

The burden of alcohol-related injuries in New Zealand: a brief guide to the literature

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Introduction

This brief guide to the research literature on alcohol-related injuries in New Zealand updates IPRC fact sheet 41 published in 2002.¹ This brief overview does not constitute a formal literature review. It is intended to guide the reader to the most relevant literature. The reader should access the source documents to draw his/her own conclusions on the extent of this burden of alcohol-related injuries in New Zealand and the effectiveness of any interventions to reduce alcohol related injuries.

The burden of alcohol related injuries cannot be simply derived from health statistics currently collected in New Zealand. However there has been considerable research on this topic. The limitations and difficulties of measuring the burden of alcohol related injury are discussed in a recent paper² and an earlier report.³ Some research on interventions to reduce this harm has been conducted in New Zealand. The resulting publications, on various aspects of the topic, are listed below.

The extensive international literature on this topic is beyond the scope of this document, although key publications are noted.

Key Points

The most comprehensive research into this topic was conducted in 2005.⁴ The results were also published in the *NZ Medical Journal*.⁵ Key findings from this research:

“Injury was a major contributor to alcohol-related mortality, being responsible for 51% of deaths (532) and 72% of years of life lost (12,434 YLLs) Most alcohol-related deaths before middle age were due to injury.” Cancers and other chronic diseases contributed to the remaining alcohol-related mortality.

Globally⁶ of the total number of alcohol-attributable deaths:

- 32% are from unintentional injuries, including road traffic injuries, and
- 13.6% are from intentional injuries (deliberate acts of harm to oneself or others).

In this international study⁶, New Zealand, based on an Auckland site, reported the second highest proportion of alcohol-related injury presenting to an emergency department – 36%. The New Zealand paper on this study quotes 35%, More detailed New Zealand data is found in the paper by Humphrey et al.⁷

International studies suggest that 10-18% of injured patients attending emergency departments are alcohol-related cases.⁶

Specific Causes of Injury

Drowning

28% of deaths from drowning in 15-19 year olds involved alcohol⁸.
See also earlier research by Warner et al.^{9,10}

Road Traffic Injury

The Ministry of Transport provides data on alcohol involvement in motor vehicle traffic injury. From the most recent year's data:

"In 2007 driver alcohol/drugs was a contributing factor in 117 fatal injury crashes, 402 serious injury crashes and 1,777 minor injury crashes".¹¹ Further analysis of this data is found in the latest annual report on *Motor Vehicle Crashes in New Zealand*.¹² The contribution of alcohol to road traffic injury and the cost of that injury is addressed in papers by Connor et al.¹³ and Miller et al.^{14,15}

Falls

The Auckland Falls Study has highlighted alcohol as a risk factor for falls in the home among people 25-60 years of age. This study^{16,17} found:

"Consuming alcohol in the previous six hours was associated with an approximately 12 times increased risk of a fall-related injury."

The role of alcohol in fall injuries in 16-29 year olds was the subject of a PhD Thesis.¹⁸

Fire

Reports published by the Australasian Fire and Emergency Service Authorities Council (AFAC)¹⁹ and the NZ Fire Service²⁰ indicate that alcohol consumption is a factor in residential fires, which can lead to death or serious injury.

Family Violence

A literature review²¹ commissioned by the Families Commission identified an increased risk of family violence and other injuries among children of heavy drinkers. Other impacts on children can include fetal alcohol syndrome.²²

Suicide and Mental Health Issues

An analysis of the findings from *Te Rau Hinengaro: the New Zealand Mental Health Survey*²³ identifies substance abuse disorders as contributing factors to suicide in New Zealand, stating: "After depression, substance abuse disorders (including alcohol, cannabis and other drug abuse and dependence) are the most common mental health disorders associated with a vulnerability to suicidal behaviour."

Violence

Evidence from hospital emergency departments indicates the role alcohol plays in inter-personal violence and resulting injury in New Zealand.²⁴⁻²⁶

Impact on Specific Populations

Youth

Most of the research in the area focuses on the impact of legislative changes relating to the minimum age for purchasing alcohol.²⁷⁻³¹ The impact of alcohol use on tertiary students is discussed in a report published by ALAC.³² A recent paper considers the impact of party pill and alcohol use on the Auckland City Hospital emergency department.³³

Māori

Limited research has been conducted on the impact on Māori.^{34, 35}

Pacific people

SHORE, Massey University has published a report³⁶ and paper³⁷ on how Pacific people in New Zealand drink and how this differs from other populations in New Zealand.

