

## CURRICULUM VITAE

Adrian Gerard Barnett PhD, BSc (Hons), AStat

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### 1 Personal information

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Born: 1973, England. Nationalities: British, Australian. Sex: Male

#### 1.1 Education and degrees

- PhD Mathematics: University of Queensland, December 2002: “On the use of the bispectrum to detect and model non-linearity”
  - ★ Dean’s commendation list for Outstanding Research Higher Degree Theses
  - ★ Dean of Engineering, Physical Sciences and Architecture Annual Award for the best PhD
  - ★ Supervised by Prof Rodney Wolff
- Bachelor of Science in Statistics, First Class with Honours: University College London, 1994
  - ★ Honours project supervised by Prof Philip Dawid

#### 1.2 Employment

**Professor:** Institute of Health and Biomedical Innovation & School of Public Health, Queensland University of Technology, Feb 2017 to present

- **Associate Professor:** Institute of Health and Biomedical Innovation & School of Public Health, Queensland University of Technology, Aug 2010 to Feb 2017
- **Senior Lecturer in Biostatistics:** Institute of Health and Biomedical Innovation & School of Public Health, Queensland University of Technology, Nov 2007 to Aug 2010
- **Senior Lecturer in Biostatistics:** School of Population Health, University of Queensland, Jan 2006 to Nov 2007
- **Statistician:** Interesource, Jun 2005 to Dec 2005
- **Research Fellow:** School of Population Health, University of Queensland, Apr 2002 to Jan 2006 (year’s leave of absence 2005)
- **Statistician (part-time):** Centre for Health Promotion and Cancer Prevention Research, University of Queensland, Sep 2001 to Apr 2002
- **Tutor in Mathematics and Statistics (part-time):** Queensland University of Technology, Mar 1999 to Jun 2000
- **Lecturer in Statistical Inference (part-time):** Queensland University of Technology, Aug to Sep 1999
- **SAS programmer:** SmithKline Beecham, Nov 1998 to Mar 1999
- **Statistician:** Medical Research Council, Wolfson Institute of Preventive Medicine, Jan 1996 to Nov 1998
- **Statistician:** SmithKline Beecham, Sep 1994 to Jan 1996

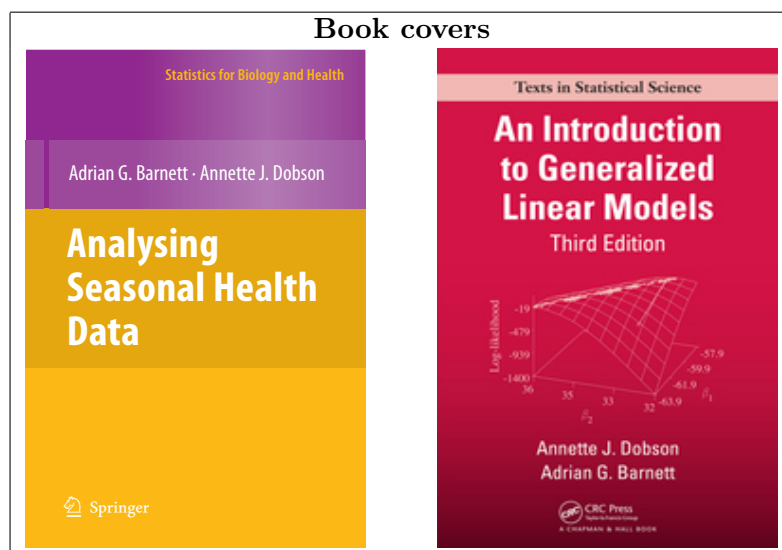
## 2 Research

### 2.1 Publications

- I have 281 peer-reviewed publications, 2 books and 1 book chapter.
- My h-index is 70 for Google scholar.
- 40 of my papers have more than 100 citations.
- I never accept gift authorship and have made an important contribution to all my publications. As a statistician I have often helped colleagues with analyses, in these cases I ask that I am mentioned in the acknowledgements.

### Books

- [1] Dobson, A. J. and **Barnett, A. G.** (2018) *An Introduction to Generalized Linear Models*. Texts in Statistical Science, Chapman & Hall/CRC, 4th edn.
- [2] **Barnett, A. G.** and Dobson, A. J. (2010) *Analysing Seasonal Health Data*. Statistics for Biology and Health, Springer.



### Book chapters

- [1] **Barnett, A. G.** and Hansen, C. A. (2009) How might the health effects of air pollution change when the planet gets warmer? Gow, K. M. (ed.), *Climate Change, Natural Disasters & Other Catastrophes: Fears and Concerns for the Future*, Nova Science Publishers.
- [2] Barnsbee, L., **Barnett, A. G.**, Halton, K., and Nghiem, S. (2017) Cost-effectiveness. Gregory, S., Stevens, M., and Fraser, J. (eds.), *Mechanical Circulatory and Respiratory Support*, pp. 749–772, Elsevier.

### Peer-reviewed papers

- [1] Underwood, M. R., Vickers, M. R., and **Barnett, A. G.** (1997) Availability of services to treat patients with acute low back pain. *The British Journal of General Practice*, **47**, 501–502.

