

Brent Caldwell

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Profile

- A senior analyst and researcher with extensive experience leading and contributing to complex and technical health research projects. I've recruited and mentored research teams, designed and conducted surveys and trials, and written funding applications, reports and publications for government.
- Proven relationship management experience working with health organisations, Māori community groups and social services providers. I build trusted relationships quickly. I've enjoyed mentoring research teams and am well-networked with contacts across the health sector and academia.
- Excellent communications skills. Part of my work leading research into nicotine replacement therapies involved writing press releases and giving media interviews via phone, radio and TV. For many years I've provided expert commentary on smoking cessation research in New Zealand.
- Strong analytical abilities with advanced statistical, data analysis and problem-solving skills. I can use a range of research models, methodologies and approaches to gather and evaluate data. Excellent knowledge of R programming language and currently undertaking study in SQL.
- Passionate about collaborative research approaches, the power of data and how well-designed surveys can improve population health and health equality.

Career Summary

PhD study	University of Otago, Wellington	2016 – 2020
Senior Research Fellow	University of Otago, Wellington	2006 – 2015
Research Commentator	Publications of Smoking Cessation Research	2013 – 2016
Researcher	Medical Research Institute of New Zealand (MRINZ)	2005 – 2006

Expertise

<i>Evidence-based Research Design & Management</i>	<i>Stakeholder Relationships Management</i>
<i>Health Research & Health Interventions</i>	<i>Collaborative Research Projects</i>
<i>Data Collection & Statistical Analysis</i>	<i>Written Reports & Funding Applications</i>
<i>Survey Design & Analysis</i>	<i>Meta-analysis, R language</i>
<i>Quantitative & Qualitative Analysis</i>	<i>Research Training & Mentoring</i>

Selected Roles, Responsibilities & Achievements

Senior Research Fellow – University of Otago, Wellington

The University of Otago, Wellington is one of four component schools that make up the University of Otago.

For ten years I worked as a senior research fellow leading and contributing to health research projects under the auspices of Professor Julian Crane. Highlights include:

- Recruited the volunteers and conducted a trial of the pharmacokinetics and pharmacodynamics of a free-base nicotine inhaler compared to smoking a cigarette.
 - Kept the volunteers entertained, administered the questionnaire, drew the blood, centrifuged it, froze the plasma and sent it to ESR.
 - Analysed the results in Excel and wrote the first draft of the manuscript for publication, and contributed to subsequent drafts.

- Designed a cross-over trial of the ad libitum use of a fortnight each of nicotine gum, Zonnic sachet, and snus (Swedish oral tobacco).
 - Advertised the trial to recruit volunteers, conducted the interviews of the participants, analysed the results and wrote the first draft of the manuscript for publication.
- As a result of reduced funding I demonstrated flexibility by working as a respiratory technician, doing lung function tests for almost a year.
- Conducted and published a systematic review of devices that delivered nicotine by inhalation.
- Co-designed two large randomised controlled trials (one of nicotine mouth spray, the other a nicotine lactate inhaler).
 - Wrote the first draft and contributed to subsequent drafts of the applications for funding, ethics approval, non-licensed medicines approvals, and manuscripts for publication.
 - Recruited, trained and supervised teams of four research assistants to conduct the trials.
 - Designed the questionnaires to record the outcomes, and the databases to collect the answers to the questionnaires.
 - Developed and trained research assistants to use a method, based on Appreciative Inquiry, to communicate with the smokers who took part in the trials, which was encouraging, respectful, and motivating and not judgemental.
 - Used the R language to analyse the results, which involved the use of the chi-square test for count data, Mann-Whitney test for ordinal data, and survival analysis.
 - For these trials, to recruit participants I learned to write press-releases and gave interviews to journalists by phone, radio, and TV.
- Built a collaboration with two Māori community groups with whom I conducted a trial of offering smokers Nicotine Replacement Therapy to sample in non-medical community settings, such as shopping malls and fairs.
 - Designed the trial (the methods, the questionnaires, the outcomes, and software to administer the questionnaire and provide advice and encouragement via iPads).
 - Wrote the applications for funding, and ethics approval.
 - Trained the staff and regularly visited the collaborators to check they were doing alright and to deliver more stock.

Research Fellow – Medical Research Institute of New Zealand

MRINZ is an independent medical research organisation dedicated to investigating the causes of important public health problems in New Zealand and internationally.


I started research as a research fellow at MRINZ. Highlights include:

- Designed a trial of the safety, toxicity, and effect on simulated driving performance of BZP/TFMPP party pills; and wrote the first draft of a funding application for it.
- Conducted and published a systematic review of the thromboembolic risks of celecoxib (Celebrex).
- Designed and conducted a trial of saliva testing of marijuana for ESR. Recruited a small sample of participants for this trial.
- Contributed to the formulation of the idea and co-wrote a publication regarding the external validity of randomised controlled trials in asthma.

Qualifications

PhD	University of Otago, 2020
<ul style="list-style-type: none">- <u>Thesis</u>: <i>Nicotine With Speed: the role of more rapid-delivery of nicotine combined with slow transdermal delivery of nicotine for smoking cessation.</i>- Used R language to conduct a meta-analysis of combination therapy of fast plus slow delivery of nicotine.- Used R to perform factor analyses.	
Master of Public Health (MPH)	University of Otago, 2009
Post-graduate Diploma of Public Health (DPH)	University of Otago, 2007
Bachelor of Medicine, Bachelor of Surgery, (MBChB)	University of Otago, 2000

Additional Information

Nationality:	New Zealand citizen	
Referees:	Professor Julian Crane	Associate Professor Nevil Peirse
	Professor of Medicine	Statistician, Deputy Director Housing & Health
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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.

Endorsements

“Dr Brent Caldwell worked with me as a research fellow and then senior research fellow from 2006-15 in the Department of Medicine University of Otago, Wellington. He was conscientious and exceptionally hardworking, developed considerable research skills including successful grant writing, clinical trial design, and statistical analysis, predominantly using the R language.”

Professor Julian Crane, Department of Medicine, University of Otago, Wellington

“Brent has worked with R for over ten years. He is an experienced and detailed coder, he has a strong grasp of the language structure and the ability to quickly learn and apply new packages. Brent’s analyses are comprehensive and he ensures every possible angle is covered.”

Associate Professor Nevil Peirse, Statistician, University of Otago, Wellington

“I had the pleasure of working with Dr Caldwell at the University of Otago over several years, including as collaborators on several clinical and epidemiological research projects. I found Brent to be a hard-working and dedicated academic. He was prepared to commit significant time and energy to researching optimal patient-centred solutions, and was extremely thoughtful and considered in his decision-making. He always had a positive attitude and a humble and reflexive approach. He was aware of his limitations and willing to seek support when needed. He was excellent at maintaining communication with colleagues and stakeholders and the establishment of effective relationships. He was well regarded for his cultural competence and relationships with Māori whānau and community providers. I would have no hesitation in commending him to any employer.”

Dr Tristram Ingham, Senior Research Fellow, Department of Medicine, University of Otago, Wellington