

10.1071/AH16189_AC

© CSIRO 2017

Australian Health Review

An examination of suicide research and funding in New Zealand 2006–16: implications for new research and policies

Daniel D. L. Coppersmith^{1,3} BA, Fulbright Research Fellow

*Shyamala Nada-Raja*¹ BSc PGDipSci(Credit) MSc(Dist) PhD, Senior Research Fellow

*Annette L. Beautrais*² PhD, Adjunct Professor

¹Department of Preventive and Social Medicine, University of Otago, 55 Hanover Street, Dunedin 9016, New Zealand. Email: shyamala.nada-rajaa@otago.ac.nz

²School of Health Sciences, University of Canterbury, Private Bag 4800, Christchurch 8140, New Zealand. Email: Louis.beautrais@gmail.com

³Corresponding author. Email: daniel.dl.coppersmith@gmail.com

Articles Included in Review

1. Ajdacic-Gross V, Killias M, Hepp U, Gadola E, Bopp M, Lauber C, et al. Changing times: a longitudinal analysis of international firearm suicide data. *Am J Public Health*. 2006;96(10):1752-5.
2. Argyle N. Suicide trends in an expanding mental health service in Auckland. *Australasian Psychiatry*. 2010;18(5):437-40.
3. Beautrais AL, Fergusson DM. Indigenous suicide in New Zealand. *Arch Suicide Res*. 2006;10(2):159-68.
4. Beautrais AL, Fergusson DM, Horwood LJ. Firearms legislation and reductions in firearm-related suicide deaths in New Zealand. *Aust N Z J Psychiatry*. 2006;40(3):253-9.
5. Beautrais AL, Gibb SJ, Faulkner A, Fergusson DM, Mulder RT. Postcard intervention for repeat self-harm: randomised controlled trial. *Br J Psychiatry*. 2010;197(1):55-60.
6. Beautrais AL, Gibb SJ, Fergusson DM, Horwood LJ, Larkin GL. Removing bridge barriers stimulates suicides: an unfortunate natural experiment. *Aust N Z J Psychiatry*. 2009;43(6):495-7.
7. Beautrais AL, Wells JE, McGee MA, Oakley Browne MA, New Zealand Mental Health Survey Research T. Suicidal behaviour in Te Rau Hinengaro: the New Zealand Mental Health Survey. *Aust N Z J Psychiatry*. 2006;40(10):896-904.
8. Blakely T, Atkinson J, Ivory V, Collings S, Wilton J, Howden-Chapman P. No association of neighbourhood volunteerism with mortality in New Zealand: a national multilevel cohort study. *Int J Epidemiol*. 2006;35(4):981-9.
9. Blasco-Fontecilla H, Perez-Rodriguez MM, Garcia-Nieto R, Fernandez-Navarro P, Galfalvy H, de Leon J, et al. Worldwide impact of economic cycles on suicide trends over 3 decades: differences according to level of development. A mixed effect model study. *Bmj Open*. 2012;2(3).
10. Boden JM, Fergusson DM, Horwood LJ. Anxiety disorders and suicidal behaviours in adolescence and young adulthood: findings from a longitudinal study. *Psychol Med*. 2007;37(3):431-40.
11. Boden JM, Fergusson DM, Horwood LJ. Cigarette smoking and suicidal behaviour: results from a 25-year longitudinal study. *Psychological Medicine*. 2008;38(3):433-9.
12. Boden JM, Fergusson DM, John Horwood L. Early motherhood and subsequent life outcomes. *J Child Psychol Psychiatry*. 2008;49(2):151-60.
13. Carter M, McGee R, Taylor B, Williams S. Health outcomes in adolescence: associations with family, friends and school engagement. *J Adolesc*. 2007;30(1):51-62.
14. Cheung G, Casey J. Few older people in New Zealand who commit suicide receive specialist psychogeriatric services. *Australas Psychiatry*. 2014;22(4):386-9.

