

CURRICULUM VITAE

Name Andrew (Andy) Roger Willan
Address Child Health Evaluative Sciences, SickKids Research Institute
555 University Avenue, Toronto ON M5G 1X8 Canada
Telephone 416.813.2166
Fax 416.813.5979
E-mail andy@andywillan.com
Website www.andywillan.com/willan

Education

- PhD in Biostatistics from the Department of Epidemiology and Biostatistics at the University of Western Ontario, London ON, 1979.
- MSc in Statistics from Queen's University, Kingston ON, 1976.
- BEd in Mathematics and Physical Education from Queen's University, Kingston ON, 1972.
- BA in Economics and Mathematics from York University, Toronto ON, 1970.

Present Position as of July 2002

- Professor, Dalla Lana School of Public Health, University of Toronto
- Senior Scientist, Child Health Evaluative Sciences, SickKids Research Institute, Toronto
- Professor Emeritus, Clinic Epidemiology and Biostatistics, McMaster University

Awards

- Co-author on a paper receiving the International Society for Pharmaco-economics and Outcomes Research Award for Methodology Excellence, awarded May 2002.
- First author on a paper receiving the International Society for Pharmaco-economics and Outcomes Research Award for Methodology Excellence, awarded May 2000.
- Co-author on a paper receiving the Best Paper Award from the Society for Medical Decision Making, 1995.
- NHRDP Graduate Fellowship, 1977-1980.

Experience

- September 1993 to June 2002 - Professor, Department of Clinical Epidemiology and Biostatistics, McMaster University, Hamilton ON
- September 1990 to June 1993 - Associate Professor, Department of Clinical Epidemiology and Biostatistics, McMaster University, Hamilton ON
- January 1989 to May 1990 - Head, Division of Clinical Trials and Epidemiology, Sunnybrook Health Science Centre, Toronto ON
- March 1989 to October 1991 - Associate Professor, Department of Preventive Medicine and Biostatistics, University of Toronto, Toronto ON
- September 1987 to February 1989 - Associate Professor, Department of Population Medicine, University of Guelph, Guelph ON
- April 1985 to August 1987 - Head of Biometry with the Clinical Trials Group, National Cancer Institute of Canada, Queen's University, Kingston ON.
- September 1981 to August 1987 - Assistant Professor, Department of Community Health and Epidemiology, Queen's University, Kingston ON.
- October 1980 to March 1985 - Biostatistician with the Clinical Trials Group, National Cancer Institute of Canada, Queen's University, Kingston ON
- December 1979 to September 1980 - Biostatistician with the Division of Epidemiology at the Cancer Control Agency of British Columbia, Vancouver BC
- January 1980 to September 1980 - Assistant Professor, Department of Mathematics, University of British Columbia, Vancouver BC

