In all health care systems, choices need to be made regarding which services and products to pay for using public funds. One way in which these decisions are made is via a health technology assessment (HTA) process, which combines clinical and economic evidence with value judgements. While such reimbursement decisions are very important to patients, providers and manufacturers, we know that they differ between countries for the same drug. The aims of this paper by Maynou and Cairns were to:

- Outline a systematic method to understand those differences.
- Use the method to determine the factors that drive different decisions in different countries
- Explore the application of the method in the context of cancer

Methods: Reimbursement decisions from six European countries were identified via a review of policy documents, relevant literature and discussions with experts in each country. The six countries each have a well-defined HTA process, publicly available information on their drug reimbursement decisions and comparable possible outcomes of the HTA process. Information from this phase of the research was used in conjunction with the Hutton Framework to design the taxonomy. This comprised two groups of variables, system-level and product-specific. Finally, two econometric models were developed to include a different number of system-level variables: a standard multi-level mixed effects ordered probit model (Model 1), and a multilevel fixed effects ordered probit model which allowed for clustering by country and drug-indication (Model 2). The sample consisted of appraisals for cancer drugs undertaken between 2006 and 2014 in all six countries. One hundred and sixty-one drug-indications per country were evaluated.

Results and Discussion: For the 161 drug-indications, 475 decisions were able to be categorised as favourable (accept), non-favourable (reject) or restricted (accept with conditions). In most cases, the HTA decision was different by drug-indication and country. The decisions were identical across all countries for only 16% of drug-indications.

While the results of Model 1 showed that a social health insurance system was associated with an increased probability of reimbursement, Model 2 showed no significant effect for the system variables. Both models showed that a drug was more likely to be reimbursed if it was cost-effective in either England or Scotland or was introduced under a financial Managed Entry Scheme. Model 1 showed that reimbursement was associated with GDP growth and the percentage of the population older than 65 but Model 2 showed no such effects.

A higher incidence rate of a cancer was associated with a lower probability of reimbursement, perhaps because the overall budget impact would be greater. The probability of reimbursement decreased significantly from 2010 onwards, coinciding with the GFC, which introduced additional constraints on health systems.

Conclusion: The results of this research provide policy makers with a better understanding of the factors that drive HTA decisions. This information is important not only for countries with a current HTA process but for those implementing a new HTA system or reforming an existing one.

Contributed by: Prof Marion Hass, CHERE
ENZAMET Results

It certainly is an exciting time at ANZUP! Earlier this month our ENZAMET trial (ANZUP 1304) featured at the ASCO 2019 main plenary session, with Prof. Chris Sweeney presenting the results and a simultaneous publication in the New England Journal of Medicine. This is a great achievement as only the top four abstracts of more than 6,000 submissions are selected for plenary presentations.

The ENZAMET trial showed that hormone therapy with a drug called enzalutamide can improve the survival of some men with advanced, hormone-sensitive prostate cancer by 33% in overall survival and 60% in progression-free survival, compared to men receiving standard treatment alone.

We acknowledge and thank the patients for their participation in the study; and the principal investigators, co-investigators, and study coordinators at the 83 centres across Australia, New Zealand, Canada, United Kingdom and Ireland for their dedication and enthusiasm. ENZAMET is a result of a highly successful collaboration between ANZUP and our friends and colleagues at the Canadian Cancer Trials Group, Dana-Farber Cancer Institute, Cancer Trials Ireland and the University of Sydney’s NHMRC Clinical Trials Centre.

ENZAMET trial results also featured on [Channel Nine news](https://www.betterthebelt.org.au/).

Trial News

We have nine active cancer trials, a number in follow-up, some exciting trials in development and recently submitted two NHMRC grant applications and five Concept Development Workshops where over 30 concepts were presented to our multidisciplinary members. It is wonderful to see these workshops continue to grow and foster a pipeline of innovative ideas to be considered and prioritised with support from ANZUP over the next 12 months.