15. Cheung G, Hatters Friedman S, Sundram F. Late-life homicide-suicide: a national case series in New Zealand. *Psychogeriatrics*. 2016;16(1):76-81.
16. Cheung G, Merry S, Sundram F. Late-life suicide: Insight on motives and contributors derived from suicide notes. *J Affect Disord*. 2015;185:17-23.
17. Clark TC, Lucassen MF, Bullen P, Denny SJ, Fleming TM, Robinson EM, et al. The health and well-being of transgender high school students: results from the New Zealand adolescent health survey (Youth'12). *J Adolesc Health*. 2014;55(1):93-9.
18. Clark TC, Robinson E, Crengle S, Fleming T, Ameratunga S, Denny SJ, et al. Risk and Protective Factors for Suicide Attempt Among Indigenous Māori Youth in New Zealand: The Role of Family Connection. *International Journal of Indigenous Health*. 2011;7(1):16-31.
19. Collings S, Ivory V, Blakely T, Atkinson J. Are neighbourhood social fragmentation and suicide associated in New Zealand? A national multilevel cohort study. *J Epidemiol Community Health*. 2009;63(12):1035-42.
20. Collings SC, Kemp CG. Death knocks, professional practice, and the public good: the media experience of suicide reporting in New Zealand. *Soc Sci Med*. 2010;71(2):244-8.
21. Commons Treloar AJ, Lewis AJ. Targeted clinical education for staff attitudes towards deliberate self-harm in borderline personality disorder: randomized controlled trial. *Aust N Z J Psychiatry*. 2008;42(11):981-8.
22. Cunningham R, Sarfati D, Peterson D, Stanley J, Collings S. Premature mortality in adults using New Zealand psychiatric services. *N Z Med J*. 2014;127(1394):31-41.
23. Curtis C. Youth perceptions of suicide and help-seeking: "They'd think I was weak or "mental"". *J Youth Stud*. 2010;13(6):699-715.
24. Curtis C, Curtis B. The origins of a New Zealand suicidal cohort: 1970-2007. *Health Sociol Rev*. 2011;20(2):219-28.
25. de Beer WA, Murtagh J, Cheung G. Late-life self-harm in the Waikato region. *N Z Med J*. 2015;128(1426):75-82.
26. De Leo D, Milner A, Fleischmann A, Bertolote J, Collings S, Amadeo S, et al. The WHO START study: suicidal behaviors across different areas of the world. *Crisis*. 2013;34(3):156-63.
27. Denny S, Lucassen MF, Stuart J, Fleming T, Bullen P, Peiris-John R, et al. The Association Between Supportive High School Environments and Depressive Symptoms and Suicidality Among Sexual Minority Students. *J Clin Child Adolesc Psychol*. 2016;45(3):248-61.
28. Denny SJ, Grant S, Utter J, Robinson EM, Fleming TM, Milfont TL, et al. Health and well-being of young people who attend secondary school in Aotearoa, New Zealand: what has changed from 2001 to 2007? *J Paediatr Child Health*. 2011;47(4):191-7.