Research Funding

- Natural Sciences and Engineering Research Council of Canada, Operating Grant, Test of Hypothesis in non-nested regressions. **Willan A.** \$23,100, April 88 - March 91.
- Ontario Mental Health, Measuring Processes of Care and Parental Psychosocial Well-being. King G (Principal Investigator), Rosenbaum P, **Willan A.** \$150,000, June 91 - May 93.
- Ontario Ministry Health, Lower extremity splinting for children with cerebral palsy. Evans C (Principal Investigator), Gowland C, Rosenbaum P, **Willan A.**, Russell D, Weber D. \$200,000, June 91 - May 93.
- Alzheimer Association of Ontario, Development and evaluation of decisional aid to screen from competency to complete a health care directive. Molloy M (Principal Investigator), Silberfield M, Guyatt G, **Willan A.**, Singer P. \$70,000, April 1, 1992 - March 31, 1993.
- Medical Research Council, A Double-Blind Randomized Trial of Sucralfate Versus Ranitidine - the Incidence of Nosocomial Pneumonia. Cook D (Principal Investigator), Guyatt G, **Willan A.**, Fuller H, Hall R, Winton T, Noseworthy T, Leasa D, Rutledge F, Powles P. \$380,165, July 1, 1992 - June 30, 1994.
- Ontario Ministry Health, The withdrawal of life support in critically ill patients. Cook D (Principal Investigator), Jaeschke R, Ali M, Guyatt G, **Willan A.** \$13,226, August 1, 1991 - April 30, 1992.
- Ontario Ministry Health and National Cancer Institute of Canada, A randomized trial of different strategies for the investigation of metastatic disease in potentially operable lung cancer. Guyatt G (Principal Investigator), Goldberg M, Shamji F, Incullet R, Finley R, Deslauriers J, Bethune D, **Willan A.** \$1,073,390, October 1, 1991 - March 31, 1995.
- Ontario Ministry of Health, Neurodevelopmental Clinical Research Unit, Health-system linked research infrastructure grant to do research relevant to the Association of Treatment Centres of Ontario. Rosenbaum P (Principal Investigator), Law M, King G, Gowland C, **Willan A.** \$2,500,000, June 1, 1989 - May 31, 1994.
- Ontario Ministry of Health, Supportive Cancer Care Research Unit, Health-system linked research infrastructure grant to do research relevant to supportive care in cancer patients. Whelan T (Principal Investigator), Browman G, Gafni A, Gilbert R, Levine M, Sellick S, **Willan A.**, Willms D. \$1,760,000, June 1, 1991 - April 30, 2001. Medical Research Council, A Multicentre Randomized Controlled Trial of Induction of Labour in Term Pregnancies With Premature Rupture of the Membranes, Hannah M (Principal Investigator), Ohlsson A, Hodnett E, Wang E, **Willan A.** \$1,500,000, June 1, 1991 - May 31, 1995. Renewed, June 1, 1995 - April 30, 2001.
- National Health Research and Development Program, Systematic Overviews of the Predictors of Adolescent Pregnancy and the Effectiveness of Adolescent Pregnancy Prevention Interventions. Mitchell A (Principal Investigator), Oxman A, Guyatt G, Farewell V, Cameron R, **Willan A.**, Scott F, Underwood J. \$49,225, June 1992 - May 1995.
- National Cancer Institute of Canada, The effect of smoking cessation on response to radiation in head and neck cancer patients. Browman G (Principal Investigator), Hodson I, **Willan A.**, Sellick S. \$278,000, May 1993 - April 1996.
- Ontario Ministry of Health, The analgesic prescription self-evaluation tool. Browman G (Principal Investigator), **Willan A.**, Sellick S. \$68,379, October 1993 - March 1996.
- Medical Research Council of Canada, Canadian implantable defibrillator study. Connolly S (Principal Investigator), Gent M, **Willan A.** \$1,193,000, September 1990 - June 1995.
- Medical Research Council of Canada, Canadian trial of physiologic pacing. Connolly S (Principal Investigator), Gent M, **Willan A.** \$2,200,000, July 1993 - June 1996.
- Agency for Health Care Policy & Development, Systematic application of a health care directive. Molloy W (Principal Investigator), Guyatt G, **Willan A.** \$1,225,476, June 1994 - May 1997.
- National Cancer Institute of Canada, The development of a decision aid for early breast cancer. Whelan T (Principal Investigator), **Willan A.** \$31,114, July 95 - June 96. (#006282).
- National Cancer Institute of Canada, RCT of a decision aid in non-negative breast cancer. Whelan T (Principal Investigator), **Willan A.**, Gafni A, Browman G. \$144,332, July 95 - June 97. (#006296).
- Medical Research Council of Canada, Canadian health economic assessment of physiologic pacing. O'Brien B (Principal Investigator), **Willan A.**, Connolly S, Gent M. \$388,330, July 1995 - June 1999.

