

Holiday Greetings from the Health Economics Unit, University of Melbourne. This newsletter is to share with you our upcoming events, short courses, as well as our recent news, outputs and activities which can be found on [our website](#). Here are some highlights of what's new.

Featured News

*"The Health Economics Unit is pleased to announce that **Professor Nancy Devlin** will be joining the unit as the new head and Director of the Centre for Health Policy in January 2019!"*

More Medicare funding goes to wealthy kids: why, and what can we do about it?

When Medicare was in early development, the goal was to provide affordable, basic health care to all Australians. But a [new study](#) led by A/Prof Kim Dalziel has found Medicare spending is higher for children from high socioeconomic backgrounds than their poorer counterparts. The authors used the Longitudinal Study of Australian Children, a large study assessing over 10,000 Australian children over time, and linked this to the children's Medicare data.

[The results of this study](#) show Medicare is fair for government spending on GP consultations for children, but it's not fair for spending on specialists and testing. Overall, Medicare spending was also not evenly distributed, particularly in the first year of life. Children from higher income households gained a greater share of Medicare resources over the first 1,000 days of their lives. For children aged zero to one year, the richest 20% used 30% of specialist resources, and the poorest 20% of children used only 12%. As the children grew older, the payments became more even.

This is a worrying finding, as it is known that the first 1,000 days of a child's life are critical for future health, education and well-being. Children need more health services early in life, and a healthy early childhood is increasingly recognised as protecting against chronic disease in older life. Seeking solutions to these problems is critical to the health of our nation. Work is still required to achieve the vision that Medicare be simple, fair and affordable for all Australians.

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Upcoming Health Economics Courses

The Health Economics Unit will run two short courses in the first quarter of 2019:

[26th March 2019 - *Introduction to Cost Effectiveness Analysis in Health*](#)

A one-day course that provides an understanding of how economic analysis can be used to evaluate health programs and aid decision making.

[27-29th March 2019 - *Practical Methods for Health Economic Evaluation*](#)

A three-day advanced course in methods for health economic evaluation. The course covers study design principles, techniques for analysing costs and outcomes, introduction to decision models, Markov modelling and its applications. Each module is re-enforced by exercises in STATA and TreeAge Pro. [More Info](#)



Accounting for equity in cost-effectiveness analysis

A recent [article](#) by [Dr Natalie Carvalho](#) and [A/Prof Kim Dalziel](#) has been published in *Cost Effectiveness and Resource Allocation*. This study investigates to what extent equity considerations have been taken into account in CEA in low- and middle-income countries (LMICs), using rotavirus vaccination as a case study.

Equity-related indicators specific to vaccination were mapped to the Guidance on Priority Setting in Health Care (GPS-Health) checklist, resulting in 18 unique indicators, including severity of disease, age distribution of disease and age weighting, geographic and wealth-based differences between groups, productivity losses and financial risk protection.

Systematic review shows that overall, some economic evaluations incorporated the indicators in their model inputs (20%) while the majority (80%) presented results (costs, health outcomes, or incremental cost-effectiveness ratios) differentiated according to the indicators. Critically, less than a fifth (17%) of articles incorporating indicators did so due to an explicit study objective related to capturing equity considerations. Most indicators were increasingly incorporated over time, with a notable exception of age-weighting of DALYs.

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Should treatment with biological agents be stopped in rheumatoid arthritis patients with low disease activity or in remission?

A [study](#) led by [Dr An Duy Tran](#), in collaboration with the Dutch rheumatologists, showed that in patients with rheumatoid arthritis who had low disease activity or are in remission, stopping treatment with expensive biological agents resulted in a minimal loss in quality-adjusted life years (0.02 QALYs per patient per year) but a large saving (over €7,000 per patient per year). While a willingness-to-accept threshold has not been officially set, stopping biological treatment in these patients is most likely cost-effective.

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Applying methods from health economics to the legal setting

An [article](#) by [Dr Natalie Carvalho](#) has been published in the *Journal of Empirical Legal Studies*. This study assesses the feasibility of creating utility measures that are suitable for use in personal injury compensation. The authors assess and report on people's preferences for a set of nonfatal health states commonly seen in claims to compensation schemes for workplace and transport accidents. The resulting severity weights can be used to define tiers in an injury compensation schedule for guiding noneconomic damages determinations.

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How can heartburn end up as anaemia?

An implication for an economic evaluation

A recent population-based case-control [study](#) designed and led by [Dr An Duy Tran](#) found that proton pump inhibitors (PPIs), the most widely prescribed acid suppressants, and their dosage and length of use were associated with higher risk of iron deficiency. This research highlights the importance of balancing their benefits and potential harms, and the need for examining the cost-effectiveness of different dosages and lengths of PPIs use.

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AWARDS

Dr Chris Schilling received an award for Excellence in Doctoral Research

[Dr Chris Schilling](#), a former PhD student and current honorary staff member at the Health Economics Unit has been awarded for his outstanding achievement during his doctoral research. Chris completed his PhD within only 2.5 years during which he published 7 articles in top health economic journals. His work made a significant contribution to the areas of osteoarthritis, congenital heart disease and the use of 'big data' methods in health economics. Special thanks to his PhD supervisors, [Prof Philip Clarke](#), [A/Prof Kim Dalziel](#), [A/Prof Dennis Petrie](#) and [A/Prof Michelle Dowsey](#).

