surgical Oncology. 2017;24(2):398–406.

186. Wasan HS, Gibbs P, Sharma NK, Taieb J, Heinemann V, Ricke J, Peeters M, Findlay M, Weaver A, Mills J, Wilson C, Adams R, Francis A, Moschandreas J, Virdee PS, Dutton P, Love S, **Gebski V**, Gray A, FOXFIRE Trial Investigators, SIRFLOX Trial Investigators, FOXFIRE-Global Investigators, van Hazel G, Sharma RA. First-line selective internal radiotherapy plus chemotherapy versus chemotherapy alone in patients with liver metastases from colorectal cancer (FOXFIRE, SIRFLOX, AND FOXFIRE-Global): A combined analysis of three multicentre, randomised, phase 3 trials. Lancet Oncology. 2017;18(9):1159–1171.

187. Watts CG, Cust AE, Menzies SW, Mann GJ, **Morton RL**. Cost-effectiveness of skin surveillance through a specialized clinic for patients at high risk of melanoma. Journal of Clinical Oncology. 2017;35(1):63–71.

188. Watts CG, Madronio C, **Morton RL**, Goumas C, Armstrong BK, Curtin A, Menzies SW, Mann GJ, Thompson JF, Cust AE. Clinical features associated with individuals at higher risk of melanoma: A population-based study. JAMA Dermatology. 2017;153(1):23–29.

189. Watts CG, Madronio CM, **Morton RL**, Goumas C, Armstrong BK, Curtin A, Menzies SW, Mann GJ, Thompson JF, Cust AE. Diagnosis and clinical management of melanoma patients at higher risk of a new primary melanoma: A population-based study in New South Wales, Australia. Australasian Journal of Dermatology. 2017;58(4):278–285.

190. Webster AC, Nagler EV, **Morton RL**, Masson P. Chronic kidney disease. Lancet. 2017;389(10075):1238–1252.

191. Wei-Liang Tan J, Valerio C, **Barnes EH**, Turner PJ, Van Asperen PA, Kakakios AM, Campbell DE, Beating Egg Allergy Trial Study Group. A randomized trial of egg introduction from 4 months of age in infants at risk for egg allergy. Journal of Allergy and Clinical Immunology. 2017;139(5):1621–1628, e1628.

192. Welch VA, Akl EA, Guyatt G, Pottie K, Eslava-Schmalbach J, Ansari MT, de Beer H, Briel M, Dans T, Dans I, Hultcrantz M, Jull J, Katikireddi SV, Meerpohl J, **Morton R**, Mosdol A, Petkovic J, Schunemann HJ, Sharaf RN, Singh JA, Stanev R, Tonia T, Tristan M, Vitols S, Watine J, Tugwell P. Grade Equity Guidelines 1: Considering health equity in grade guideline development: Introduction and rationale. Journal of Clinical Epidemiology. 2017;90:59–67.

193. Welch VA, Akl EA, Pottie K, Ansari MT, Briel M, Christensen R, Dans A, Dans L, Eslava-Schmalbach J, Guyatt G, Hultcrantz M, Jull J, Katikireddi SV, Lang E, Matovinovic E, Meerpohl JJ, **Morton RL**, Mosdol A, Murad MH, Petkovic J, Schunemann H, Sharaf R, Shea B, Singh JA, Sola I, Stanev R, Stein A, Thabaneii L, Tonia T, Tristan M, Vitols S, Watine J, Tugwell P. Grade Equity Guidelines 3: Considering health equity in grade guideline development: Rating the certainty of synthesized evidence. Journal of Clinical Epidemiology. 2017;90:76–83.

194. Wetzig N, Gill PG, **Espinoza D**, **Mister R**, **Stockler MR**, **Gebski VJ**, Ung OA, Campbell I, **Simes J**. Sentinel-lymph-node-based management or routine axillary clearance? Five-year outcomes of the RACS Sentinel Node Biopsy versus Axillary Clearance (SNAC) 1 trial: Assessment and incidence of true lymphedema. Annals of Surgical Oncology. 2017;24(4):1064–1070.