- Medical Research Council of Canada, The Term Breech Trial. Hannah M (Principal Investigator), Milne K, Saigal S, **Willan A** \$1,948,176, January 1997 - September 2001.
- Canadian Breast Cancer Research Initiative, Caring at Home for Women with Advanced Breast Cancer. Grundfeld E (Principal Investigator), **Willan A**, Crooks D, Angus D. \$466,664, June 1997 - Sept 2001.
- Canadian Breast Cancer Research Initiative, Identification of Factors for Repeat Biennial Breast Screening. Rand C (Principal Investigator), McAuley R, Charles C, **Willan A**. \$160,000, June 1997 - May 1999.
- National Institute of Health–US, The Nursing Supportive Care in Labour Trial (NSCIL). Hodnett E (Principal Investigator), Hannah M, **Willan A**. \$1,312,929, September 1998 - August 2001.
- Canadian Institutes of Health Research, Effect of Exercise on Women with Polycystic Ovarian Syndrome (PCOS). Hannah ME (Principal Investigator), Laredo S, Librach C, Feig D, Rodgers C, **Willan A**, Casper R, Leiter L. \$902,237, 2000-2002.
- Canadian Institutes of Health Research, Labour Position Trial. Hodnett ED (Principal Investigator), Stremler R, Hannah ME, Petryshen P, Stevens BJ, **Willan A**. \$206,868, 2001-2003.
- Canadian Institutes of Health Research, Two-year outcomes of infants and mothers enrolled in the Term Breech Trial. Whyte H (Principal Investigator), Hannah ME, Hodnett E, Amankwah K, King R, Hannah W, Saigal S, **Willan A**, Gafni A. \$321,955, 1999-2004.
- Canadian Institutes of Health Research, Multiple vs single courses of antenatal corticosteroids for preterm birth. Murphy K (Principal Investigator), Hannah M, Ohlsson A, Amankwah K, Matthews S, Kelly E, Aghajafari F, **Willan A**, Saigal S, Gafni A. \$3,428,405, 2000-2006.
- Physician’s Services Incorporated Foundation, An Investigation into Interactions Between COX-2 Selective NSAIDs and Warfarin and the Risk of Bleeding in Patients who are Receiving these Drugs Concomitantly. Douketis J (Principal Investigator), Holbrook A, Crowther M, **Willan A**. \$79,376, 2000-2001.
- Physician’s Services Incorporated Foundation, Randomized control trial of casting vs Air-Stirrup ankle brace in children with acute low-risk fractures. Boutis K (Principal Investigator), Schuh, S, **Willan A**. Narayanan U. \$150,500 2003-2005.
- Child Neurology Society/Child Neurology Foundation, Towards the Establishment of Standards of Practice and the Initiation of Multi-Centre, Multi-National Clinical Trials for Neonates and children with Stroke. deVeber G (Principal Investigator), **Willan A**. \$75,000, 2002-2004.
- Canadian Institutes of Health Research, SELAN (Structured Early Labour Assessment and care by Nurses) Trial. Hodnett ED (Principal Investigator), Stremler R, **Willan A**, Fraser W, Gafni A, \$2,662,672, 2003-2007.
- Canadian Institutes of Health Research, The Twin Birth Study. Barrett J (Principal Investigator), Hannah M, **Willan A**, Ross S, Hutton E, et al., \$8,608,045, 2003-2011.
- Canadian Institutes of Health Research, A conceptual framework for outcome measurement in children: Consequences for health economic evaluation and decision- making. Ungar W (Principal Investigator), **Willan A**, Marshall D, Feldman B, Wright J. \$225,000, 2003-2006.
- Canadian Institutes of Health Research, Conventional versus liposomal amphotericin: an economic evaluation. Parshuram C, Upton A (Principal Investigators), Ungar W, Doyle J, **Willan A**. \$50,828. 2004-2005.
- Canadian Institutes of Health Research, Multiple Courses Of Antenatal Corticosteroids For Preterm Birth Study: 5 Year Follow-Up (MACS-5). Asztalos E (Principal Investigator), Hannah M, Ohlsson A, Ross S, Matthews S, Murphy K, **Willan A**, Saigal S, Gafni A. \$3,585,161, 2005-2012.
- Physician’s Services Incorporated Foundation, Emergency Department Rapid Intravenous Rehydration for Pediatric Gastroenteritis: A Randomized Controlled Trial. Freedman S (Principal Investigator), Parkin P, Schuh S, **Willan A**. \$156,000, 2006-2007.
- Canadian Institutes of Health Research, Translating research on pain in children (Team Grant). Stevens B (Principal Investigator), **Willan A**, et al. \$5,928,858, 2006-2011.
- Physician’s Services Incorporated Foundation, Impact of Oximetry on Disposition in Acute Bronchiolitis. Schuh S (Principal Investigator), Freedman S, Coates A, Parkin P, Allen U, **Willan A**, Ungar W, DaSilva Z. \$163,000 2008-2011.

- Canadian Institutes of Health Research, The Tips for Infant and Parental Sleep (TIPS) Trial. Stremler R (Principal Investigator), **Willan A**, *et al.* \$405,344, 2007-2009.
- Bloorview Research Institute, Functional Outcomes Following Orthopaedic Surgery Based On Gait Laboratory Versus Observational Gait Analysis In Ambulatory Children With Cerebral Palsy: A Pilot Randomized Controlled Trial. Narayana U (Principal Investigator), **Willan A**, *et al.* \$25,015, 2007-2008.
- National Science and Engineering Council, Expected Value of Information and Optimal Trial Design. **Willan AR** (Principal Investigator) \$70,000, 2008-2013.
- Canadian Institutes of Health Research, The Bedside Paediatric Early Warning System: a cluster randomized trial of mortality and processes of care. Parshuram C (Principal Investigator), **Willan AR**, *et al.* \$3,959,716, 2010-2014.
- Canadian Institutes of Health Research, Translating Research on Pain in Children (Team Grant). Stevens B (Principal Investigator), **Willan AR**, *et al.* \$4,054,611, 2006-2011.

