

CauseEffect Consulting ♦ Data Analysis and Wordsmith

I offer

- data analysis
- insight-generation
- data visualisation
- data interpretation
- generalised linear models
- survival analysis
- meta-analysis
- factor analysis
- principal component analysis
- systematic reviews
- literature searches
- advice on trial design
- protocol writing
- trial registration
- ethics applications
- SCOTT applications
- help with publishing
- on a project-by-project basis.

I work by contract on a project-by-project basis. Reduce your risk, by breaking a project up into instalments, with no obligation to continue the contract if the earlier instalments do not satisfy your requirements.

I use the R language with knowledge and experience of data analysis, to reveal the

trends and relationships in your data, and unlock its stories. I use my English language skills to write and proof-read.

I listen to you, and what you want to achieve, it is your data, and it is your story I want to tell.

Data analysis

- Data cleaning (remove implausible values and contradictory data, that otherwise may obscure patterns and relationships in your data).
- Descriptive data (the magnitude and distribution of variables, the associations between variables and the statistical significance of those relationships).
- Creation of a variety of different types of graphs to visualise your data.
- Test the magnitude and statistical significance of hypotheses.
- Use the right test for the type of data (ANCOVA, t-test or chi-square test for count data that are normally distributed, Mann-Whitney test and other non-parametric tests for data that are ordinal but not normally distributed).
- Transform data to ensure it is normally distributed and suitable for

the types of statistical tests used (e.g. using the square-root or natural log of the data).

Coaching/teaching

- Coaching / teaching the R language.

Funding Applications

- Advise on funding opportunities.
- Write and peer-review grant applications.

Trial design & registration

- Advice on trial design (RCT, case-control etc, outcome measures etc).
- Write trial protocol
- Write SCOTT, ethics applications.
- Register the trial.

Publishing

- I can take your trial results and write the first draft of a manuscript for publication, and help write further drafts.
- I can peer-review and submit to a journal and handle the peer-review process on your behalf.

Experience

- For nine years, at the University of Otago, I designed, conducted, and analysed randomised controlled trials; pilot studies; meta-analyses; systematic reviews; survival, factor and principal component analyses.
- Analysis of a survey of people's experiences of COVID-19 lockdown for the Ministry of Health.
- Analysis of Quitline data for the Quit Group.
- My PhD demonstrates that I can write well, analyse data, and create a high-quality, cohesive and convincing narrative from disparate sources.
- My medical degree, and experience of working as a junior doctor at three DHBs, gives me an understanding of medical data, and ability to be creative and come up with biologically plausible hypotheses to test.
- I have eight publications that were sufficiently robust and relevant to convince peer-reviewers and journal editors that they should be published.

I usually contract on a piece-work basis; alternatively, my hourly rate is \$100+GST with a substantial discount for students.

My publications

Caldwell BO, Crane J. Combination Nicotine Metered Dose Inhaler and Nicotine Patch for Smoking Cessation: A Randomized Controlled Trial. *Nicotine Tob Res.* 2016;18(10):1944–51.

Caldwell B. A Commentary re Quitting activity and tobacco brand Switching: findings from the ITC-4 Country Survey. *Australian and New Zealand Journal of Public Health.* 2015;39(2):114-5.

Caldwell BO, Adamson SJ, Crane J. Combination Rapid-Acting Nicotine Mouth Spray and Nicotine Patch Therapy in Smoking Cessation. *Nicotine Tob Res.* 2014;16(10):1356-64.

Caldwell B, Sumner W, Crane J. A systematic review of nicotine by inhalation: Is there a role for the inhaled route? *Nicotine Tob Res.* 2012;14(10):1127-39.

Thompson I, Williams G, Caldwell B, Aldington S, Dickson S, Lucas N, et al. Randomised double-blind, placebo-controlled trial of the effects of the 'party pills' BZP/TFMPP alone and in combination with alcohol. *Journal of Psychopharmacology.* 2010;24(9):1299-308

Caldwell B, Burgess C, Crane J. Randomized crossover trial of the acceptability of snus, nicotine gum, and Zonnic therapy for smoking

reduction in heavy smokers. *Nicotine Tob Res.* 2010;12(2):179-83.

Caldwell B, Dickson S, Burgess C, Siebers R, Mala S, Parkes A, et al. A pilot study of nicotine delivery to smokers from a metered dose inhaler. *Nicotine Tob Res.* 2009;11(4):342-7.

Travers J, Marsh S, Williams M, Weatherall M, Caldwell B, Shirtcliffe P, et al. External validity of randomised controlled trials in asthma: to whom do the results of the trials apply? *Thorax.* 2007;62(3):219-23.

My academic record

<please put link to academic record there, thank you>

Brent Caldwell, MBChB, DPH, MPH, PhD.