- [2] Aquilina, J., **Barnett, A. G.**, Thompson, O., and Harrington, K. (1999) Second-trimester maternal serum inhibin A concentration as an early marker for preeclampsia. *American Journal of Obstetrics and Gynaecology*, **181**, 131–136.
- [3] **Barnett, A. G.**, Underwood, M. R., and Vickers, M. R. (1999) Effect of UK national guidelines on services to treat patients with acute low back pain: follow up questionnaire survey. *BMJ*, **318**, 919–920.
- [4] Underwood, M. R., **Barnett, A. G.**, and Vickers, M. R. (1999) Evaluation of two time specific back pain outcome measures. *Spine*, **24**, 1104–1112.
- [5] Howell, S., **Barnett, A. G.**, and Underwood, M. R. (2001) The use of pre-conceptual folic acid as an indicator of a health message amongst white and Bangladeshi women in Tower Hamlets, east London. *Journal of Family Practice*, **18**, 300–303.
- [6] O'Brien, M. F., Harrocks, S., Clarke, A., Garlick, B., and **Barnett, A. G.** (2002) Experiences with redo aortic valve surgery. *Journal of Cardiac Surgery*, **17**, 35–39.
- [7] O'Brien, M. F., Harrocks, S., Clarke, A., Garlick, B., and **Barnett, A. G.** (2002) How to do safe sternal reentry and the risk factors of redo cardiac surgery. *Journal of Cardiac Surgery*, **17**, 4–13.
- [8] Correa-Velez, I., Clavarino, A., Eastwood, H., and **Barnett, A. G.** (2003) Use of complementary and alternative medicine and quality of life: changes at the end of life. *Palliative Medicine*, **17**, 695–703.
- [9] **Barnett, A. G.** and Dobson, A. J. (2004) Estimating trends and seasonality in coronary heart disease. *Statistics in Medicine*, **23**, 3505–3523.
- [10] **Barnett, A. G.** and Dobson, A. J. (2004) Is the increase in coronary heart disease on Mondays an artifact? *Epidemiology*, **15**, 583–588.
- [11] Sommerlad, B. C., Fenn, C., Harland, K., Sell, D., Birch, M. J., Dave, R., Lees, M., and **Barnett, A.** (2004) Submucous cleft palate: A grading system and review of 40 consecutive submucous cleft palate repairs. *Cleft Palate-Craniofacial Journal*, **41**, 114–123.
- [12] Atkinson, J. A., McKenna, K. T., **Barnett, A. G.**, McGrath, D. J., and Rudd, M. (2005) A randomized, controlled trial to determine the efficacy of paper tape in preventing hypertrophic scar formation in surgical incisions that traverse Langer's skin tension lines. *Plastic and Reconstructive Surgery*, **116**, 1648–56, **Paper featured in Editorial**, %.
- [13] **Barnett, A. G.** and Dobson, A. J. (2005) The excess in cardiovascular events on Mondays: a meta-analysis and prospective study. *Journal of Epidemiology and Community Health*, **59**, 109–114.
- [14] **Barnett, A. G.**, Dobson, A. J., McElduff, P., Salomaa, V., Kuulasmaa, K., Sans, S., and WHO MONICA Project (2005) Cold periods and coronary events: an analysis of populations worldwide. *Journal of Epidemiology and Community Health*, **59**, 551–557.
- [15] **Barnett, A. G.**, van der Pols, J., and Dobson, A. J. (2005) Regression to the mean: what it is and how to deal with it. *International Journal of Epidemiology*, **34**, 215–220.
- [16] **Barnett, A. G.**, Williams, G. M., Schwartz, J., Neller, A. H., Best, T. L., Petroeschevsky, A. L., and Simpson, R. W. (2005) Air pollution and child respiratory health: a case-crossover study in Australia and New Zealand. *American Journal of Respiratory and Critical Care Medicine*, **171**, 1272–8.
- [17] **Barnett, A. G.** and Wolff, R. C. (2005) A time-domain test for some types of non-linearity. *IEEE Transactions on Signal Processing*, **53**, 26–33.
- [18] Chan, L., Shaw, A. G., Busfield, F., Haluska, B., **Barnett, A.**, Kesting, J., Short, L., Marczak, M., and Shaw, J. T. (2005) Carotid artery intima-media thickness, brachial artery flow mediated vasodilation and cardiovascular disease risk factors in diabetic and non-diabetic Indigenous Australians. *Atherosclerosis*, **180**, 319–326.
- [19] McGrath, J. J., **Barnett, A. G.**, and Eyles, D. W. (2005) The association between birth

- weight, season of birth and latitude. *Annals of Human Biology*, **32**, 547–59.
- [20] Stanton, W. R., **Barnett, A. G.**, and Silva, P. A. (2005) Adolescents' intentions to smoke as a predictor of smoking. *Preventive Medicine*, **40**, 221–6.
  - [21] Tooth, L., McKenna, K., **Barnett, A.**, Prescott, C., and Murphy, S. (2005) Caregiver burden, time spent caring and health status in the first 12 months following stroke. *Brain Injury*, **19**, 963–74.
  - [22] **Barnett, A. G.**, Williams, G. M., Schwartz, J., Neller, A. H., Best, T. L., Petroeschevsky, A. L., and Simpson, R. W. (2006) The effects of air pollution on hospitalizations for cardiovascular disease in elderly people in Australian and New Zealand cities. *Environmental Health Perspectives*, **114**, 1018–23.
  - [23] **Barnett, A. G.** (2007) Temperature and cardiovascular deaths in the US elderly: Changes over time. *Epidemiology*, **18**, 369–372.
  - [24] **Barnett, A. G.**, Sans, S., Salomaa, V., Kuulasmaa, K., Dobson, A. J., and WHO MONICA Project (2007) The effect of temperature on systolic blood pressure. *Blood Pressure Monitoring*, **12**, 195–203.
  - [25] Bensink, M., Wootton, R., Irving, H., Hallahan, A., Theodoros, D., Russell, T., Scuffham, P., and **Barnett, A. G.** (2007) Investigating the cost-effectiveness of videotelephone based support for newly diagnosed paediatric oncology patients and their families: design of a randomised controlled trial. *BMC Health Services Research*.
  - [26] Carrigan, G., **Barnett, A. G.**, Dobson, A. J., and Mishra, G. D. (2007) Compensating for Missing Data from Longitudinal Studies Using WinBUGS. *Journal of Statistical Software*, **19**.
  - [27] Gray, D., Williams, G., Li, Y., Chen, H., Li, R., Forsyth, S., **Barnett, A. G.**, Guo, J., Feng, Z., and McManus, D. (2007) A cluster-randomized bovine intervention trial against *Schistosoma japonicum* in the Peoples' Republic of China: design and baseline results. *American Journal of Tropical Medicine & Hygiene*, **77**, 866–74.
  - [28] McGrath, J. J., **Barnett, A.**, Eyles, D., Burne, T., Pedersen, C. B., and Mortensen, P. B. (2007) The impact of nonlinear exposure-risk relationships on seasonal time-series data: modelling Danish neonatal birth anthropometric data. *BMC Medical Research Methodology*, **7**.
  - [29] Mishra, G. D., Carrigan, G., Brown, W. J., **Barnett, A. G.**, and Dobson, A. J. (2007) Short-term weight change and the incidence of diabetes in midlife: results from the Australian Longitudinal Study of Women's Health. *Diabetes Care*, **30**, 1418–1424.
  - [30] Stathakis, T., Acworth, J. P., and **Barnett, A. G.** (2007) A prediction tool for bacteraemia in febrile children aged 3–36 months. *Emergency Medicine Australasia*, **19**, 353–358.
  - [31] **Barnett, A. G.**, Fraser, J. F., and de Looper, M. (2008) The seasonality in heart failure deaths and total cardiovascular deaths in Australia. *Australian and New Zealand Journal of Public Health*, **32**, 408–413.
  - [32] Bensink, M., Armfield, N., Irving, H., Hallahan, A., Theodoros, D., Russell, T., **Barnett, A.**, Scuffham, P., and Wootton, R. (2008) A pilot study of videotelephone-based support for newly diagnosed paediatric oncology patients and their families. *Journal of Telemedicine and Telecare*, **14**, 315–321.
  - [33] Clements, A. C. A., **Barnett, A. G.**, Nyandindi, U., Lwambo, N. J. S., Kihamia, C. M., and Blair, L. (2008) Age and gender effects in self-reported urinary schistosomiasis in Tanzania. *Tropical Medicine and International Health*, **13**, 713–721.
  - [34] Hansen, C. A., **Barnett, A. G.**, and Pritchard, G. (2008) The effect of ambient air pollution during early pregnancy on fetal ultrasonic measurements during mid-pregnancy. *Environmental Health Perspectives*, **116**, 362–369.
  - [35] Sanders, S., **Barnett, A.**, Doust, J., Coulthard, M., and Correa-Velez, I. (2008) A systematic review of the diagnostic accuracy of C-reactive protein for bacterial infection in infants and children. *Journal of Pediatrics*, **153**, 570–4, **Rated 6/7 on both relevance and**

