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IDENTIFICATION

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Position:	Senior Scientist	
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ACADEMIC BACKGROUND

Degree type	Year received or expected	Discipline/Field/Speciality	Institution and Country
Doctorate (PhD)	1979	Biostatistics	University of Western Ontario CANADA
Master's	1976	Statistics	Queen's University at Kingston CANADA
Bachelor's	1972	Education	Queen's University at Kingston CANADA
Bachelor's	1970	Economics and Mathematics	York University CANADA

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RESERCH CONTRIBUTION IN THE LAST FIVE YEARS

SAMPLE PUBLICATIONS (2010-2015)

1. **Willan AR**, Eckermann S. Optimal clinical trial design using value of information methods with imperfect implementation. *Health Economics* 2010; **19**: 549-561.
2. **Willan AR**. The use of value of information methods in the design and evaluation of clinical trials. In *Economic Evaluation in Child Health*. Ungar WJ. (ed). Oxford University Press 2010.
3. Eckermann S, Karnon J, **Willan AR**. The value of Value of Information: best informing research design and prioritization using current methods. *Pharmacoeconomics* 2010; **28**: 699-709.
4. Hossain A, Beyene J, **Willan AR**, Hu P. Approximate Likelihood ratio test for detecting differential expression in microarray data. *Computational Statistics and Data Analysis* 2009; **53**(10): 3685-3695.
5. Abrahamyan L, Beyene J, Feng JY, Chon Y, **Willan AR**, Schmelting H, Horneff G, Keystone EC, Feldman BM. Response times follow lognormal or gamma distribution in arthritis patients. *Journal of Clinical Epidemiology* 2010; **63**(12): 1363-1369.
6. Abrahamyan L, Li CS, Beyene J, **Willan AR**, Feldman BM. The impact of survival distributions on the power of randomized clinical trials. *Journal of Clinical Epidemiology* 2011; **64**(3): 286-292.
7. Boutis K, **Willan AR**, Babyn P, Goeree R, Howard A. A Randomized Controlled Trial of Cast Versus Splint In Children with Acceptably Angulated Wrist Fractures. *Canadian Medical Association Journal* 2010; **182**(14): 1507-1512.
8. Eckermann S, Coory M, **Willan AR**. Consistently estimating risk difference when translating evidence to jurisdiction of interest. *PharmacoEconomics* 2011; **29**(2):87-96.
9. Asztalos E, Murphy K, Hannah ME, **Willan AR**, et al. Multiple courses of antenatal corticosteroids for preterm birth study (MACS): 2-year outcomes. *Pediatrics* 2010; **126**(5):e1045-1055.
10. **Willan AR**. The use of value of information methods in the design and evaluation of clinical trials. In: *Economic Evaluation in Child Health*. Ungar WJ. (ed). Oxford University Press 2010.
11. **Willan AR**. Sample size determination for cost-effectiveness trials. *PharmacoEconomics* 2011; **29**(11):933-949.
12. Harris SB, Kapor J, Lank CN, **Willan AR**, Houston T. Clinical inertia in patients with T2DM requiring insulin in family practice. *Canadian Family Physician* 2010; **56**: e418- e424.
13. von Keyserlingk C, Boutis K, **Willan AR**, Hopkins R, Goeree R. Cost-Effectiveness Analysis of Cast Versus Splint In Children with Acceptably Angulated Wrist Fractures. *International Journal of Technology assessment in Health Care* 2011; **27**:101-107.

14. Eckermann S, **Willan AR**. Presenting and summarizing cost and effect evidence to best inform inference and societal decision making when comparing multiple strategies. *Pharmacoeconomics* 2011; **29**(7): 563-577.
15. Pullenayegum EM, **Willan AR**. Marginal models for censored longitudinal cost data: appropriate working variance matrices in inverse-probability-weighted GEEs can improve precision. *International Journal of Biostatistics* 2011; **7**(1); Article 14.
16. **Willan AR**, Eckermann S. Value of information and pricing new health interventions. *PharmaEconomics* 2012; **30**(6):447-459.
17. **Willan AR**, Eckermann S. Accounting for between-study variation in value of information methodology. *Health Economics* 2012; **21**(10):1183–1195.
18. Ballantyne M, Stevens B, Guttman A, **Willan AR**, Rosenbaum, P. Transition to neonatal follow-up programs – is attendance a problem? *Journal of Perinatal and Neonatal Nursing* 2012; **26**(1):90-98.
19. Freedman SB, Parkin PC, **Willan AR**, Schuh S. Rapid versus standard intravenous rehydration in paediatric gastroenteritis: a pragmatic, blinded, randomised clinical trial. *BMJ* 2011; 343: bmj.d6976.
20. Ungar WJ, Boydell K, Dell S, Feldman BM, Marshall D, **Willan AR**, Wright J. A parent-child dyad approach to the assessment of health status and health-related quality of life in children with asthma. *Pharmacoeconomics* 2012; **30**(8):697-712.
21. Murphy KE, Hannah ME, **Willan AR** et al. Maternal Side-effects after multiple courses of antenatal corticosteroids (MACS): The three-month follow-up of women in the randomized controlled trial of MACS for preterm birth study. *J Obstet Gynaecol Can* 2011; **33**(9):909–921.
22. **Willan AR**, Boutis K, Goeree R. Value of Information methods for planning and analyzing clinical studies optimize decision making and research planning. *Journal of Clinical Epidemiology* 2012; **65**(8):870-876.
23. Murphy KE, **Willan AR**, Hannah ME et al. Effect of Antenatal Corticosteroids on Fetal Growth and Gestational Age at Birth *Obstetrics & Gynecology* 2012; **19**(5):917-923.
24. Feldman B, Berger K, Bohn R, Carcao M, Fischer K, Gringeri A, Hoots K, Mantovani L, **Willan AR**, Schramm W. Hemophilia prophylaxis: how can we justify the costs? *Haemophilia* 2012; **18**(5):680-684.
25. Hossain A, **Willan AR**, Beyene J. An improved method on Wilcoxon rank sum test for gene selection from microarray experiments. *Communications in Statistics* 2013; **42**(7):1563-1577.
26. Eckermann S, **Willan AR**. Optimal global VOI trials: better aligning manufacturer and decision maker interests and enabling feasible risk sharing. *Pharmacoeconomics* 2013; **31**(5):393-401.
27. Atenafu EG, Hamid JS, To T, **Willan AR**, Feldman BM and Beyene J. Bias-corrected estimator for intraclass correlation coefficient in the balanced one-way random effects model. *BMC Medical Research Methodology* 2012; **12**:126.
28. Ballantyne M, Stevens B, Guttman A, **Willan AR**, Rosenbaum, P. Maternal and infant predictors of attendance at neonatal follow-up programs. *Child: Care, Health and Development* DOI:10.1111/cch.12015.