Publications since 2006, inclusive (179 publications prior to 2006.)

1. **Willan AR**, Goeree R, Pinto EM, McBurney C, Blackhouse G. Economic Evaluation of Rivastigmine in Patients with Parkinson's Disease Dementia. *Pharmacoeconomics* 2006; **24**: 93-106.
2. Palencia R, Gafni A, Hannah ME, Ross S, **Willan AR et al.** The costs of planned caesarean versus planned vaginal birth in the Term Breech Trial. *CMAJ* 2006; **174**: 1109-1113.
3. McCarter H, Furlong W, Whitton AC, Feeny D, DePauw S, **Willan AR**, Barr RD. Health status measurements at diagnosis as predictors of survival among adults with brain tumors. *Journal of Clinical Oncology* 2006; **22**: 3636-3643.
4. **Willan AR**, Briggs AH. *The Statistical Analysis of Cost-effectiveness Data*. Chichester UK: Wiley 2006.
5. Sofronas M, Ichord RN, Fullerton HJ, Lynch JK, Massicotte MP, **Willan AR**, deVeber G. Pediatric stroke initiatives and preliminary studies: what is known and what is needed? *Pediatric Neurology* 2006; **34**: 439-445.
6. **Willan AR**. Statistical analysis of cost-effectiveness data from randomized clinical trials. *Expert Rev. Pharmacoeconomics Outcomes Res.* 2006; **6**: 337-346.
7. Stremler R, Hodnett E, Lee K, MacMillan S, Mill C, Ongcangco L, **Willan AR**. A behavioral-educational intervention to promote maternal and infant sleep: a pilot randomized, controlled trial. *Sleep* 2006; **29**(12): 1609-1615.
8. Manca A, **Willan AR**. Lost in translation?: accounting for between country differences in the analysis of multinational cost effectiveness data. *Pharmacoeconomics* 2006; **24**: 1101-1119.
9. Eckermann S, **Willan AR**. Expected value of information and decision making in HTA. *Health Economics* 2007; **16**: 195-209.
10. Pullenayegum EM, **Willan AR**. Semi-parametric regression models for cost-effectiveness analysis: improving the efficiency of estimation from censored data. *Statistics in Medicine* 2007; **26**: 3274-3299.
11. Dolovich L, Sabharwal M, Agro K, Foster G, Lee A, McCarthy L, **Willan AR**. The effect of pharmacist education on asthma treatment plans for simulated patients. *Pharmacy World & Science* 2007; **29**: 228-239.
12. Magee LA, von Dadelszen P, *et al.*, **Willan AR**, Hannah ME. The control of hypertension in pregnancy study pilot trial. *British Journal of Obstetrics and Gynecology* 2007; **11**(4): 770-778.
13. **Willan AR**. Clinical decision making and the expected value of information. *Clinical Trials* 2007; **4**: 279-285.
14. Hossain A, **Willan AR**. Approximate MLEs of the parameters of location-scale models under type II censoring. *Statistics* 2007; **41**(5): 385-394.