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- [36] **Barnett, A. G.**, Batra, R., Graves, N., Edgeworth, J., Robotham, J., and Cooper, B. (2009) Using a longitudinal model to estimate the effect of Methicillin-resistant *Staphylococcus aureus* infection on length of stay in an intensive care unit. *American Journal of Epidemiology*, **170**, 1186–1194.
- [37] Bensink, M. E., Armfield, N. R., Pinkerton, R., Irving, H., Hallahan, A. R., Theodoros, D. G., Russell, T., **Barnett, A. G.**, Scuffham, P. A., and Wootton, R. (2009) Using videotelephony to support paediatric oncology-related palliative care in the home: from abandoned RCT to acceptability study. *Palliative Medicine*, **23**, 228–37.
- [38] Burridge, L., **Barnett, A. G.**, and Clavarino, A. (2009) The impact of perceived stage of cancer on carers' anxiety and depression during the patients' final year of life. *Psycho-Oncology*, **18**, 615–23.
- [39] Clements, A. C., **Barnett, A. G.**, Cheng, Z. W., Snow, R. W., and Zhou, H. N. (2009) Space-time variation of malaria incidence in Yunnan province, China. *Malaria Journal*, **8**.
- [40] Clements, A., et al. (2009) Use of Bayesian geostatistical prediction to estimate local variations in *Schistosoma haematobium* infection in western Africa. *Bulletin of the World Health Organization*, **87**, 885–964.
- [41] Coory, M., Wills, R., and **Barnett, A. G.** (2009) Bayesian versus frequentist statistical inference for investigating a one-off cancer cluster reported to a health department. *BMC Medical Research Methodology*, **9**.
- [42] Corley, A., Fraser, J. F., **Barnett, A. G.**, and Mullany, D. (2009) Nurse-determined assessment of cardiac output. Comparing a non-invasive cardiac output device and pulmonary artery catheter: a prospective observational study. *International Journal of Nursing Studies*, **46**, 1291–7.
- [43] Eakin, E., Reeves, M., Lawler, S., Graves, N., Oldenburg, B., DelMar, C., Wilke, K., Winkler, E., and **Barnett, A.** (2009) Telephone counselling for physical activity & diet in type 2 diabetes & hypertension. *American Journal of Preventive Medicine*, **36**, 142–149.
- [44] Fahy, S., Host, D., Campher, D., Tomczak, L., Vidhani, K., Higgs, M., **Barnett, A.**, Ziegenfuss, M., and Foot, C. (2009) The STAB trial - standardised testing of artificial blood. A comparative study of various products that may be used as artificial blood for high fidelity simulation training in the critical care setting. *Simulation in Healthcare*, **4**, 54–59.
- [45] Graves, N., **Barnett, A. G.**, Halton, K. A., Veerman, J. L., Winkler, E., Owen, N., Reeves, M. M., Marshall, A., and Eakin, E. (2009) Cost-Effectiveness of a Telephone-Delivered intervention for physical activity and diet. *PLoS ONE*, **4**, e7135.
- [46] Gray, D. J., et al. (2009) A cluster-randomised intervention trial against *Schistosoma japonicum* in the Peoples' Republic of China: bovine and human transmission. *PLoS ONE*, **4**, e5900.
- [47] Hansen, C. A., **Barnett, A. G.**, Jalaludin, B. B., and Morgan, G. G. (2009) Ambient air pollution and birth defects in Brisbane, Australia. *PLoS ONE*, **4**, e5408.
- [48] Mahoney, G., Slade, G., Kitchener, S., and **Barnett, A. G.** (2009) Lifetime fluoridation exposure and dental caries experience in a military population. *Community Dentistry and Oral Epidemiology*, **36**, 485–92.
- [49] Mullany, D., Foot, C., Smith, S. E., Johnson, J., and **Barnett, A. G.** (2009) Methods and preliminary results for a data linkage project to determine long-term survival after intensive care unit admission. *Critical Care and Resuscitation*, **11**, 191–7.
- [50] Saha, S., **Barnett, A. G.**, Foldi, C., Burne, T., Eyles, D. W., Buka, S. L., and McGrath, J. J. (2009) Advanced paternal age is associated with impaired neurocognitive outcomes during infancy and childhood. *PLoS Medicine*, **6**, e1000040, **Featured in Editorial**, %.
- [51] Saha, S., **Barnett, A. G.**, Buka, S. L., and McGrath, J. J. (2009) Maternal age and