29. Fazel S, Grann M, Kling B, Hawton K. Prison suicide in 12 countries: an ecological study of 861 suicides during 2003-2007. *Soc Psychiatry Psychiatr Epidemiol.* 2011;46(3):191-5.
30. Fergusson DM, Boden JM, Horwood LJ. Exposure to single parenthood in childhood and later mental health, educational, economic, and criminal behavior outcomes. *Arch Gen Psychiatry.* 2007;64(9):1089-95.
31. Fergusson DM, Boden JM, Horwood LJ. Unemployment and suicidal behavior in a New Zealand birth cohort: a fixed effects regression analysis. *Crisis.* 2007;28(2):95-101.
32. Fergusson DM, Boden JM, Horwood LJ. Recurrence of major depression in adolescence and early adulthood, and later mental health, educational and economic outcomes. *Br J Psychiatry.* 2007;191:335-42.
33. Fergusson DM, Boden JM, Horwood LJ. Exposure to childhood sexual and physical abuse and adjustment in early adulthood. *Child Abuse Negl.* 2008;32(6):607-19.
34. Fergusson DM, Boden JM, Horwood LJ. Situational and generalised conduct problems and later life outcomes: evidence from a New Zealand birth cohort. *J Child Psychol Psychiatry.* 2009;50(9):1084-92.
35. Fergusson DM, Horwood LJ, Boden JM, Mulder RT. Impact of a Major Disaster on the Mental Health of a Well-Studied Cohort. *Jama Psychiat.* 2014;71(9):1025-31.
36. Fergusson DM, Horwood LJ, Miller AL, Kennedy MA. Life stress, 5-HTTLPR and mental disorder: findings from a 30-year longitudinal study. *Br J Psychiatry.* 2011;198(2):129-35.
37. Fergusson DM, Horwood LJ, Ridder EM. Abortion in young women and subsequent mental health. *J Child Psychol Psychiatry.* 2006;47(1):16-24.
38. Fergusson DM, McLeod GF, Horwood LJ. Childhood sexual abuse and adult developmental outcomes: findings from a 30-year longitudinal study in New Zealand. *Child Abuse Negl.* 2013;37(9):664-74.
39. Fergusson DM, McLeod GF, Horwood LJ, Swain NR, Chapple S, Poulton R. Life satisfaction and mental health problems (18 to 35 years). *Psychol Med.* 2015;45(11):2427-36.
40. Fisher HL, Caspi A, Poulton R, Meier MH, Houts R, Harrington H, et al. Specificity of childhood psychotic symptoms for predicting schizophrenia by 38 years of age: a birth cohort study. *Psychological Medicine.* 2013;43(10):2077-86.
41. Fleming TM, Clark T, Denny S, Bullen P, Crengle S, Peiris-John R, et al. Stability and change in the mental health of New Zealand secondary school students 2007-2012: results from the national adolescent health surveys. *Aust N Z J Psychiatry.* 2014;48(5):472-80.
42. Fleming TM, Merry SN, Robinson EM, Denny SJ, Watson PD. Self-reported suicide attempts and associated risk and protective factors among secondary school students in New Zealand. *Aust Nz J Psychiat.* 2007;41(3):213-21.

43. Foliaki SA, Kokaua J, Schaaf D, Tukuitonga C. Twelve-month and lifetime prevalences of mental disorders and treatment contact among Pacific people in Te Rau Hinengaro: The New Zealand Mental Health Survey. *Aust Nz J Psychiat.* 2006;40(10):924-34.
44. Fortune SA. An examination of cutting and other methods of DSH among children and adolescents presenting to an outpatient psychiatric clinic in New Zealand. *Clin Child Psychol Psychiatry.* 2006;11(3):407-16.
45. Fry RA, Fry LE, Castanelli DJ. A retrospective survey of substance abuse in anaesthetists in Australia and New Zealand from 2004 to 2013. *Anaesth Intens Care.* 2015;43(1):111-7.
46. Gale C, Skegg K, Mullen R, Patterson T, Gray A. Thoughts of suicide and stage of recovery in patients with schizophrenia in community mental health care. *Australasian Psychiatry.* 2012;20(4):313-7.
47. Gallagher LM, Kappatos D, Tisch C, Ellis PM. Suicide by poisoning in New Zealand--a toxicological analysis. *N Z Med J.* 2012;125(1362):15-25.
48. Gallagher LM, Kliem C, Beautrais AL, Stallones L. Suicide and occupation in New Zealand, 2001-2005. *Int J Occup Env Heal.* 2008;14(1):45-50.
49. Gardner DH, Hini D. Work-related stress in the veterinary profession in New Zealand. *N Z Vet J.* 2006;54(3):119-24.
50. Garisch JA, Wilson MS. Prevalence, correlates, and prospective predictors of non-suicidal self-injury among New Zealand adolescents: cross-sectional and longitudinal survey data. *Child Adol Psych Men.* 2015;9.
51. Gibb SJ, Fergusson DM, Horwood LJ. Relationship separation and mental health problems: findings from a 30-year longitudinal study. *Aust Nz J Psychiat.* 2011;45(2):163-9.
52. Goldman-Mellor SJ, Caspi A, Harrington H, Hogan S, Nada-Raja S, Poulton R, et al. Suicide attempt in young people: a signal for long-term health care and social needs. *Jama Psychiat.* 2014;71(2):119-27.
53. Gulliver P, Cryer C, Davie G. The New Zealand serious non-fatal self-harm indicators: how valid are they for monitoring trends? *Inj Prev.* 2012;18(4):246-52.
54. Gulliver P, Fanslow J. Exploring risk factors for suicidal ideation in a population-based sample of New Zealand women who have experienced intimate partner violence. *Aust Nz J Publ Heal.* 2013;37(6):527-33.
55. Hackett ML, Hill KM, Hewison J, Anderson CS, House AO, Auckland Regional Community Stroke S, et al. Stroke survivors who score below threshold on standard depression measures may still have negative cognitions of concern. *Stroke.* 2010;41(3):478-81.

