

One of the questions that we are often asked about conducting an economic evaluation is whether or not to include the effects of cancer and its treatment on patients' ability to work. Where we take a societal perspective in an economic evaluation of health care, we might consider such changes to productivity. This depends on the assumption that being unable to work due to illness or premature death decreases what a society can produce, which affects overall well-being, something that is of concern to decision makers.<sup>1</sup> In this case, an economic evaluation might try to include the impacts on productivity of different possible interventions.

However, there are a number of difficulties associated with assessing productivity effects. First, measuring the value of what people actually *produce* is usually impossible, especially when thousands of employees are contributing to making the same product. Instead the value of someone's productive input (i.e. what someone is paid) is usually measured. While economic theory says that in a relatively competitive market these two numbers should be close, they are not always the same.<sup>1</sup>

Second, even if we could estimate someone's productive output, there is still disagreement over how to measure the effect of illness or premature death on their overall produc-

tivity.<sup>2</sup> There are two main approaches to measuring the productivity losses associated with illness and premature death: the human capital approach and the friction cost approach, and the debate about which to use is ongoing. Briefly, these methods can be described as follows:

1. The human capital approach is based on the intuition that working people produce a stream of outputs throughout their working life, and if someone cannot work due to illness or death, less is being produced than would have been for that whole period of time. The loss can then be calculated by multiplying this lost work time by their wage.

This approach is often criticised because it ignores the possibility that production processes can be adapted to losses due to illness or absenteeism, or that positions left vacant by sick or deceased workers might be filled by others.<sup>1</sup>

2. The friction cost approach assumes that the productivity loss due to illness only exists for the period of time it takes to adapt to the absence or loss of an employee. It is this amount of time – multiplied by the employee's wage - that is used as the measure of lost productivity.

This approach was developed in response to the criticism that the human capital approach does not recognise labour force movements. However, it is itself criticised for ignoring the

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## Measuring Productivity in Economic Evaluations (cont.)

issue that a vacancy left by a sick or deceased employee might start a chain of vacancies extending through various companies, rather than being filled by someone who was previously unemployed.<sup>1</sup>

Not surprisingly, the difference in methodology between the human capital and friction cost approaches leads to differences in the cost estimates for the same condition; being higher for the human capital approach than the friction cost approach.<sup>2</sup> A further issue (which applies to both approaches) is that the productivity losses will be greater for those who earn higher incomes. This might lead to the conclusion

that, as a society, we should care more about treating individuals on higher incomes than others, in order to avoid these losses. This has obvious equity issues which extend to gender and age differences, highlighting that including productivity effects in an economic evaluation has the potential to contradict some goals of our health care system that we might otherwise find desirable, such as equity of access.<sup>3</sup>

Including productivity effects in economic evaluations might therefore seem attractive in terms of presenting a comprehensive picture of societal effects. However, there are methodological challenges that are yet to be resolved, and broader

implications for how we might interpret and act on the results of economic evaluations which have included productivity effects.

1. Van den Hout W. The Value of Productivity in Health Policy. *Applied Health Economics and Health Policy* 2015; 311-313.
2. Pearce AM, Hanly P, Timmons A, et al. Productivity Losses Associated with Head and Neck Cancer Using the Human Capital and Friction Cost Approaches. *Applied Health Economics and Health Policy* 2015; 359-367.
3. Drummond M, O'Brien B, Stoddart G, et al. *Methods for the Economic Evaluation of Health Care Programmes*. Oxford, UK: Oxford University Press, 1997.

*Contributed by Matthew Lynch.*

## New ANZBCTG Chair

The Australia and New Zealand Breast Cancer Trials Group's (ANZBCTG) Board of Directors has a new Chair - Professor Stephen Ackland. He replaces Professor Fran



Boyle AM who recently completed a three year term as Chair and who will continue as a Board Member. Professor Ackland is a Medical Oncologist and Senior Staff Specialist in the Medical Oncology Department of the Calvary Mater Newcastle, has served as a Board Director for seven years and has been a member of the ANZBCTG since 2000.