- paternal age are associated with distinct childhood behavioural outcomes in a general population birth cohort. *Schizophrenia Research*, **115**, 130–135.
- [52] Wang, X. Y., **Barnett, A. G.**, Hu, W., and Tong, S. (2009) Temperature variation and emergency hospital admissions for stroke in Brisbane, Australia, 1996–2005. *International Journal of Biometeorology*, **53**, 535–541.
  - [53] Bellapart, J., Geng, S., Dunster, K., Timms, D., **Barnett, A.**, Boots, R., and Fraser, J. (2010) Intraaortic Balloon Pump counterpulsation and cerebral autoregulation: an observational study. *BMC Anesthesiology*, **10**, 3.
  - [54] **Barnett, A. G.**, Koper, N., Dobson, A. J., Schmiegelow, F., and Manseau, M. (2010) Using information criteria to select the correct variance–covariance structure for longitudinal data in ecology. *Methods in Ecology and Evolution*, **1**, 15–24, **In the journal’s top ten most read papers October 2009 to May 2010.**
  - [55] Graves, N., Harbarth, S., Beyersmann, J., **Barnett, A. G.**, Halton, K., and Cooper, B. (2010) Estimating the cost of healthcare-acquired-infection: Mind your p’s and q’s. *Clinical Infectious Diseases*, **50**, 1017–21.
  - [56] Wijndaele, K., Healy, G. N., Dunstan, D. W., **Barnett, A. G.**, Salmon, J., Shaw, J. E., Zimmet, P. Z., and Owen, N. (2010) Increased cardio-metabolic risk is associated with increased TV viewing time. *Medicine & Science in Sports & Exercise*, **42**, 1511–8.
  - [57] **Barnett, A.**, Graves, N., Rosenthal, V. D., Salomao, R., and Rangel-Frausto, M. S. (2010) Excess length of stay due to a central line associated blood stream infections in intensive care units in Argentina, Brazil and Mexico. *Infection Control and Hospital Epidemiology*, **31**, 1106–14, **Commentary by C J Crnich.**
  - [58] **Barnett, A.**, Tong, S., and Clements, A. (2010) What measure of temperature is the best predictor of mortality? *Environmental Research*, **110**, 604–611, **Commentary by Gasparrini & Armstrong.**
  - [59] Correa-Velez, I., Gifford, S., and **Barnett, A.** (2010) Longing to belong: Social inclusion and wellbeing among youth with refugee backgrounds in the first three years in Melbourne, Australia. *Social Science & Medicine*, **71**, 1399–40.
  - [60] Guo, Y., Tong, S., Zhang, Y., **Barnett, A. G.**, Jia, Y., and Pan, X. (2010) The relationship between particulate air pollution and emergency hospital visits for hypertension in Beijing, China. *Science of the Total Environment*, **408**, 4446–50.
  - [61] Tong, S., Wang, X., and **Barnett, A. G.** (2010) Assessment of heat-related health impacts in Brisbane, Australia: Comparison of different heatwave definitions. *PLoS ONE*, **5**, e12155.
  - [62] Eakin, E. G., et al. (2010) Living well with diabetes: a randomized controlled trial of a telephone-delivered intervention for maintenance of weight loss, physical activity and glycaemic control in adults with type 2 diabetes. *BMC Public Health*, **10**, 452, **Not peer reviewed.**
  - [63] Guo, Y., Tong, S., Li, S., **Barnett, A. G.**, Yu, W., Zhang, Y., and Pan, X. (2010) Gaseous air pollution and emergency hospital visits for hypertension in Beijing, China: a time-stratified case-crossover study. *Environmental Health*, **9**, 57.
  - [64] Guo, Y., **Barnett, A. G.**, Zhang, Y., Yu, W., Tong, S., Pan, X., and Zhou, M. (2010) The short-term effect of air pollution on cardiovascular mortality in Tianjin, China: comparison of time series and case-crossover analyses. *Science of the Total Environment*, **409**, 300–6.
  - [65] **Barnett, A. G.**, Beyersmann, J., Allignol, A., Rosenthal, V. D., Graves, N., and Wolkewitz, M. (2011) The time-dependent bias and its effect on extra length of stay due to nosocomial infection. *Value in Health*, **11**, 381–386.
  - [66] Correa-Velez, I., **Barnett, A. G.**, Gifford, S. M., and Sackey, D. (2011) Health status and use of health services among recently arrived men with refugee backgrounds: A comparative analysis of urban and regional settlement in Southeast Queensland. *Australian Journal of*

*Primary Health*, **17**, 66–71.

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- [68] Guo, Y., **Barnett, A. G.**, and Tong, S. (2011) A large change in temperature between neighbouring days increases the risk of mortality. *PLoS ONE*, **6**, e16511.
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- [70] Rosenthal, V. D. et al. (2011) Time-dependent analysis of extra length of stay and mortality due to ventilator-associated pneumonia in intensive-care units of ten limited-resources countries: findings of the international nosocomial infection control consortium (INICC). *Epidemiology and Infection*, **139**, 1757–63.
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- [74] Strand, L., **Barnett, A. G.**, and Tong, S. (2011) Methodological challenges when estimating the effects of season and seasonal exposures on birth outcomes. *BMC Medical Research Methodology*, **11**, 49.
- [75] Corley, A. et al. (2011) Oxygen delivery through high-flow nasal cannulae increase end expiratory lung volume and reduce respiratory rate in post cardiac surgical patients. *British Journal of Anaesthesia*, **107**, 998–1004.
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- [78] Huang, C. et al. (2011) Projecting heat-related mortality under climate change scenarios: A systematic review. *Environmental Health Perspectives*, **119**, 1681–90.
- [79] Guo, Y., **Barnett, A. G.**, Pan, X., Yu, W., and Tong, S. (2011) The impact of temperature on mortality in Tianjin, China: A case-crossover design with a distributed lag non-linear model. *Environmental Health Perspectives*, **119**, 1719–25.
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- [84] Wang et al (2012) The impact of heatwaves on mortality and emergency hospital admissions from non-external causes in Brisbane, Australia. *Occupational and Environmental Medicine*, **69**, 163–9.
- [85] **Barnett, A. G.**, Munck, L., and Fraser, J. F. (2012) The effects of the 2009 dust storm on emergency admissions to a Brisbane hospital. *International Journal of Biometeorology*, **56**, 719–726.
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- [87] Huang, C., **Barnett, A. G.**, Wang, X., and Tong, S. (2012) The impact of temperature on years of life lost in Brisbane, Australia. *Nature Climate Change*, **2**, 265–270, **Commentary by Prof Patrick Kinney**.
- [88] **Barnett, A. G.**, Hajat, S., Gasparrini, A., and Rocklöv, J. (2012) Cold and heat waves in the United States. *Environmental Research*, **112**, 218–224.
- [89] **Barnett, A. G.**, Huang, C., and Turner, L. (2012) Benefits of publicly available data (Research Letter). *Epidemiology*, **23**, 500–501.
- [90] Lee, J. C., Fraser, J. F., **Barnett, A. G.**, et al. (2012) Effect of caffeine on adenosine-induced reversible perfusion defects assessed by automated analysis. *The Journal of Nuclear Cardiology*, **19**, 474–81, **Featured in Editorial**.
- [91] Graves, N. et al. (2012) Evaluating the economics of the Australian national hand hygiene initiative. *Healthcare Infection*, **17**, 5–10.
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### Conference papers (published abstract)