56. Harrison-Woolrych M, Ashton J. Psychiatric Adverse Events Associated with Varenicline An Intensive Postmarketing Prospective Cohort Study in New Zealand. *Drug Safety*. 2011;34(9):763-72.
57. Hatcher S, Coupe N, Wikiriwhi K, Durie SM, Pillai A. Te Ira Tangata: a Zelen randomised controlled trial of a culturally informed treatment compared to treatment as usual in Maori who present to hospital after self-harm. *Soc Psychiatry Psychiatr Epidemiol*. 2016.
58. Hatcher S, Sharon C, Collins N. Epidemiology of intentional self-harm presenting to four district health boards in New Zealand over 12 months, and comparison with official data. *Aust N Z J Psychiatry*. 2009;43(7):659-65.
59. Hatcher S, Sharon C, House A, Collins N, Collings S, Pillai A. The ACCESS study: Zelen randomised controlled trial of a package of care for people presenting to hospital after self-harm. *Br J Psychiatry*. 2015;206(3):229-36.
60. Hatcher S, Sharon C, Parag V, Collins N. Problem-solving therapy for people who present to hospital with self-harm: Zelen randomised controlled trial. *Br J Psychiatry*. 2011;199(4):310-6.
61. Howson MA, Yates KM, Hatcher S. Re-presentation and suicide rates in emergency department patients who self-harm. *Emerg Med Australas*. 2008;20(4):322-7.
62. Kuehl S, Nelson K, Collings S. Back so soon: rapid re-presentations to the emergency department following intentional self-harm. *N Z Med J*. 2012;125(1367):70-9.
63. Langley J, Cryer C, Davie G. NZ Government's trend analysis of hospitalised self-harm is misleading. *Aust Nz J Publ Heal*. 2008;32(2):162-6.
64. Larkin GL, Beautrais AL. The epidemiology of emergency department visits for suicide attempts in the South Pacific: New Zealand 1997-2006. *Ann Emerg Med*. 2008;51(4):554-5.
65. Larkin GL, Beautrais AL, Xu H. Geospatial Mapping of Suicide Clusters in Canterbury New Zealand. *Injury Prev*. 2010;16:A258-A.
66. Leigh A, Jencks C. Inequality and mortality: Long-run evidence from a panel of countries. *J Health Econ*. 2007;26(1):1-24.
67. Lucassen MF, Merry SN, Robinson EM, Denny S, Clark T, Ameratunga S, et al. Sexual attraction, depression, self-harm, suicidality and help-seeking behaviour in New Zealand secondary school students. *Aust N Z J Psychiatry*. 2011;45(5):376-83.
68. Lucassen MFG, Clark TC, Denny SJ, Fleming TM, Rossen FV, Sheridan J, et al. What has changed from 2001 to 2012 for sexual minority youth in New Zealand? *J Paediatr Child H*. 2015;51(4):410-8.
69. Mariu KR, Merry SN, Robinson EM, Watson PD. Seeking professional help for mental health problems, among New Zealand secondary school students. *Clin Child Psychol P*. 2012;17(2):284-97.