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Health Economic Unit Researchers Present at Department of Surgery Showcase

Mr Josh Knight, [Mr Max Catchpool](#) and [Ms Michelle Tew](#) recently presented at the annual Department of Surgery Research Showcase held on 13 November 2018. The focus for this year's forum was Big Data, Research and the role of Health Economics. Josh was invited as a keynote speaker and enlisted for subsequent panel discussion. In the early career research session, Max presented his work on prescription of opioid filling following elective surgeries and Michelle presented her PhD work on health-reported quality-of-life following total knee replacement by gender and diabetes status.

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CONFERENCE PRESENTATIONS

Members of the Health Economics Unit participated in Mt Hood Diabetes Challenge 2018

The 9th edition of the biennial [Mt Hood Diabetes Challenge](#) was held at the German Diabetes Center in Düsseldorf. The Health Economics Unit had strong presence both on the organising committee and in the line-up of presenters. [Ms Michelle Tew](#) was central to the facilitation of the meeting, and [Prof Philip Clarke](#) and [Prof Andrew Palmer](#) were a driving force behind the event. Presentations on a range of topics were delivered by members of the unit; Prof Philip Clarke gave a presentation on "Growing old gracefully: The QALY at 50". Prof Andrew Palmer presented on "Advances in diabetes simulation modelling: a diabetes prevention model for Australia". [Dr An Duy Tran](#) and Josh Knight both spoke about aspects of modelling lifetime outcomes in patients with type 1 diabetes and cardiovascular disease. Michelle Tew presented her current work on quality of life following total knee replacement. Dr Xingyang Hua, a recent University of Melbourne PhD candidate now working at University of Oxford, delivered a presentation on a new diabetes model focused on an Asian population.

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Members of the Health Economics Unit present at the Australian Health Economics Society conference 2018

[A/Prof Kim Dalziel](#), [Dr An-Duy Tran](#), [Dr Natalie Carvalho](#) and [Ms Michelle Tew](#) presented at the 40th Australian Health Economics Society (AHES) conference in Hobart, Tasmania. Natalie presented on insights into distinguishing health from health-related quality of life using preference-based survey responses, for which she won a prize for best presentation at the conference.

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Researchers share findings at Pediatric Academic Society (PAS) International Conference in Toronto 2018

[Dr Kim Dalziel](#) and [Dr Li Huang](#) shared pediatric

health economic research at the PAS meeting in Toronto attended by over 8000 participants. Dr Dalziel presented her work showcasing recent research looking at trends in health care expenditure for CSHCN. Dr Huang shared findings of an economic evaluation for home care versus hospital intravenous antibiotic treatment for children with moderate to severe cellulitis.

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Presentations at the 10th Annual Health Economics Workshop

[Dr Ilias Goranitis](#), Mr Josh Knight and [Ms Michelle Tew](#) presented at the recent University of Melbourne Health Economics (UMHEG) workshop. Josh presented his PhD work comparing age-alone and calculated risk methods for the estimation of CVD risk and highlighted the key cost and efficiency variables which drive change in the population program.

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STAFF NEWS



Kim Dalziel returns from Harkness Fellowship

The Health Economics Unit is pleased to welcome the recent return of [A/Prof Kim Dalziel](#) from her 12-month US Harkness Fellowship in Health Care Policy and Practice. As part of the fellowship, she led several research projects including use of health care for children with special health care needs. After return, Kim assumes the role of acting head of the Health Economics Unit and will continue her program of research in child health economics.

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Researchers joining the Health Economics Unit

Ms Eunice Wu, Dr Ekaterina Wood and Ms Laura Fanning recently joined the Health Economics Unit as research assistant. Eunice is working with [Dr Ilias Goranitis](#) on genomics related health economics projects. Ekaterina and Laura are working closely with [A/Prof Kim Dalziel](#) on child health economic research.



Visiting Health Economics Scholars Program

Welcome visiting scholars, Mr James Hall and Dr Gurdeep Sagoo to the Health Economics Unit. James is a PhD candidate from University of Birmingham and Gurdeep is a lecturer from University of Leeds. They are working with us on genomics research programs.

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NEW FUNDING

[Prof Philip Clarke](#) and [Dr Tanara Sousa](#) will lead the economic evaluation of a home-based music therapy for patients with dementia, part the National Health and Medical Research Council ([NHMRC](#)) funded project commencing in 2019.

[Dr An Duy Tran](#) will lead the economic evaluation of an integrated management for improving perinatal depression, part of a project recently funded by [NHMRC](#) and [Beyondblue](#) and commencing in 2019.

[Dr An Duy Tran](#) is one of the chief investigators in a new [NHMRC-funded project](#) commencing in 2019. The team will investigate the link between different types of anaesthesia and cancer recurrence, and assess the cost-utility of intravenous anaesthesia compared to volatile anaesthesia.