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## Reports

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## Blogs/Other

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- [2] Graves, N., **Barnett, A. G.**, and Clarke, P. (2011) Fingers crossed: the role of randomness in medical research funding. *The Conversation*.
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- [15] **Barnett, A. G.** (2015) Reducing grant application numbers: The shame stick or prize carrot? *AusHSI*.
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- [33] **Barnett, A. G.** and Sisson, S. (2018) A survey needs to involve how many people before I'm convinced. *The Conversation*.
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- [35] **Barnett, A. G.** (2018) An idea to promote research integrity: adding badges to papers where the authors fought against the results being suppressed or sanitised. *LSE Impact Blog*; republished in *Australasian Human Research Ethics Consultancy Services*.
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## 2.2 Book details

I have co-authored two statistical books with Prof Annette Dobson.

- An Introduction to Generalized Linear Models



- ★ 5,100 citations (Google scholar)
- ★ 4th edition published in 2018
- ★ Review by Erica E. M. Moodie (McGill University) in the *Journal of Biopharmaceutical Statistics*, “This book is an excellent resource, either as an introduction to or a reminder of the technical aspects of generalized linear models, and it provides a wealth of simple yet useful examples and datasets.”
- ★ Recommended reading for “Applied Statistics” MAN414 (Coordinator Dr Helen Thompson); rated 5/5 in LEX, semester 2, 2009
- ★ Rated 4.6 out of 5 on Amazon.com based on 8 customer reviews; customer comment: “the most clearly written book on the topic”
- ★ Suggested further reading on *Wikipedia* page “Generalized Linear Models”
- ★ Has *R* package containing all the data sets “dobson”. Over 15,600 downloads (April 2020).
- Analysing Seasonal Health Data
  - ★ 205 citations (Google scholar)
  - ★ The first book to explain how to analyse seasonal data for a medical audience
  - ★ Contains many new methods for uncovering seasonal patterns
  - ★ Has an associated *R* software package season written with Dr Peter Baker (UQ). Over 38,700 downloads (May 2018).
  - ★ Featured in news items in the Daily Telegraph, South African Sports Radio and ABC 612
  - ★ Review by M. C. Borja in *Significance*, “A useful book on an important subject and I would recommend it to anybody interested in the analysis of seasonal data”

## 2.3 Research funding

### Successful chief investigator grants (total funds = \$89.2 million)

- National Environment Protection Council “Expansion of the Multi-City Mortality and Morbidity Study” CIA: Prof Rod Simpson (University of the Sunshine Coast) my role: CIE (study design, data management, statistical support, report writing) \$159,836, 2003  
Two highly cited publications [16, 22] and 3 conference papers [1, 2, 3].
- CellCept Australia Research Grants “The implications of Brain Death in Donor Lung Injury: Investigation and Blockade of the Endothelin Axis”, CIA: A/Prof John Fraser (Prince Charles), my role: CIG (statistical support), \$40,000, 2008
- Australian Red Cross Blood Service “A Pilot Study to Assess the Suitability of an Ovine Model for the Investigation of Adverse Transfusion Reactions”, CIA: A/Prof John Fraser (Prince Charles & UQ), my role: CIF (statistical support), \$165,000, 2008–2009
- The Prince Charles Hospital Foundation “A Pilot Study to Assess the Suitability of an Ovine Model for the Investigation of Adverse Transfusion Reactions”, CIA: A/Prof John Fraser (Prince Charles & UQ), my role: CIF (statistical support), \$49,042, 2009–2010
- The Prince Charles Hospital Foundation “Direct extubation onto high flow nasal prongs post cardiac surgery vs standard treatment in patients with BMI  $\geq 30$ : A randomised controlled trial.” CIA: Amanda Corley (Prince Charles), my role: CID (statistical support), \$59,574
- Queensland Emergency Medicine Research Foundation “Optimisation of cardiac output in emergency patients through non invasive cardiac output monitoring in the acute resuscitation phase. What does it add?”, CIA: Dr Neil Grant (Prince Charles), my role: CIG (statistical support), \$300,000, 2010–2012,