70. Milfont TL, Merry S, Robinson E, Denny S, Crengle S, Ameratunga S. Evaluating the short form of the Reynolds Adolescent Depression Scale in New Zealand adolescents. *Aust N Z J Psychiatry*. 2008;42(11):950-4.
71. Moffitt TE, Harrington H, Caspi A, Kim-Cohen J, Goldberg D, Gregory AM, et al. Depression and generalized anxiety disorder - Cumulative and sequential comorbidity in a birth cohort followed prospectively to age 32 years. *Arch Gen Psychiat*. 2007;64(6):651-60.
72. Moore EC, Pilcher DV, Bailey MJ, Stephens H, Cleland H. The Burns Evaluation and Mortality Study (BEAMS): predicting deaths in Australian and New Zealand burn patients admitted to intensive care with burns. *J Trauma Acute Care Surg*. 2013;75(2):298-303.
73. Moskowitz A, Simpson AIF, McKenna B, Skipworth J, Barry-Walsh J. The role of mental illness in homicide-suicide in New Zealand, 1991-2000. *J Forensic Psychi Ps*. 2006;17(3):417-30.
74. Nada-Raja S, Skegg K. Victimization, posttraumatic stress disorder symptomatology, and later nonsuicidal self-harm in a birth cohort. *J Interpers Violence*. 2011;26(18):3667-81.
75. Newton-Howes G, Horwood J, Mulder R. Personality characteristics in childhood and outcomes in adulthood: Findings from a 30 year longitudinal study. *Aust Nz J Psychiat*. 2015;49(4):377-86.
76. Pearce J, Barnett R, Collings S, Jones I. Did geographical inequalities in suicide among men aged 15-44 in New Zealand increase during the period 1980-2001? *Aust Nz J Psychiat*. 2007;41(4):359-65.
77. Pearce J, Barnett R, Jones I. Have urban/rural inequalities in suicide in New Zealand grown during the period 1980-2001? *Social Science & Medicine*. 2007;65(8):1807-19.
78. Peiris-John R, Ameratunga S, Lee A, Al-Ani H, Fleming T, Clark T. Adolescents with disability report higher rates of injury but lower rates of receiving care: findings from a national school-based survey in New Zealand. *Inj Prev*. 2016;22(1):40-5.
79. Peiris-John R, Kool B, Ameratunga S. Fatalities and hospitalisations due to acute poisoning among New Zealand adults. *Intern Med J*. 2014;44(3):273-81.
80. Peterson DHM, Collings SC. "It's Either Do It or Die" The Role of Self-Management of Suicidality in People With Experience of Mental Illness. *Crisis*. 2015;36(3):173-8.
81. Petrie KJ, Faasse K, Crichton F, Grey A. How common are symptoms? Evidence from a New Zealand national telephone survey. *Bmj Open*. 2014;4(6).
82. Purvis D, Robinson E, Merry S, Watson P. Acne, anxiety, depression and suicide in teenagers: a cross-sectional survey of New Zealand secondary school students. *J Paediatr Child Health*. 2006;42(12):793-6.
83. Raudino A, Fergusson DM, Horwood LJ. The quality of parent/child relationships in adolescence is associated with poor adult psychosocial adjustment. *J Adolescence*. 2013;36(2):331-40.