The ANZBCTG also welcomed Professor Bruce Mann as a newly elected Board Director. Professor Mann is the Director of the Royal Melbourne and Royal Women's Hospi-

tal Breast Service. More information on the ANZBCTG's Board of Directors is available on the Group's website at [www.anzbctg.org](http://www.anzbctg.org)

*Contributed by:*



## A Preference for Quality of Life Data...

Have you ever wondered why studies might include multiple quality of life measures – like the EORTC QLQ-C30 and the EuroQoL EQ-5D-5L? Or how the measures obtained from those instruments might be used to inform decisions about how patients are treated or health care resources are allocated? Well these questions, and a whole lot more, were addressed in the first joint workshop on quality of life and utility measurement held by the QoL Office and CREST, 14<sup>th</sup> August 2015. A group of 22 researchers from across the cooperative clinical trials groups came together to participate in a hands-on workshop which explored a number of themes, including:

1. The rationale for assessing health-related quality of life (HRQoL) and patient reported outcomes in clinical studies and for use in economic evaluation;

2. The quality adjusted life year (QALY) and how it informs decision making; and
3. Methods for assessing preference based measures of quality of life (utility values) for use in constructing QALYs.

A major component of the day was



to introduce participants to the new cancer-specific utility instrument – the QLU-C10D (derived from the EORTC QLQ-C30). This development will enable the use of one instrument within the clinical trial context to assess both HRQoL and preference based utility measures for use in subsequent economic evaluations.

Participants had a bit of fun in converting their own EORTC QLQ-C30 scores into QLU-C10D utility values, and seeing how they compared with their self-assessed EQ-5D-5L scores. A fascinating learning experience for facilitators and participants alike! There are plans to repeat this workshop in the coming years, so look out for further notices.

Graphics: [www.presentermedia.com](http://www.presentermedia.com)

## Workshops Aplenty..

It has been a busy quarter with the delivery and planning of workshops. In June, the third CREST Consumer Workshop was held in Melbourne (hosted by the ALLG – thank you!). This was a very lively and engaging day which focused on the role health economics plays in making health care available in Australia, and the special contribution of consumers to that process. The CREST team returned to Perth in August for a reprise of the introductory workshop, Understanding Health Economics in Cancer Clinical Trials. Participants from a wide variety of cancer research fields shared their experiences and expertise, including research in indigenous cancer care, in mould-

ing their learning about core health economic concepts.

If that is not enough for the year, CREST is also pleased to announce that it is also reprising its workshop on how to develop and use models for economic evaluations of cancer care. The workshop “Developing and applying models in economic evaluations of cancer care” is a two day event, Tuesday and Wednesday 20<sup>th</sup> – 21<sup>st</sup> October 2015, to be held at the UTS campus, Haymarket, Sydney.

This workshop would suit those who have a basic understanding of economic evaluation theory and/or methods, and who are interested in

extending their knowledge of economic modelling. It builds on knowledge gained from attending the introductory CREST workshop, or similar background exposure to economic evaluations, to cover topics in building and using decision tree models, Markov models, and in the interpretation of the output of models for economic evaluations. Participants at the workshop can expect a mix of lectures and hands-on computing sessions using the software package TreeAge.

For more information, or to register, please email Richard at: [Richard.DeAbreuLourenco@chere.uts.edu.au](mailto:Richard.DeAbreuLourenco@chere.uts.edu.au)

## An Update from TROG

The Trans Tasman Radiation Oncology Group (TROG) has had an eventful few months with the launch of an innovative new head and neck cancer trial coinciding with the release of breakthrough results from the TROG MA.20 breast cancer trial. The Australian-first TROG 14.03 trial was launched in Brisbane on World Head and Neck Cancer Day by the Princess Alexandra Hospital Cancer Services and Head and Neck Departments, with the support of the PA Research Foundation, before a national rollout.