Below the Belt

In March on a picture perfect autumn’s day we held our second Below the Belt Pedalthon at Melbourne’s Sandown, and what a fantastic day we had! Now in its 6th year the Pedalthon has raised close to $1.5 million and supported 18 Below the Belt projects with a view to becoming ANZUP trials. So, to all our Sydney members why not mark Tuesday 10 September in your diaries and join us out at Eastern Creek. Whether you’re an avid cyclist, new to the sport or just looking for a challenge, we invite you to ride to help us to continue to improve outcomes for below the belt (testicular, prostate, kidney, penile and bladder) cancer. Register now [https://www.belowthebelt.org.au/](https://www.belowthebelt.org.au/)

#ANZUP19 ASM

Our 2019 ANZUP ASM will be held at the Hilton in Brisbane from 21st to 23rd July. This year’s theme “Making Connections” revolves around how we can improve patient and caregivers’ access to the right information, supportive care and clinical trials while encouraging links between the various health disciplines, researchers and cross border collaborations. We will also explore strategies for connecting under-represented populations to clinical trials (e.g. rare cancers, geriatrics, rural and remote populations).

We look forward to welcoming you to Brisbane and encourage you to follow the #ANZUP19 hashtag on Twitter for regular updates or register through our website at [https://anzup.org.au/content.aspx?page=asm-news](https://anzup.org.au/content.aspx?page=asm-news)

Contributed by: Nicole Tankard, ANZUP
Multiple Myeloma in New Zealand

Impact of age, sex, ethnicity, socio-economic deprivation and novel pharmaceuticals on the overall survival of patients with multiple myeloma: data from linked national administrative databases in New Zealand

Multiple myeloma (MM) is cancer of the plasma cells and is currently incurable. In Australia and New Zealand (NZ), treatment for MM is usually a combination of a bone marrow (stem cell) transplant (ASCT), specific medication and chemotherapy.

A recent study by Henry Chan and Richard Milne used national linked data from the NZ cancer registry (NZCR), mortality register and pharmaceuticals and hospital admission datasets to assess the change in incidence and treatment of MM in NZ between 2004 and 2016. The age-standardised rate was found to increase from 4.01 to 5.28 per 100,000 people between 2004 and 2016 (figure 1). In 2012-2016, people with Maori and Pacific ethnicity were identified as having a higher incidence (7.2 and 10.1 per 100,000 respectively) compared to those with Asian and European ethnicity (3.5 and 5.1 per 100,000 respectively).

Chan and Milne showed that overall survival (OS) and cause-specific survival in NZ improved following the public funding of bortezomib in May 2011. For those ≤70 years of age who did not have ASCT, median OS increased from 49.1 to 62.7 months, however there was no difference in median OS for those in the same age group who had ASCT. The reason for this is unclear.

Chan and Milne also reported that in 2016, MM cost the NZ healthcare system $46.3 million over and above the age/sex matched general population. With the increasing incidence of MM in NZ, this cost is expected to rise.

Several policy recommendations were subsequently made by Chan and Milne to the NZ government such as to expand the NZCR to collect clinical and genetic information for MM patients, improve drug administration procedures by devolving administration to district nurses, partner hospitals with general practices and resolve capacity issues for infusions. The results of this research are important since streamlining healthcare processes will improve treatment for the increasing number of MM patients.

Contributed by: Oona Reardon, CHERE

Figure 1. Overall survival and myeloma-specific survival by era in 2004-2016.
An Update from the AGITG

Trial News

The results of the AGITG’s ALT-GIST study were presented at ASCO in June. The phase II study, led by Professor Desmond Yip, compared imatinib alternating with regorafenib and imatinib alone for first line treatment of gastro-intestinal stromal tumour (GIST). The study found that there was no meaningful difference between the two groups in objective tumour response or progression-free survival, and no new or unexpected toxicity was observed, with increased toxicity as expected in the alternating arm. The study is ongoing and other endpoints will be reported in due course.

In March, the RENO study officially opened and enrolled its first patient. RENO, led by Professor Chris Karapetis is studying the ‘Watch and Wait’ strategy for patients with rectal cancer who have developed a clinically complete response with concurrent chemo-radiotherapy.

The first AGITG trial site in Japan has opened as part of the INTEGRATE II study. This is a randomised phase III trial investigating the treatment of gastro-oesophageal cancer with regorafenib. The opening of the site, which is being led by Dr Shitara, represents a significant collaborative relationship with Japanese investigators for the AGITG.