84. Robertson L, Skegg K, Poore M, Williams S, Taylor B. An adolescent suicide cluster and the possible role of electronic communication technology. *Crisis*. 2012;33(4):239-45.
85. Rossen FV, Clark T, Denny SJ, Fleming TM, Peiris-John R, Robinson E, et al. Unhealthy Gambling Amongst New Zealand Secondary School Students: An Exploration of Risk and Protective Factors. *Int J Ment Health Addict*. 2016;14:95-110.
86. Samaranayake CB, Arroll B, Fernando AT, 3rd. Sleep disorders, depression, anxiety and satisfaction with life among young adults: a survey of university students in Auckland, New Zealand. *N Z Med J*. 2014;127(1399):13-22.
87. Sandiford P. Gender inequality in New Zealand life expectancy: decomposition by age and cause. *N Z Med J*. 2009;122(1307):10-7.
88. Schep L, Temple W, Beasley M. The adverse effects of hydrogen cyanamide on human health: an evaluation of inquiries to the New Zealand National Poisons Centre. *Clin Toxicol*. 2009;47(1):58-60.
89. Scott KM, McGee MA, Oakley Browne MA, Wells JE, New Zealand Mental Health Survey Research T. Mental disorder comorbidity in Te Rau Hinengaro: the New Zealand Mental Health Survey. *Aust N Z J Psychiatry*. 2006;40(10):875-81.
90. Silins E, Horwood LJ, Patton GC, Fergusson DM, Olsson CA, Hutchinson DM, et al. Young adult sequelae of adolescent cannabis use: an integrative analysis. *Lancet Psychiat*. 2014;1(4):286-93.
91. Skegg K, Firth H, Gray A, Cox B. Suicide by occupation: does access to means increase the risk? *Aust Nz J Psychiat*. 2010;44(5):429-34.
92. Skegg K, Herbison P. Effect of restricting access to a suicide jumping site. *Aust Nz J Psychiat*. 2009;43(6):498-502.
93. Skogstad P, Deane FP, Spicer J. Social-cognitive determinants of help-seeking for mental health problems among prison inmates. *Crim Behav Ment Health*. 2006;16(1):43-59.
94. Stewart R, Das M, Ardagh M, Deely JM, Dodd S, Bartholomew N, et al. The impact of alcohol-related presentations on a New Zealand hospital emergency department. *N Z Med J*. 2014;127(1401):23-39.
95. Szabo A, Milfont TL, Merry SN, Robinson EM, Crengle S, Ameratunga SN, et al. Equivalence of the short form of the reynolds adolescent depression scale across groups. *J Clin Child Adolesc Psychol*. 2014;43(4):592-600.
96. Thom K, McKenna B, Edwards G, O'Brien A, Nakarada-Kordic I. Reporting of Suicide by the New Zealand Media. *Crisis*. 2012;33(4):199-207.
97. Tiatia-Seath J. Pacific peoples, mental health service engagement and suicide prevention in Aotearoa New Zealand. *Ethnicity and Inequalities in Health and Social Care*. 2014;7(3):111-21.

98. Tobias M, Gerritsen S, Kokaua J, Templeton R. Psychiatric illness among a nationally representative sample of sole and partnered parents in New Zealand. *Aust Nz J Psychiat.* 2009;43(2):136-44.
99. van Kessel K, Myers E, Stanley S, Reed PW. Trends in child and adolescent discharges at a New Zealand psychiatric inpatient unit between 1998 and 2007. *The New Zealand Medical Journal (Online).* 2012;125(1355).
100. Van Ours JC, Williams J, Fergusson D, Horwood LJ. Cannabis use and suicidal ideation. *J Health Econ.* 2013;32(3):524-37.
101. Weaver J, Munro D. The historical contingency of suicide: a case-based comparison of suicides in New Zealand in the 1930s and 1980s. *New Zealand Sociology.* 2010;25(1):100.
102. Weaver J, Munro D. Austerity, Neo-Liberal Economics, and Youth Suicide: The Case of New Zealand, 1980-2000. *J Soc Hist.* 2013;46(3):757-83.
103. Wells JE, McGee MA, Scott KM, Oakley Browne MA. Bipolar disorder with frequent mood episodes in the New Zealand Mental Health Survey. *J Affect Disord.* 2010;126(1-2):65-74.
104. Williams MN, Hill SR, Spicer J. Do hotter temperatures increase the incidence of self-harm hospitalisations? *Psychol Health Med.* 2016;21(2):226-35.