- Queensland Emergency Medicine Research Foundation “C.R.A.S.H. study: A randomised study of tissue oxygenation in an ovine model of haemorrhagic shock comparing the effect of colloid, fresh red cells, aged red cells and saline.”, CIA: Dr Andrew Staib (Princess Alexandra & UQ), my role: CIG (statistical support), \$106,375, 2010
- NHMRC Partnership “Evaluating hand hygiene interventions and their ability to reduce healthcare associated infection”, CIA: A/Prof Nicholas Graves (QUT), my role: CIF (study design, statistical analysis, report writing), \$500,000 in cash from NHMRC, \$400,000 in cash from ACSQHC, \$408,693 in kind from state and territory governments, 2010–2012.  
Publications: [91, 116, 124, 138, 151, 169, 164, 172, 185, 190].
- AusAID “Are community based infection surveillance and control interventions effective in identifying and responding to emerging zoonotic infectious diseases in developing countries?”, CIA: Dr Kate Halton (QUT), my role: CIB (statistical analysis), \$59,500, 2011  
Publication: [127].
- NHMRC Project “Building an evidence base for funding evidence-based medicine”, CIA: Adrian Barnett (QUT), \$308,510, 2011–2012, **Rated Category 6** (top 8.5% of proposals)  
Publications: [19], [122, 136, 145, 148, 154, 168, 161, 204], [9, 10].
- NHMRC Project “Identifying a cost-effective approach to MRSA control in Australia”, CIA: Dr Kate Halton (QUT), my role: CID (statistical analysis), \$362,224 2011
- NHMRC Project “Modelling the cost-effectiveness of therapeutic strategies for invasive candidiasis among the ICU population”, CIA: Prof Nick Graves (QUT), my role: CID (statistical analysis), \$276,344 2011
- Australian College of Critical Care Nurses “High flow nasal cannula for respiratory support in adult intensive care patients. Australian College of Critical Care Nurses”, CIA Amanda Corley (Prince Charles), my role: CIE (statistical support), \$14,701, 2012
- NHMRC Project “A longitudinal multilevel study of physical activity, sedentary behaviour and physical function in mid-to-late adulthood”, CIA: Prof Gavin Turrell (QUT), my role: CIE (statistical analysis), \$1,269,867 2012  
Publication: [199].
- CAR seed funding “Estimating the Australian burden of disease due to air pollution”, CIA: Sam Clifford, \$19,994, 2013.
- AusHSI Stimulus Grant “Saving blood and money: introduction of laboratory testing guidelines and its effect on blood loss and cost of therapy in an intensive care unit”, CIA: Jayesh Dhanani, \$41,000, 2013.  
Publication: [211].  
Won a quality and safety award for the Royal Brisbane and Women’s Hospital
- NHMRC Partnership “REACH: Researching Effective Approaches to Cleaning in Hospitals”, CIA: Nick Graves, my role: CIE (statistical analysis), \$1,146,817, 2014–2017.  
Publications: [176, 185, 200, 235, 238, 244].
- Queensland Government Accelerate Partnerships “CHERISH: better, cheaper hospital care”, CIA: Alison Mudge, my role: CI (statistical analysis and study design), \$498,228  
Publications: [206, 227].
- NHMRC Centre for Research Excellence “Centre for Research Excellence in Advanced Cardio-respiratory Therapies Improving OrgaN Support (ACTIONS)”, CIA: John Fraser, my role: CIG (statistical support and student training), \$2,491,450, 2015–2019



- Heart Foundation Vanguard Grant “Using thermal clothing to reduce morbidity during winter”, my role: CIA, \$69,000, 2015–2016  
Publication: [202].
- Cerebral Palsy Alliance “Researching the impact of cerebral palsy research”, my role: CIA, \$20,000, 2015–2016  
Publication: [184].
- ARC Discovery “Occupational injury prevention in high temperature environments”, CIA: Prof Dino Pisaniello (Adelaide), my role: CIC, \$295,156, 2015–2016  
Publications: [229, 231, 241, 252, 254].
- Asia-Pacific Network for Global Change Research “Assessing the Health Effects of Extreme Temperatures and the Development of Adaptation Strategies to Climate Change in the Asia-Pacific Region”, CIA: Dr Cunrui Huang (Sun Yat-sen University), my role: CIC, USD \$82,000, 2016–2017
- NHMRC Senior Research Fellowship A “Meta-research: Using research to increase the value of health and medical research”, \$631,370, 2017–2021  
Publications:  
[197, 212, 216, 218, 219, 228, 239, 246, 247, 248, 250, 251, 264, 273, 269, 272, 270, 275, 280]
- The Prince Charles Hospital Foundation “Evaluating and improving the funding processes of The Prince Charles Hospital Foundation”, \$47,872, 2017–2018
- NHMRC Partnership “Reducing Non-Beneficial Treatment at the End-of-Life”, my role: CIA, \$504,187, 2018–2020  
Publication: [265].
- NHMRC Medical Research Future Fund Keeping Australians Out of Hospital “LOCal Assessment and Triage Evaluation of NAFLD (LOCATE-NAFLD)”, CIA: Adrian Barnett, \$969,193, 2019–2022, **Rated Category 6**  
Publication: [258]
- MRFF CHD LIFE+ family-centred care models supporting long-term neurodevelopment, CIA: Steven McPhail, \$2,997,256, 2020
- RBWH and RBWH Foundation Research Project Grants. Gestational diabetes Mellitus screening and diagnosis during COVID-19: changes worth continuing? CIA: Susan de Jersey, \$49,572, 2020
- Australian Government. Australian Teletrial Program. CIA: Steve McPhail, \$75.2 million, 2020
- - Gold Coast Health Collaborative Research Grant Scheme. Enhancing clinician research: A mixed methods study examining Australian and New Zealand specialist trainees’ experiences and research outputs. CIA: Paulina Stehlik, \$99,052, 2021

#### **Notable successful associate investigator grants (total funds = \$4.3 million)**

- ARC “Quantifying the effects of criteria air pollutants on child health - setting Australian air quality standards” \$504,924, 2003  
This grant supported the funds from the National Environment Protection Council grant (see above) which led to 2 high impact publications [16, 22] and 3 conference papers [1, 2, 3].

- NHMRC Project Grant “Talking the walk: A longitudinal study of refugee men’s health and resettlement” CIA: Ignacio Correa-Velez (La Trobe), \$420,250, 2008–2011. Data collection will be complete in May and we will start to analyse the results soon after.  
Published paper: [59].
- NHMRC Project Grant “Helping women meet their activity goals: randomised trial of a personalised program delivered by mobile telephone” CIA: Alison Marshall (QUT), \$480,475, 2010–2012.  
Published paper: [152].
- NHMRC Project Grant “The unholy alliance between extracorporeal circuitry and transfusion medicine: characterising inflammation and injury” CIA: John Fraser (Prince Charles Hospital), \$929,299, 2011–2013.
- NHMRC “Centre for Research Excellence in Healthy, Liveable and Equitable Communities” CIA: Billie Giles-Corti (Uni of Melbourne), \$2,499,061, 2013–2018.
- Prince Charles Hospital Foundation “Silent and Apparent Neurological Injury In Transcatheter Aortic Valve Implantation (SANITY) Study” CIA: John Fraser (Prince Charles Hospital), \$99,272, 2014.
- Asia-Pacific Network for Global Change Research. “Scoping Workshop to Develop Proposal: Assessing the Health Effects of Extreme Temperatures and the Development of Adaptation Strategies to Climate Change in the Asia Pacific Region” CIA: Cunrui Huang, \$12,000, 2014.
- German Research Foundation Fellowship, Martin Wolkewitz, “Statistical insights into spatio-temporal variation in transmission dynamics of hospital-acquired infections using individual patient data” 259,800 Euros, 2011–2013 and re-funded for 2014–2016.  
Published papers: [132, 135, 140, 182].