195. Whittaker S, Madani D, Joshi S, Chung SA, Johns T, Day B, **Khasraw M**, McDonald KL. Combination of palbociclib and radiotherapy for glioblastoma. Cell Death Discovery. 2017;3:17033.

196. **Willson ML**, Vernooij RWM, Gagliardi AR, Guidelines International Network Implementation Working Group. Questionnaires used to assess barriers of clinical guideline use among physicians are not comprehensive, reliable, or valid: A scoping review. Journal of Clinical Epidemiology. 2017;86:25–38.

197. Wong SE, North SA, Sweeney CJ, **Stockler MR**, Sridhar SS. Screen failure rates in contemporary randomised clinical Phase II/III therapeutic trials in genitourinary malignancies. Clinical Genitourinary Cancer. 2017: 10.1016/j.clgc.2017.08.019

198. Zalewski K, **Lindemann K**, Halaska MJ, Zapardiel I, Laky R, Chereau E, Lindquist D, Polterauer S, Sukhin V, Dursun P. A call for new communication channels for gynecological oncology trainees: A survey on social media use and educational needs by the european network of young gynecological oncologists. International Journal of Gynecological Cancer. 2017;27(3):620–626.

199. Zhang AY, Judson I, Benson C, Wunder JS, Ray-Coquard I, Grimer RJ, Quek R, Wong E, Miah AB, Ferguson PC, Dufresne A, Teh JYH, **Stockler M**, Tattersall MHN. Chemotherapy with radiotherapy influences time-to-development of radiation-induced sarcomas: A multicenter study. British Journal of Cancer. 2017;117(3):326–331.

200. Zhou B, **Hogg PJ**, Grater F. One-way allosteric communication between the two disulfide bonds in tissue factor. Biophysical Journal. 2017;112(1):78–86.

Reports

201. **Agresta B**, **Carrillo S**. Melanoma surveillance photography—Total body photography and digital dermoscopy. Canberra: Medical Services Advisory Committee; 2017. Report No. 1356.

202. **Askie LM**, **Hunter KE**, **Berber S**, **Langford A**, **Tan-Koay AG**, Vu T, Sausa R, Seidler AL, Ko H, **Simes RJ**. The clinical trials landscape in Australia 2006–2015. Sydney: Australia and New Zealand Clinical Trials Registry; 2017.

203. **Ayson M**. Programmed cell death ligand 1 (PD L1) testing in recurrent or metastatic squamous cell carcinoma of the head and neck (SCCHN) to determine eligibility for durvalumab monotherapy or durvalumab/tremelimumab combination therapy (co-dependent). Canberra: Medical Services Advisory Committee; 2017. Report No. 1505.

204. **Carrillo S**. Critique of MSAC 1146.3—Capsule endoscopy for the diagnosis of suspected small bowel Crohn disease (resubmission). Canberra: Medical Services Advisory Committee, 2017. Report No. 1146.3.