President of TROG Cancer Research, and Director of Radiation Oncology Research at Princess Alexandra Hospital, Associate Professor Sandro Porceddu said the revolutionary trial involved the drug Nimoral™, which is taken in tablet form and is showing promising results in Europe. “Nimoral is added to standard radiation and chemotherapy treatment,” Dr Porceddu said. “Nimoral appears to enhance the effect of the radiation to the tumour, and studies to date show the drug is well-tolerated with very few side effects. “Further testing of its potential effectiveness is being tested in this study.”

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Results from the [TROG MA.20 trial](#), released in July, have provided new evidence of the benefit of lymph node radiation in long-term breast

cancer control. The landmark clinical trial led by radiation oncologists in Australia, Canada and the United States has shown that radiation treatment of the lymph nodes in addition to the breast after breast cancer surgery can prolong the time women remain cancer-free.

For over ten years, the researchers monitored 1,832 women with breast cancer that had spread to the lymph nodes. After ten years, 82 per cent of the women who received radiation to both the breast and lymph nodes were free of cancer, compared to 77 per cent of women who received radiation to the breast only. The clinical trial is being co-ordinated by TROG Cancer Research in Australia and the findings were published in the *New England Journal of Medicine* (<http://www.nejm.org/doi/full/10.1056/NEJMoa1415340>)

Associate Professor Boon Chua, Director of Breast Service at the

Peter MacCallum Cancer Centre and international Co-Chair of the trial — says the difference in cancer-free survival is statistically significant. “Breast cancer is the most common cancer in Australian women, and most women who have localised surgery to remove the cancer receive radiation to the breast after surgery”, she said. “Women who have cancer detected in their lymph nodes may wish to discuss lymph node radiation with their doctors to help them make an informed decision about their treatment options.”

Associate Professor Chua said the findings are important for many women with breast cancer: “This large international trial has shown that lymph node radiation not only reduced the likelihood of cancer coming back in the lymph nodes ten years later, it also decreased the risk of cancer coming back in the other parts of the body, such as



## More than Health: the Role and Value of Meta-Health Effects in Health Care Decisions

One of the most visible functions of government is to make decisions about health care; particularly about whether or not to fund new and increasingly expensive treatments and services. Those decisions are often informed by economic evaluations, cost-utility analyses, that measure value in terms of the cost per quality adjusted life year gained (QALYs). However, QALYs might not capture all the benefits that patients and society derive from health; so-called meta-health effects such as reassurance and convenience, that arise out of the experience of health care, are also a source of value that potentially influence decision making.

In his PhD research, Richard De Abreu Lourenço is focusing on how meta-health effects influence decision making in a health care context, and how they can be assessed for use in an economic evaluation. The research aims to explore how

differences in the decision making context (general practitioner use in primary care, ongoing therapy for rheumatoid arthritis, and management of breast cancer recurrence risk) and the presentation of information influence the role and valuation of meta-health effects in decision making. This research applies existing theories of the impact of framing effects to the relative values derived for meta-health effects compared with health effects, and their influence on choice in a health care context. Qualitative and quantitative research methods are used to define the parameters of interest for valuation, and subsequently to evaluate them using stated preference methods.

Of particular interest to the field of oncology is the question of how women with breast cancer choose to manage the ongoing risk of cancer recurrence, in particular the

decision to undergo risk reducing surgery such as contralateral prophylactic mastectomy (CPM). Initial qualitative research conducted by Richard with women who had been treated for breast cancer suggests that this decision is influenced by a woman's previous experiences with breast cancer detection, her perceptions of fear of cancer recurrence, previous surgical experiences, perceptions of inconvenience and/or intrusiveness associated with monitoring and testing, body image, as well as costs. These factors, together with information from the literature, have been used to develop an online stated preference survey which seeks to better understand women's preferences for the management of breast cancer recurrence risk.