29. Hossain A, **Willan AR**, Beyene J. A flexible nonparametric approach to find candidate genes associated to disease in microarray experiments. *Journal of Bioinformatics and Computational Biology* 2013; **11**(2):1250021 (19 pages).
30. Chen MH, **Willan AR**. Determining optimal sample sizes for multistage adaptive randomized clinical trials from an industry perspective using value of information methods. *Clinical Trials* 2013; **10**(1): 54-62.
31. Boutis K, Grootendorst P, **Willan A**, Plint AC, Babyn P, Brison RJ, Sayal A, Parker M, Mamen N, Schuh S, Grimshaw J, Johnson D, Narayanan U. Effect of the Low Risk Ankle Rule on the frequency of radiography in children with ankle injuries. *CMAJ* 2013. DOI:10.1503/cmaj.122050, August 12, 2013.
32. Barrett JFR, Hannah ME, Hutton EK, **Willan AR et al.** A randomized trial of planned cesarean or vaginal delivery for twin pregnancy. *NEJM* 2013; **369**(14):1295-1305.
33. Richardson SA, **Willan AR**, Rothman L *et al.* The impact of pedestrian countdown signals on pedestrian-motor vehicle collisions: a reanalysis of data from a quasi-experimental study. *BMJ: Injury Prevention* DOI:10.1136/injuryprev-2012-040717, September 23, 2013.
34. Asztalos EV, Murphy KE, **Willan AR et al.** Multiple courses of antenatal corticosteroids for preterm birth study outcomes in children at 5 years of age (MACS-5). *JAMA Pediatr.* DOI:10.1001/jamapediatrics.2013.2764, October 14, 2013.
35. Chan KKW, **Willan AR**, Gupta M, Pullenayegum E. Underestimation of uncertainties in health utilities derived from mapping algorithms involving health related quality of life measures: Statistical explanations and potential remedies. *Medical Decision Making* 2014; **34**(7):863-872.
36. Chen MH, **Willan AR**. Value of information methods for assessing a new diagnostic test. *Statistics in Medicine* 2014; **33**(11):1801-1815.
37. Freedman SB, Williamson-Urquhart S, Schuh S, Sherman PM, Farion KJ, Gouin S, **Willan AR**, Goeree R, Johnson D, Black K, Schnadower D, Gorelick MH. Impact of emergency department probiotic treatment of pediatric gastroenteritis: randomized controlled trial (PROGUT Trial). *Trials* (accepted for publication).
38. Abrahamyan L, **Willan AR**, Beyene J, Mclimont M, Blanchette V, Feldman BM. Using value of information methods when the disease is rare and the treatment is expensive – The example of hemophilia A. *Journal of General Internal Medicine* 2014; **29**(3):767-773.
39. Schuh S, Freedman S, Coates A, Allen U, Parkin PC, Stephens D, Ungar W, DaSilva Z, **Willan AR**. Effect of oximetry on hospitalization in bronchiolitis: a randomized clinical trial. *JAMA* 2014; **312**(7):712-718.
40. **Willan AR**. Bayesian decision theory and the design and analysis of randomized clinical trials. In: van Montfort K, Oud J, and Ghidey W. (Eds.) *Developments in Statistical Evaluation of Clinical Trials*. Springer Berlin Heidelberg, 2014. (ISBN 978-3-642-55345-5).
41. Parshuram CS, Amaral ACKB, Ferguson ND, Baker GR, Etchells EE, Flintoft V, Granton J, Lingard L, Kirpalani H, Mehta S, Moldofsky H, Scales DC, TStewart TE, **Willan AR**, Friedrich JO. Patient safety, resident well-being and continuity of care with different resident duty schedules in the intensive care unit: a randomized trial. *CMAJ*, published ahead of print February 9, 2015 as doi:10.1503/cmaj.140752.

42. Freedman SB, Sherman PM, **Willan AR**, Johnson D, Gouin S, Schuh S. Emergency Department Treatment of Children With Diarrhea Who Attend Day Care: A Randomized Multidose Trial of a Lactobacillus helveticus and Lactobacillus rhamnosus Combination Probiotic. *Clinical Pediatrics*, published ahead of print February 10, 2015 as doi:10.1177/0009922815569200.
43. **Willan AR**. Bayesian methods for the design, analysis and interpretation of clinical studies. In: Berger VW, Zhang X. (Eds.) *Important Considerations for Clinical Trial Methodologies*. Future Medicine London, 2013. (eISBN 978-1-909453-31-9).