Excellence in GI cancer research and treatment was recognised on the Australia Day 2019 Honours list, with two GI surgeons receiving medals. Associate Professor Jaswinder Samra received a Medal of the Order of Australia (OAM) for his service to medicine as a pancreatic specialist. An OAM was also awarded to Professor Jeffrey Hamdorf for significant service to medical education and medicine in the bariatric surgery.

2019 Annual Scientific Meeting: 21st – 23rd August

Widely known throughout Australia as the premier meeting in the gastro-intestinal (GI) cancer space, the AGITG Annual Scientific Meeting provides a forum where, on behalf of GI cancer patients, the enigmatic nature of gastro-intestinal cancer is challenged. The three-day program and shared exchange of knowledge is designed to uncover the mysteries of GI cancer treatment.

Dedicated workshops for trainees and study coordinators will be held on Tuesday 20th August.

For more information or to register, go to www.asm.gicancer.org.au.

The Gutsy Challenge

The people who take on the Gutsy Challenge raise much-needed funds for vital research to find a cure for Australians diagnosed with a GI cancer. There are two massive Gutsy Challenges coming up in 2019:

- Cape to Cape: A 135 km trek through Western Australia’s Leeuwin-Naturaliste National Park;
- Southern Alps: A trek through over 70 km of the stunning Southern Alps in New Zealand.

If you’re looking for a challenge and would like to make a difference for people with GI cancers, there are limited places available in both teams. Find out more at www.gicancer.org.au/getinvolved.

Contributed by: Jennifer Worgan, AGITG
This workshop is for consumer representatives working with the Cooperative Trials Groups in cancer research who would like to gain an insight into how health economics fits with clinical trials and the role it plays in making health care available, in particular pharmaceuticals and medical services. Participants in the workshop will receive course notes, including copies of the slides presented on the day, references used as examples throughout the workshop, and additional useful readings.

Workshop Program

The workshop will use a series of workshop-style seminars and exercises to provide theory and practical examples to cover:

- fundamental concepts in health economics;
- how health economics is used in the context of collecting and using clinical trial information;
- how consumer data from within trials, clinical practice or surveys might be used in health economic analyses;
- the processes of the Pharmaceutical Benefits Advisory Committee and the Medical Services Advisory Committee; and
- the role consumers play in providing data and shaping how evidence is viewed through the reimbursement process.

As well as presenters from the CREST team, Jo Watson (consumer representative on the PBAC) will be presenting on the day. Lunch and refreshments will be provided.

Participants will need to arrange their own travel to and from the workshop. CREST is unable to provide travel assistance for this workshop.

This workshop will be filmed for educational purposes and the focus will be on the presenters. If you prefer not to be filmed, please indicate when registering and we will seat you to the side of the room.

Workshop places are limited. To register, please send your name, trial group affiliation and whether you have any dietary requirements to:

Oona Reardon  oona.reardon@chere.uts.edu.au

For more information about CREST, please visit our website:  www.crest.uts.edu.au
PC4 held our annual 2019 Scientific Symposium on Thursday 4th April at the Victorian Comprehensive Cancer Centre in Melbourne. We celebrated our 10th anniversary - a decade of positioning primary care at the forefront of cancer research. It was an informative day, driving discussions around current research, highlighting initiatives designed to reduce health disparities, pathways and new methodologies.

We were also extremely excited for our Research Round-up podcast to be a finalist in the Australian Podcast Awards, held in May. Unfortunately, we lost out to ABC’s Science Friction, however we were thrilled that our podcast was nominated against such reputable competition. Season 2 of Research Round-up begins in July, so make sure you subscribe!

Season 2 of PC4’s Cheers with Peers podcast returned in June with new mid-career host, Dr Jennifer Walker. This season we will be deep diving into mid-career issues, successes and challenges with many interesting international and local academics. Listen via Apple podcasts, SoundCloud, Spotify and Stitcher.

Finally, congratulations to Olaf Geerse, winner of our very first PC4 Collaborative Research Travel Grant. Olaf is a MD/PhD candidate at the University of Groningen investigating how to best provide supportive and palliative care to patients with lung cancer. Olaf will be visiting Australia to collaborate with researchers at Flinders University and La Trobe University.