## 2.4 Research students

- Ignacio Correa-Velez, PhD: Graduated April 2004, Evaluation of complementary and alternative medicine use in palliative care. My percent contribution: 30%.  
Published paper: [8]. In 2006 Ignacio was awarded a 4-year National Health and Medical Research Council (NHMRC) Postdoctoral Research Fellowship (La Trobe). He is the chief investigator of a new investigator NHMRC project grant in 2007 titled, “Talking the walk: A longitudinal study of refugee men’s health and resettlement” for \$420,250. I was an associate investigator on this grant and have been involved in the project. This has led to a published paper: [59].
- Jo-An Atkinson, MSc: Graduated December 2005, Efficacy of paper tape in preventing hypertrophic scar formation. My percent contribution: 40%.  
Published paper: [12]. Jo won the Sir Ian McFarlane award at the Royal Brisbane Hospital research conference (2004). Jo is an associate professor at the Sax Institute.
- Darren Gray, PhD: Awarded June 2008, The role of bovines in human schistosoma japonicum transmission in the the Peoples’ Republic of China. My percent contribution: 10%.  
Published papers: [27, 46]. Darren is currently a Professor at ANU.
- Letitia Burridge, PhD: Graduated December 2009, The experience of becoming a lay carer for a person with cancer. My percent contribution: 15%. Dean’s Award for Outstanding Research Higher Degree Theses in 2009.  
Published paper: [38]. Letty now works as a postdoctoral researcher in the department of General Practice, UQ.

- Linn Strand, MPhil: Graduated Dec 2011, The influence of ambient temperature on birth outcomes in Brisbane, Australia. My percent contribution: 80%.  
Published papers: [71, 74, 83]. Linn is now a postdoc at the Norwegian University of Science and Technology.
- Kathryn Plonka, PhD: Graduated 2012, Preventive strategies for Early Childhood Caries from Antenatal to age 24 months. My percent contribution: 10%.  
Published papers: [73, 108, 93, 112, 99, 107]. Video: <http://www.uq.edu.au/grad-school/3mt-kathryn-plonka>
- Jim Zhao, PhD: Graduated 2011, Economic evaluation of strategies for improving maternal and neonatal health in the Safe Motherhood Project of China. My percent contribution: 20%.
- Margaret Pukallus, MPhil: Graduated 2010, A longitudinal study of oral streptococci in mothers and their infants: the effect of intervention strategies. My percent contribution: 5%.  
Published papers: [108, 93, 110, 109].
- Yuming Guo, PhD: Graduated December 2012, Projecting the health benefits of decreasing vehicle use in Brisbane. My percent contribution: 75%. Yuming is currently an associate professor at Monash University.  
Published papers: [60, 63, 64, 68, 79, 104, 114].
- Cunrui Huang, PhD: Awarded February 2013, The health effects of temperature: current estimates, future projections and adaptation strategies. My percent contribution: 70%.  
Published papers: [78, 87, 100, 117]. Cunrui was awarded a QUT **Outstanding Doctoral Thesis Award** in 2013. Cunrui won a Research Fellowship at Griffith University in 2013.
- Xing Ju Lee, PhD: Awarded Mar 2017, Modelling VRE Transmission Routes to identify cost-effective intervention strategies. My percent contribution: 5%.
- Dimity Stephen, PhD: Awarded June 2017, Putting a price on climate change: The health and economic costs of increases in infectious diseases in Queensland due to climate change. My percent contribution: 90%. Dimity is currently a researcher at the German Centre for Higher Education Research and Science Studies.  
Published papers: [174, 196]
- Marc Nickels, PhD: Awarded Dec 2020, Exercise Interventions with Critically Ill Patients in an Australian Tertiary Intensive Care Unit. My percent contribution: 5%.  
Published paper: [201, 243, 255, 261]
- Yupin Crawford, Masters: Awarded July 2018, The cost-effectiveness of gold standard Venous Thromboembolism prophylaxis as compared to current practice. My percent contribution: 5%.
- Anisa Rowhani-Farid, PhD: Awarded July 2018, Open science and data sharing movement in scientific research. My percent contribution: 80%. Anisa is currently a Postdoctoral Fellow at the University of Maryland.  
Published papers: [183, 195, 216, 256]
- Victoria McCreanor, PhD: Awarded June 2019, Identifying high-value care for coronary artery disease in Australia. My percent contribution: 5%. Victoria is currently a research fellow at AusHSI and the Jamieson Trauma Institute.  
Published papers: [225, 245]
- Akwasi Bonsu Asumadu-Sakyi, PhD: Awarded September 2019, Indoor temperature profile and its influence on indoor air pollution in urban residential settings in a subtropical climate. My percent contribution: 5%.  
Published paper: [236, 240]

- Nina Lazarevic, PhD: Started February 2016, Methodological issues in the study of fetal co-exposures to endocrine disrupting chemicals. My percent contribution: 5%.  
Published papers: [233, 262]
- Nina Meloncelli, PhD: Awarded July 2020, Gestational diabetes mellitus: Examining diversity in practices, impact of clinical guidelines and the implementation of a dietitian-led model of care. My percent contribution: 10%.  
Published paper: [217, 242, 253]
- Louise Barnsbee, Masters: Awarded March 2020, Perceptions of Australian Health Services Researchers regarding evaluation of the impact of their research. Won a QUT scholarship in November 2018. My percent contribution: 50%.
- Lee Jones, PhD: Started Oct 2018, Investigating relationships between statistical quality and research culture. My percent contribution: 40%.
- Sameera Senanayake, PhD: Started Oct 2018, Using machine learning techniques to develop risk prediction models to predict graft failure following kidney transplantation. My percent contribution: 20%.  
Published paper: [260, 268, 281]

Mentoring (outside my research group):

- Anders Erickson, Medical Sciences & Geography, University of Victoria, Canada. International Society for Environmental Epidemiology Students & New Researchers Network. May 2014.
- Tea Espeland Uggen. <https://acems.org.au/>. 2018.
- Rebecca Harding. Statistical Society of Australia. 2019.