[Prof Philip Clarke](#), [Dr An Duy Tran](#) and [Josh Knight](#) are investigators in a project recently funded by the [Melbourne Academic Centre for Health](#) and commencing in 2019, in which they will examine the health and economic impact of evidence-based cardiovascular care in Indigenous Australians.

[A/Prof Kim Dalziel](#) will lead health economic contributions to the [NHMRC-funded Centre for Research Excellent grant](#) "Childhood Adversity and Associated Depression and Anxiety, NHMRC Centre for Research Excellence" commencing 2019.

[A/Prof Kim Dalziel](#) and [Dr Li Huang](#) will lead health economic contributions to the [NHMRC funded Centre for Research Excellent grant](#) "Improving outcomes for children born prematurely: newborn medicine, NHMRC Centre for Research Excellence" commencing 2019.

[A/Prof Kim Dalziel](#) will lead health economic contributions to [NHMRC project grant](#) commencing in 2019 "Improving diagnosis, treatment and outcome in West Syndrome: a population based study".

[A/Prof Kim Dalziel](#) and [Dr Li Huang](#) will lead the economic evaluation of clinical trial "Multicentre Randomised Controlled Trial of Surfactant Plus Budesonide to Improve Survival Free of Bronchopulmonary Dysplasia in Extremely Preterm Infants. The PLUSS TRIAL" funded as a 2019 [NHMRC project grant](#).

SELECTED PUBLICATIONS

- DALZIEL, K. M.**, Cheek, J. A., **FANNING, L.**, Borland, M. L., Phillips, N., Kochar, A., ... & Lyttle, M. D. (2018). A cost-effectiveness analysis comparing clinical decision rules PECARN, CATCH, and CHALICE with usual care for the management of pediatric head injury. *Annals of emergency medicine.*
- TRAN-DUY, A.**, Connell, N. J., Vanmolkot, F. H., Souverein, P. C., de Wit, N. J., Stehouwer, C. D., ... & de Boer, A. (2018). Use of proton pump inhibitors and risk of iron deficiency: a population-based case-control study. *Journal of internal medicine.*
- HUANG, L.**, Frijters, P., **DALZIEL, K. M.**, & **CLARKE, P. M.** (2018). Life satisfaction, QALYs, and the monetary value of health. *Social Science & Medicine.*
- DALZIEL, K. M.**, **HUANG, L.**, Hiscock, H., & **CLARKE, P. M.** (2018). Born equal? The distribution of government Medicare spending for children. *Social Science & Medicine*, 208, 50-54.
- PALMER, A. J.**, Si, L., **TEW, M.**, **HUA, X.**, Willis, M. S., Asseburg, C., ... **TRAN-DUY, A.**, & **CLARKE, P. M.** (2018). Computer Modeling of Diabetes and Its Transparency: A Report on the Eighth Mount Hood Challenge. *Value in Health.*
- TRAN-DUY, A.**, Ghiti Moghadam, M., Oude Voshaar, M. A., Vonkeman, H. E., Boonen, A., **CLARKE, P. M.**, ... & Riyazi, N. (2018). An Economic Evaluation of Stopping versus Continuing TNF-Inhibitor Treatment in Rheumatoid Arthritis Patients in Remission or Low Disease Activity: results from the POET randomized trial. *Arthritis & rheumatology.*
- HUANG, L.**, Roberts, C. T., Manley, B. J., Owen, L. S., Davis, P. G., & **DALZIEL, K. M.** (2018). Cost-Effectiveness Analysis of Nasal Continuous Positive Airway Pressure Versus Nasal High Flow Therapy as Primary Support for Infants Born Preterm. *The Journal of pediatrics*, 196, 58-64.
- Peak, J., **GORANITIS, I.**, Day, E., Copello, A., Freemantle, N., & Frew, E. (2018). Predicting health-related quality of life (EQ-5D-5 L) and capability wellbeing (ICECAP-A) in the context of opiate dependence using routine clinical outcome measures: CORE-OM, LDQ and TOP. *Health and quality of life outcomes*, 16(1), 106.
- Boujaoude, M. A., Mirelman, A. J., **DALZIEL, K. M.**, & **CARVALHO, N.** (2018). Accounting for equity considerations in cost-effectiveness analysis: a systematic review of rotavirus vaccine in low-and middle-income countries. *Cost Effectiveness and Resource Allocation*, 16(1), 18.
- Fricke, T. A., Loyer, B. R., **HUANG, L.**, Griffiths, S., Yaftian, N., **DALZIEL, K. M.**, ... & Konstantinov, I. E. (2018). Long-term quality of life in adult survivors after the arterial switch operation. *European Journal of Cardio-Thoracic Surgery.*
- CARVALHO, N.**, Fish, D., Grant, G. M., Salomon, J. A., & Studdert, D. M. (2018). Feasibility of a Health-Utility Approach to Quantifying Noneconomic Losses from Personal Injury. *Journal of Empirical Legal Studies*, 15(2), 278-319.

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MERRY CHRISTMAS
& Happy Holidays