Are you interested in becoming a member of PC4? It’s free and you can access our support services, receive fortnightly newsletters and become part of our community of researchers.

Join today.

Contributed by: Kara-Lynne Cummings, PC4

Prof Top picture left - Joanna Ong, Rebecca Bergin, Sibel Saya, Emily Habgood, Jasmeen Oberoi, Peter Nguyen, Shakira Milton, Ping-wen Lee. Top picture right – Raymond Chan, Leanne Monterosso, Kristi Milley. Bottom picture right – Ross Lawrenson
Symposium: NSW research opportunities from a National Particle Therapy and Research Centre in the Westmead precinct.

**Purpose and aim:** A comprehensive case has been developed for a National Particle Therapy and Research Centre (NPTRC) on the Westmead Hospital campus, having particle beams from protons to carbon ions with clinically relevant energies and ranges. There is an evolving national collaborative particle therapy network and the NPTRC is under consideration within that context. Whilst the primary aim of the centre is for cancer patient treatment and for clinical and linked research, there are other wider research opportunities, e.g. in medical physics and other physics areas, imaging and radiomics, biology and radiobiology, (bio-) engineering, data science, computer science, etc. There are specific advantages for researchers of having such a centre locally available. The symposium is intended to attract researchers from across NSW and in a wide range of research fields, to draw their attention to some of the potential opportunities, and to foster dialogue between them at an early stage to aid discussion of what research facilities and infrastructure might be useful for research applications.

**International guest speaker:** Professor Emmanuel Tsopelas, CERN, re potential for national and international research collaboration.

**Speakers** re national and state-wide overviews of research opportunities, infrastructure and links: Dr Adi Paterson and Dr Richard Garret, ANSTO; Dr Veronica McCabe, Cancer Institute NSW; A/Prof Verity Ahern, Sydney West Radiation Oncology Network, Prof David Thwaites and Prof Laurent Rivory, University of Sydney;

**Speakers** re opportunities from specific existing or new research areas, research programs or research topics: Dr Eric Hau, Sydney West Radiation Oncology Network; Professor Annette Haworth, Dr Jeremy Booth, A/Prof Jinman Kim, Prof Kevin Varvell, University of Sydney; Dr David Boist, Dr Brad Oborn, University of Wollongong; A/Prof Lois Holloway, Dr Urszula Jelen, Ingham Institute.

**Friday 12th July 2019**
10:00am – 4:00pm
Conference Room No. C.2.20, Level 2
The Westmead Institute for Medical Research
Hawkesbury Road, Westmead NSW 2145

Please RSVP by Friday 28th June 2019 to: nicole.burns@health.nsw.gov.au

Video conferencing will be available via ZOOM - details will be supplied at request
CREST Update—Jun 2019

Australia and New Zealand Sarcoma Association (ANZSA)

The start of 2019 has been busy yet exciting for the Australia and New Zealand Sarcoma Association (ANZSA) team following the merger of the Australasian Sarcoma Study Group (ASSG) and the Australian Sarcoma Group (ASG).

In the first of many updates, we are excited to unveil ANZSA’s new logo. Simple in nature, the logo represents the organisation’s key brand attributes. The contrast between the rounded and pointed edges symbolises our approach to being professional and science-focused yet friendly and approachable to the wider community.

We are pleased to share some updates on our ongoing projects:

- SARC032: A Phase II randomised controlled trial of neoadjuvant pembrolizumab with radiotherapy and adjuvant pembrolizumab in patients with high-risk, localised soft tissue sarcoma of the extremity. This is a collaboration between the sarcoma cooperative clinical trial group in the USA, SARC and is now open for patient recruitment in three sites in Australia.

- NORTH: A Phase II study of panobinostat in paediatric adolescent and young adult patients with solid tumours including osteosarcoma, malignant rhabdoid tumour and neuroblastoma. This clinical trial is funded by the NHMRC and jointly run with ANZCHOG. It is now open for patient recruitment in four sites.

- rEECur: International randomised controlled trial of chemotherapy for the treatment of recurrent and primary refractory Ewing sarcoma. This clinical trial is funded by a grant from CanTeen and is now open for patient recruitment in both adult and paediatric sarcoma centres across ANZ.