## An Update from TROG (cont.)

the liver and lungs, from 17.6 per cent to 13.7 per cent."

Associate Professor Chua also says lymph node radiation may cause side-effects such as lymphoedema of the arm, which need to be balanced against its benefits when

women make their decision whether to have lymph node radiation: "Ultimately this is a personal decision that women would make with the support of their doctors."

*Contributed by:*



## The Importance of Health Economics in Melanoma Trials

Health economics is an important component of clinical research aiming to introduce a new treatment or change the way health care is delivered. Research on new treatments is limited if there is no research and analysis of their cost-effectiveness. Economic data collected as primary or secondary endpoints in randomised trials are commonly used in the evaluation of the cost and effectiveness of new treatments. These data can be used to provide insight into decision making for patients, clinicians, health care managers, and policymakers as to how best to spend the health care dollar to improve services and health outcomes.

As health economics has become increasingly important in research, ANZMTG has been integrating health economics assessments and analysis in its trials. A number of ANZMTG trials involve the use of health economics questionnaires, administered to participants at different trial timepoints including at baseline and follow-up visits. ANZMTG has incorporated various health economic focused questionnaires into the following trials: radiotherapy trial (ANZMTG 01.07 *WBRTMel*); surgical

trials (ANZMTG 01.12 *EAGLE FM & ANZMTG 03.12 MelMarT*); and a drug vs. radiotherapy trial (ANZMTG 02.12 *RADICAL*).

Health economic evaluation designs and requirements will vary for each trial. However, we are typically interested in how socio-economic factors influence health care use, as well as understanding total health care use. Accordingly, there are two important factors which we consider as part of ANZMTG health economics assessments and analyses: Employment & Income (incl. Education), and Health Care Use. Previous research has found that both education and income promote health in different ways.<sup>1</sup> The suggestion is that people who are better educated are more able to understand and use health information, and are better placed to benefit from the healthcare system.<sup>1</sup> Income generally makes life easier, reducing stress and wear and tear. Information on patients' health care use includes the use of outpatient and inpatient medical services. ANZMTG is calculating the cost of these services using country-specific cost information, for example in Australia we

use information from the MBS (Medicare Benefits Scheme) and PBS (Pharmaceutical Benefits Scheme).

Templates of the health economics questionnaires are available on the [ANZMTG website](#).

All of the above mentioned trials and new research proposals will be presented at the ANZMTG Annual Scientific Meeting 2015 in Auckland, New Zealand on 5th November 2015. This is our first ever meeting to be held in New Zealand and we welcome all members to join us! For more information, please visit [our website](#).

1 Deaton, A. (2003). Health, Income, and Inequality. *The National Bureau of Economic Research Reporter: Research Summary, Spring 2003*. Retrieved from <http://nber.org/reporter/spring03/health.html>

*Contributed by:*

**ANZMTG** Australia and New Zealand  
Melanoma Trials Group

## What has CREST been up to?

### *Trial Group Collaborations:*

Participation in a panel session at the ANZUP ASM, Sydney July 14<sup>th</sup>.  
Presentation to the ASSG Research Meeting, Melbourne June 26<sup>th</sup>.  
Preparations for the PoCoG CDW.  
Ongoing advice on the development of trial protocols and data col-

lection forms.

### *Workshops:*

CREST Consumer Workshop, Melbourne, June 18<sup>th</sup>  
QOL Office & CREST Joint Workshop, Quality of Life and Utility Measures in Cancer Research, August 14<sup>th</sup>  
CREST Understanding Health Eco-

nomics for Cancer Trials Workshop, Perth, August 28<sup>th</sup>

### *Other Activities:*

Presentation to the Palliative Care Research Network Victoria Forum, August 25<sup>th</sup>  
Ongoing meetings with the Clinical Trial Group Executive Officers.