## 2.5 International visitors

- 2014 Chisato Imai, Nagasaki University, Endeavour Cheung Kong Research Fellowship (top 5 international and Australian recipients coming from/going to a Cheung Kong participating country), paper: [178]
- 2012 David Hondula, Virginia, USA, East Asia and Pacific Summer Institutes fellowship, National Science Foundation, paper: [137]
- 2011 Laila Hopstock, University of Tromsø, Norway, university scholarship, paper: [111]
- 2010 Martin Wolkewitz, Freiburg University, Germany, paper: [65]

## 2.6 Awards and scholarships

- Winner of the IHBI Carla Patterson Award for our work on the REACH trial.
- Exemplary reviewer for *Epidemiology* (2018)
- Queensland University of Technology, Vice-chancellor's performance award for excellence in supervision \$6,000 (2015)
- Queensland University of Technology, Vice-chancellor's team performance award for AusHSI - nominated (2015)
- Queensland University of Technology, Vice-chancellor's performance award \$6,000 (2013)
- One of 6 reviewers of the year for *Epidemiology* (2014)
- One of 9 reviewers of the year for *Environmental Health Perspectives* (2013)

- Runner-up best environmental epidemiology paper published in 2012 (Awards Committee Chair: Michael Brauer, University of British Columbia) [83]
- Best original article published in *Vox Sanguinis* (2011), 10,000 Euros, paper: [67]
- One of 11 reviewers of the year for *Environmental Health Perspectives*
- One of 12 reviewers of the year for *Environmental Health Perspectives*
- Queensland University of Technology, Vice-chancellor's performance award \$5,000 (2010)
- Queensland University of Technology, nominated for the Vice-chancellor's award for excellence (2010)
- University of Queensland, School of Population Health, School's Research Incentive Scheme \$2,500 (Mar 2005)
- UQ Dean of Engineering, Physical Sciences and Architecture award for Best PhD (2002)
- Commonwealth Government Department of Education, Science & Training International Postgraduate Research Scholarship (1999).

## 2.7 Refereeing

- Statistics Advisor *Journal of Telemedicine and Telecare* 2007–2016, renewed 2015
- Editorial Review Board of *Environmental Health Perspectives* 2011–2016; promoted to Associate Editor Board 2016–2018
- Editorial Board of *Epidemiology* 2013–2017, renewed 2015, 2016 and 2018
- Statistical Advisory Board *BMJ Open* 2013–present
- Scientific Review committee for the Australian Centre for Health Services Innovation (2012–present).
- External reviewer for 9 NHMRC Project Grants (2008–2017).
- Reviewed 47 papers for *Circulation* as a paid reviewer (USD \$50 per review)
- Reviewed grants for funding agencies in Australia, the Czech Republic, Hong Kong, Israel and UK

## 2.8 Web pages

- *shiny* web page to help researchers compile their publication lists:  
<https://aushsi.shinyapps.io/orcid/>. Is heavily used and was in the 2017 Instructions to Authors for the Australian Research Council.
- *shiny* web page to help researchers create a network diagram of their publications:  
<https://aushsi.shinyapps.io/work-pals/>.

## 3 Teaching

### 3.1 Lecturing, tutoring and co-ordination

- Coordinator, Advanced Research Methods: QUT, internal, 44 undergraduate students, 12 lectures, teaching satisfaction by 12 students 4.7 out of 5 (2011)
- Coordinator, Health Statistics: QUT, external, 59 postgraduate students, teaching satisfaction by 4 students 3.0 out of 5 (2011)
- Guest lecturer, Advanced Quantitative Research Methods: QUT, internal, postgraduate students, 2 lectures, teaching satisfaction by 5 students 4.6 out of 5 (2009)

- Coordinator, Advanced Quantitative Research Methods: QUT, internal, postgraduate students, teaching satisfaction by 14 students 4.1 out of 5 (2008)
- Coordinator, Health Statistics: QUT, external and internal, postgraduate students, teaching satisfaction by 10 students 4.7 out of 5 (2008)
- Lecturer, Introduction to Biostatistics: UQ, external and internal, postgraduate students, overall evaluation by 20 students 4.5 out of 5 (2007)
- Lecturer, Clinical Biostatistics, Biostatistics Collaboration Australia: UQ, external, postgraduate students, overall evaluation by 13 students 4.0 out of 5 (2006–2007)
- Lecturer, Measuring Population Health: UQ, postgraduate epidemiologists, overall evaluation by 11 students 4.3 out of 5 (2003)
- Tutor, Statistical Data Analysis 1: QUT, 1st year science and arts students, overall evaluation by 43 students 4.5 out of 5 (1999–2002)
- Tutor & Lecturer, Applied Statistics 2: QUT, 2nd year science students, overall evaluation by 23 students 4.2 out of 5 (1999)
- Demonstrator: QUT Science Train (1999)
- Tutor, Introduction to Statistics: Royal London Hospital, 1st year medical students (1998)

## 4 Policy

- Science and Technology Australia policy committee (2019–)
- Research used in a speech to parliament by Prime Minister Tony Abbott (Mar 2014)
- Research cited and quoted in McKeon review of health and medical research (Mar 2014)
- Workshop on Resource Condition Targets in Brisbane by South East Queensland Natural Resource Management (Apr 2008)
- Expert review of the Queensland Greens' document on the health effects of air pollution (Aug 2008)
- NHMRC workshop in Canberra (flights and expenses paid) on air quality in and around traffic tunnels (May 2007)
- Critique of Queensland government report on the health effects of the Boggo Road Busway for a Brisbane parents' group (Jul 2007)
- Critique of Queensland government report on the health effects of the Hale Street Bridge for a Brisbane parents' group (Oct 2006)

## 5 Professional activity

- Mathematical Sciences Cluster representative on the board of Science and Technology Australia (2018–)
- Member Association for Interdisciplinary Meta-research & Open Science (2019–)
- President Statistical Society of Australia (2018–2020)
- Vice President Statistical Society of Australia (2017–2018)
- Expert witness at the Hazelwood mine fire inquiry (2015)
- Pitman Medal Awards Committee, Statistical Society of Australia (2012, 2014, 2016, 2020), re-appointed 2016
- President Queensland Branch Statistical Society of Australia (2011–2013)

- Member Queensland Branch Council, Statistical Society of Australia (1999–2000, 2010–)
- Expert advisory panel for the *Queensland Evaluation Group* evaluating submissions for the Australian *Pharmaceutical Benefits Schedule* (2006–2007)
- Blog: “Median Watch”
- Twitter: aidybarnett
- Github (code-sharing): agbarnett