For more details about these projects or to be involved in the patient recruitment process, write to us at contact@australiansarcomagroup.org

Save the date!

The 2019 ANZSA ASM will be held on 11-12th October 2019 in The Canberra Rex Hotel with the theme: “Individualised Care for Sarcoma Patients”. We are pleased that Prof Francis Hornicek (Chief Orthopaedic Oncologist, UCLA, Los Angeles) and A/Prof Neeta Somaiah (Department of Sarcoma Medical Oncology, University of Texas MD Anderson Cancer Center, Houston, Texas) will join us at the ASM. Express your interest through http://sarcoma.aoa.org.au/.

As we prepare for another eventful half of the year ahead, we would like to thank all our partners, sponsors and members for their continued support, generosity and trust in us and the work we do.

Contributed by: Denise Caruso, CEO

CREST Structured Training Opportunities

Being hands on is a great way to build skills and knowledge. This applies to building skills in the use of health economic methods for the analysis of clinical trials or similar projects. To facilitate that learning, CREST has a program of Structured Training Opportunities available to members of Cancer Australia CTG.

Essentially, these are projects conducted by an eligible CTG member under the guidance of a CREST health economist. For suitable projects, 20-40 hours mentoring and training time will be available. Ideally, mentoring will be a combination of some face to face time (e.g. coming to spend time at CHERE to work on the project with specific questions in mind), and follow-up via regular telephone or e-mail contact for guidance. Including time at CHERE and depending on the nature of the project, mentoring might typically be spread out over a three month period.

If you are a member of a Cancer Australia CTG, have a project with a health economics component, and you are interested in discussing whether it might be suitable as a Structured Training Opportunity project, please contact: crest@chere.uts.edu.au

Please be aware that CHERE is unable to sponsor individuals to participate in these training opportunities.
Breast Cancer Trials Update

New Clinical Trials
Breast Cancer Trials has started two new clinical trials called DIAmOND and CHARIOT that are both looking at how patients may benefit from immunotherapy, which uses the patient’s own immune system to aid in their cancer treatment. Immunotherapy is not in routine use as a treatment option for breast cancer in Australia, but breast cancer researchers are learning from the results of research in other cancer types, such as melanoma, lung cancer and bladder cancer. Professor Sherene Loi is the Study Chair of both of these new trials. For more information, please visit the BCT website at www.breastcancertrials.org.au.

Q&A Event with Moderator Mia Freedman
Breast Cancer Trials will be hosting a Q&A event on Wednesday 24th July in Adelaide, which is free to the public and will be broadcast live on Facebook. Called ‘Directions in Breast Cancer Research: Ask the Experts’, the event will involve a panel of world leading breast cancer researchers and clinical trial participants who will discuss and answer questions about current breast cancer research and clinical trials, research trends and developments, and what we can expect in breast cancer research in the future. The Q&A will be moderated by Mamamia founder, Mia Freedman. To register to attend the event or for more information, please visit the BCT website at www.breastcancertrials.org.au.

The Breast Cancer Trials Podcast
BCT has launched our own podcast, to help build awareness about the importance of clinical trials research and associated topics. The podcast features interviews with BCT researchers, stories from our clinical trial participants and is an opportunity to further explore popular breast cancer topics. To access, just search ‘Breast Cancer Trials’ on the Apple Podcast App, Spotify or where ever you get your podcasts.

Contributed by: Anna Fitzgerald, Breast Cancer Trials

2019 Annual Scientific Meeting
The Breast Cancer Trials 41st Annual Scientific Meeting will be held at the Hilton Adelaide, South Australia, from 24-26th July 2019. The extensive program will include a full day for the Trials Coordination Forum and two days of scientific sessions covering timely reviews of breast cancer clinical trials, discussion of new protocols, future clinical trials research and other research developments. Delegates include leading Australian and New Zealand medical practitioners and clinicians, and clinical trials management personnel. For more information or to register, please visit the ASM website at www.bct2019.org.