15. Su M, McLeod L, Ross S, **Willan AR**, Hannah WJ, Hutton EK, Hewson SA, McKay D, Hannah ME. Factors associated with maternal morbidity in the Term Breech Trial. *Journal of Obstetrics and Gynaecology of Canada* 2007; **29**: 324-330.
16. Boutis K, **Willan AR**, Babyn P, Narayanan UG, Alman B, Schuh S. A randomized, controlled trial of a removable brace versus casting in children with low-risk ankle fractures. *Pediatrics* 2007; **119**(6): e1256-e1263.
17. Magee LA, *et al.* **Willan AR**. Women's views of the experiences in the CHIPS (Control of Hypertension in Pregnancy Study) Pilot Trial. *Hypertension in Pregnancy* 2007; **26**: 371-387.
18. Eckermann S, **Willan AR**. Time and EVSI wait for no patient. *Value in Health* 2008; **11**: 522-526.
19. **Willan AR**, Kowgier ME. Cost-effectiveness Analysis of a Multinational RCT with a Binary Measure of Effectiveness and an Interacting Covariate. *Health Economics* 2008; **17**: 777-791
20. Nicholson A, Berger K, Bohn R, Carcao M, Fischer K, Gringeri A, Hoots K, Mantovani L, Schramm W, Van Hout BA, **Willan AR**, Feldman B. Recommendations for the reporting of economic evaluations of hemophilia prophylaxis: a nominal group consensus statement on behalf of the economics expert working group of the International Prophylaxis Study Group. *Haemophilia* 2008; **14**: 127-132.
21. Eckermann S, **Willan AR**. The option value of delay in health technology assessment. *Medical Decision Making* 2008; **28**:300-305.
22. Eckermann S, Briggs A, **Willan AR**. Health technology assessment in the cost-disutility plane. *Medical Decision Making* 2008; **28**: 172-181.
23. **Willan AR**, Kowgier ME. Determining optimal sample sizes for multi-stage randomized clinical trials using value of information methods. *Clinical Trials* 2008; **5**: 289-300.
24. Hodnett ED, Sremler R, **Willan AR**, *et al.* Does a formalised approach to care in hospital labour assessment units affect birth outcomes? Results of an international, randomised controlled trial. *BMJ* 2008; **337**:a1021.
25. **Willan AR**. Optimal sample size determinations from an industry perspective based on the expected value of information. *Clinical Trials* 2008; **5**:587-594.
26. Murphy KE, Hannah ME, **Willan AR** *et al.* Multiple courses of antenatal corticosteroids for preterm birth study (MACS): a randomised controlled trial. *Lancet* 2008; **372**:2143-2151.
27. Nagel K, **Willan AR**, Lappan J, Korz L, Buckley N, Barr RD. Pediatric oncology sedation trial (POST): A double-blind randomized study. *Pediat Blood and Cancer* 2008; **51**:634-638.
28. Eckermann S, **Willan AR**. Globally optimal trial design for local decision making. *Health Economics* 2009; **18**:203-216.
29. Schuh S, **Willan AR**, Stephens D, Dick PT, Coates A. Can Montelukast Shorten Prednisolone Therapy in Children with Mild to Moderate Acute Asthma? A Randomized Controlled Trial. *Journal of Pediatrics* 2009; **155**:795-800.
30. Howard AW, Macarthur C, Rothman L, **Willan AR**, Macpherson AK. School playground surfacing and arm fractures in children: a cluster randomized trial comparing sand to wood chip surfaces. *PLoS Med* **6**(12): e1000195. doi:10.1371/journal.pmed.1000195.
31. Eckermann S, Coory M, **Willan AR**. Indirect comparison: relative risk fallacies and odds solution. *Journal of Clinical Epidemiology* 2009; **62**:1031-1036. **CA**
32. **Willan AR**, Eckermann S. Optimal clinical trial design using value of information methods with imperfect implementation. *Health Economics* 2010; **19**:549-561.
33. 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.
34. Abrahamyan L, Beyene J, Feng JY, Chon Y, **Willan AR**, Schmeling H, Horneff G, Keystone EC, Feldman BM. Response times follow lognormal or gamma distribution in arthritis patients. *Journal of Clinical Epidemiology* **63**(12): 1363-1369.

35. 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.
36. 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.
37. **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.
38. 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.
39. Eckermann S, Coory M, **Willan AR**. Consistently estimating risk difference when translating evidence to jurisdiction of interest. *PharmacoEconomics*. 2011; **29**(2):87-96.
40. Asztalos E, Murphy K, Hannah ME, **Willan AR**, et al. Multiple courses of antenatal corticosteroids for preterm birth study (MACS): 2-year outcomes. *Pediatrics* Pediatrics published online Oct 18, 2010; DOI: 10.1542/peds.2010-0857.
41. **Willan AR**. Sample size determination for cost-effectiveness trials. *PharmacoEconomics* 2011; **29**(11):933-949.
42. 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.
43. 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; DOI:10.1017/S0266462311000067.
44. 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.
45. 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); www.bepress.com/ijb/vol7/iss1/14.
46. **Willan AR**, Eckermann S. Value of information and pricing new health interventions. *PharmaEconomics* 2011; **29**().
47. 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* (accepted for publication)
48. 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.
49. 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: (in press).
50. 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.