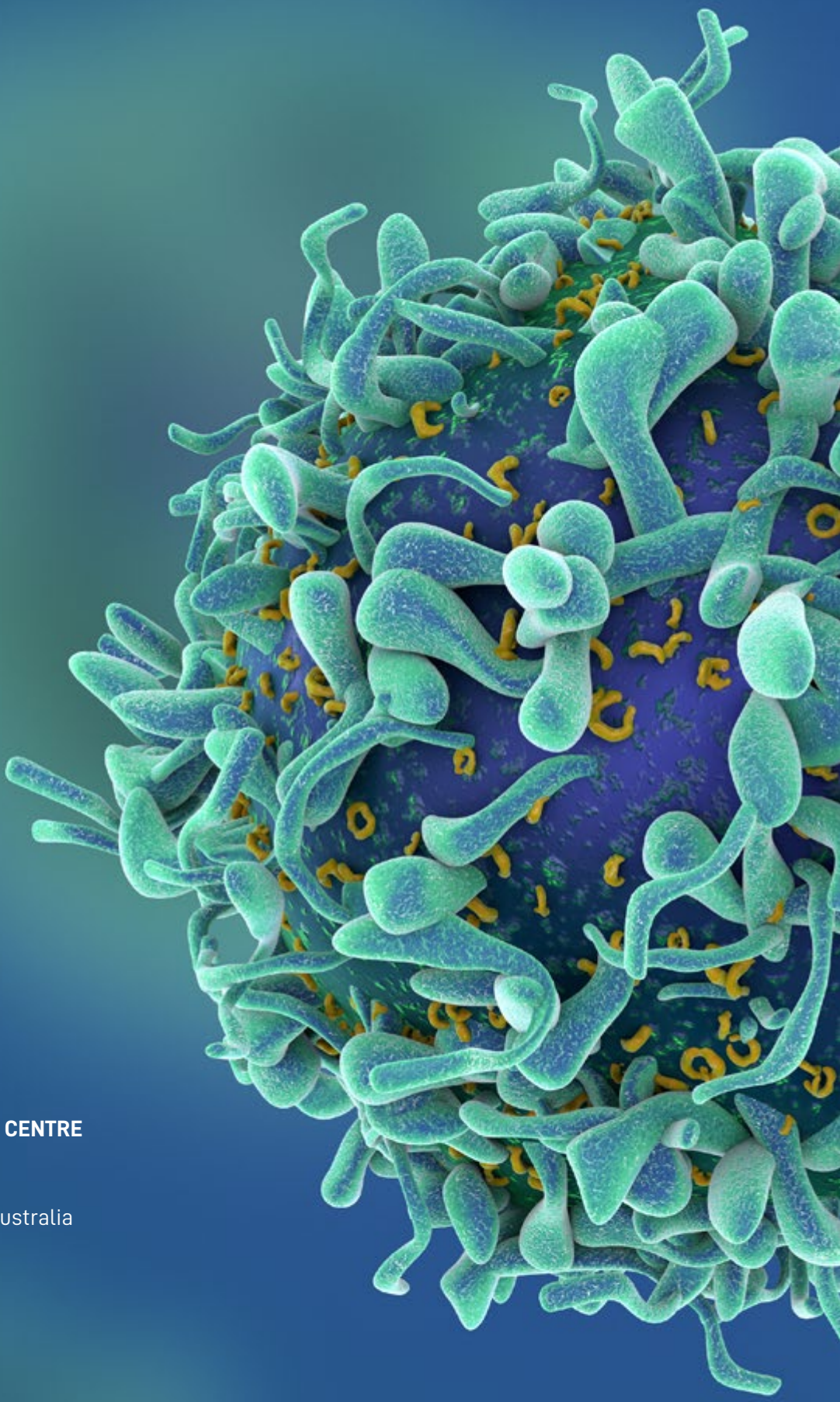
205. **Lewis S**. MSAC PICO confirmation 1464—Breast magnetic resonance imaging for improved definition of the breast cancer primary. Canberra: Medical Services Advisory Committee; 2017. Report No. 1464.

206. **Staub L**. PICO CONFIRMATION 1493—Transarterial radioembolisation with yttrium-90 (TARE-Y) for the treatment of unresectable hepatocellular carcinoma. Canberra: Medical Services Advisory Committee; 2017. Report No. 1493.

207. Houssami N, **Hunter K**, Zackrisson S. Overview of tomosynthesis (3D mammography) for breast cancer screening. Breast Cancer Management 2017;6(1):179–186.

208. Viguiliouk E, Park Al, Berger H, Geary MP, Ray JG, on behalf of the High Risk of Preeclampsia Identification Group. A simple clinical method to identify women at higher risk of preeclampsia: a preliminary evaluation. Pregnancy Hypertension 2017;10:10-13.

209. Staub E, Evers K, **Askie LM**. Enteral zinc supplementation for prevention of morbidity and mortality in preterm neonates [protocol]. Cochrane Database of Systematic Reviews 2017, Issue 10. Art. No.: CD012797.



NHMRC CLINICAL TRIALS CENTRE
UNIVERSITY OF SYDNEY
Locked Bag 77
Camperdown NSW 1450 Australia

92–94 Parramatta Road,
Camperdown NSW 2050

119–143 Missenden Road,
Camperdown NSW 2050

T: +61 2 9562 5000
F: +61 2 9565 1863
E: enquiry@ctc.usyd.edu.au
W: www.ctc.usyd.edu.au