Q&A - Directions in Breast Cancer Research: Ask the Experts
6:00-7:30pm - 24 July 2019 | Elder Hall, North Terrace, Adelaide
MRFF Supporting ALLG Clinical Researchers
Last year, the Government announced it would provide $38.6 million to support 23 new clinical trials to improve treatments and discover cures for debilitating and deadly rare cancers and rare diseases.
On February 15th, it was announced that funding was allocated to the following ALLG Members:
- Prof Judith Trotman’s clinical trial will evaluate PET-guided, response-adapted therapy in patients with newly diagnosed advanced follicular lymphoma;
- A/Prof Andrew Wei’s clinical trial will test different treatment options aimed to improve the lives of older patients with Acute Myeloid Leukaemia; and
- Prof Maher Gandhi’s clinical trial will incorporate early application of CAR-T Cells for Primary Refractory Aggressive Lymphoma.

Congratulations to the three ALLG Members who have been awarded funding from the Medical Research Future Fund (MRFF) to improve treatments and discover cures for rare cancers and rare diseases. Also, a big thank you to the MRFF, clinical trials like these will bring hope and save lives.


AML in 2019 and Beyond
On 21st March 2019, the ALLG in conjunction with the VCCC hosted ‘AML in 2019 and Beyond’ at Walter and Eliza Hall Institute of Medical Research.
The event centred around current research in AML and future directions with special guest Prof Bob Lowenberg from the Netherlands (founder of HOVON and current Editor of Blood journal), who offered invaluable insight into abnormal biological features of leukaemia.
Hosted by Prof Andrew Roberts and A/Prof Andrew Wei, the event consisted of five distinct sessions, and included specific ALM disease forums, including an ALLG-HOVON discussion, and whether the AML trials are answering the right questions.
Over 160 haematologists, scientists and research fellows attended the event with many suggesting that the day be expanded to all blood cancer disease groups.


ALLG Members Scientific Meeting
We recently held our biannual Scientific Meeting for our members in Sydney. Over 300 doctors, nurses, scientists and professional staff attended the event.
Throughout the course of the 4-day meeting we heard from A/Prof Andrei Shustov (Seattle Cancer Care Alliance, United States) who discussed novel therapies at The Lymphoma Clinical Research Workshop. We discussed the planned MRFF funded CAR T-cell clinical trial which featured across many of the sessions, and the plans to expand the number of hospitals participating in the NHL32, PETReA study.
Thank you to all that attended, and we look forward to the next Scientific Meeting.

If you would like to know more about the ALLG, please visit the ALLG website (www.allg.org.au)

Contributed by: Bernadette Marr, ALLG
Update from the Quality of Life Office

The QOL Office is happy to introduce our new team member, Angela Ju.

Angela is the new Postdoctoral Research Associate, who completed her PhD at the University of Sydney on establishing and developing patient-reported outcome measures for fatigue and life participation for use in clinical trials that involve patients with end-stage kidney disease. Her research interests are in developing patient-centred interventions and ensuring the proper selection and use of patient-reported outcomes and appropriate measures. Angela is looking forward to working with the QOL Technical Service to provide advice and support to the Cancer Clinical Trials Groups.

The QOL Office recommends the PRO-cision Medicine Methods Toolkit, published in Med Care, on methods for using, understanding, and acting on PRO results. An international collaboration of world-class PRO experts contributed towards this series of papers, including our own Prof Madeleine King.

Remember that staff at the QOL Office are available throughout the year to answer any online queries from Clinical Trials Group members regarding the health-related quality of life aspects of their clinical research.

Contributed by: Margaret-Ann Tait, QoL Office

What has CREST been up to?

**Trial Group Collaborations:**
- Attendance and presentation at the combined CST/PoCoG CDW in Melbourne, June 2019.
- Attendance at the ANZUP CDW in Sydney, May 2019.
- Attendance at the COGNO IGW in Sydney, May 2019.
- Attendance at the AGITG IGW in Sydney, June 2019.
- Met with the CTG Executive Officer Network (EON) in Sydney, April 2019.
- Input on grant applications for NHMRC/SPHERE/MRFF.

**Other Activities:**
- Clinical trial audits, and ongoing advice on the development of trial protocols and data collection forms.
- Membership of scientific advisory/steering committees.
- Ongoing correspondence with Clinical Trial Groups.