Asian people

ALAC has published a report identifying factors associated with an increased risk of alcohol and other drugs misuse among New Zealand's Asian population.³⁸

Interventions

A range of interventions from legislation and public policy to community based initiatives are discussed in a number of reports and papers³⁹⁻⁵⁵. Some of these interventions have been evaluated. Readers should draw their own conclusions as to the effectiveness of any particular intervention.

Further information

Further information and advice on developing interventions to reduce alcohol-related harm from organisations as such as ALAC⁵⁶, Alcohol HealthWatch⁵⁷ ACC⁵⁸ and the Safe Communities Foundation New Zealand⁵⁹. Research to reduce the burden of alcohol-related injury continues at SHORE, Massey University⁶⁰, IPRU, University of Otago⁶¹ and the School of Population Health, The University of Auckland.⁶²

For the latest research literature on this topic, search the injury prevention IPLit database at: <http://www.fmhs.auckland.ac.nz/soph/centres/ipic/iplit.aspx> .

For more comprehensive literature searches on this and other injury prevention topics, or for assistance in retrieving any of these items, please contact the Injury Prevention Information Centre's⁶³ Information Specialist at: injury@auckland.ac.nz

References

Burden of injury

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2. Langley, J., Kypri, K., Davie, G. (2008). **Assessing the validity of potential alcohol-related non-fatal injury indicators**. *Addiction*, 103(3): 397-404. *This article highlights the difficulties of determining non-fatal alcohol-related injury indicators for New Zealand.*
3. Holder, H.D. (2002). **Alcohol related data collection for harm reduction purposes at the local level: a review of New Zealand data and action recommendations**. Auckland. N.Z. Alcohol and Public Health Research Unit (APHRU), Department of Community Health, University of Auckland.
4. Connor, J., Broad, J., Jackson, R., Vander Hoorn, .S., Rehm, J. (2005). **The burden of death, disease and disability due to alcohol in New Zealand**. ALAC Occasional Publication no.23. Auckland, N.Z.: Alcohol Advisory Council of New Zealand. Online at: http://www.alac.org.nz/FileLinks/12067_BurdenFull.516b09e5.pdf
5. Connor, J., Broad, J., Rehm, J., Vander Hoorn, S., Jackson, R. (2005). **The burden of death, disease and disability due to alcohol in New Zealand**. *New Zealand Medical Journal*, 118(1213) 2005. Online at: <http://www.nzma.org.nz/journal/118-1213/1412/content.pdf>
6. World Health Organization (2007). **Alcohol and injury in emergency departments**. Summary of the report from the WHO Collaborative Study on Alcohol and Injuries. Geneva, Switz. : World Health Organization. Online at: http://www.who.int/substance_abuse/publications/alcohol_injury_summary.pdf *This study is the first international attempt to quantify the role of alcohol in injured persons from several different countries using the same methodology based on emergency department data. New Zealand is included in this collaborative study.*
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Specific Causes of Injury

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This paper reports the findings from the Auckland Falls Study, a population-based case-control study designed to identify modifiable risk factors for unintentional falls at home resulting in death or admission to hospital among working-age adults (25 to 60 years). This study was conducted by researchers at The University of Auckland. This article has also been summarised in IPIC Research Bulletin no.3
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This research bulletin summarises the findings from the Auckland Falls Study, a population-based case-control study designed to identify modifiable risk factors for unintentional falls at home resulting in death or admission to hospital among working-age adults (25 to 60 years). This study was conducted by researchers at The University of Auckland.
18. Fairnie, VM. (2003). **The role of alcohol in serious fall-related injuries among 16-29 year olds.** PhD - Community Health thesis. Auckland. N.Z. University of Auckland, 2003.
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http://knowledgeweb.afac.com.au/research_reports/people_and_communities/high_risk_groups/accidental_fire_fatalities_in_residential_structures_whos_at_risk
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<http://www.familiescommission.govt.nz/download/blueskies-shore.pdf>
This review identifies and reviews the current research literature about the impacts of heavy parental alcohol use on children. Prepared by Centre for Social and Health Outcomes Research and Evaluation (SHORE) & Te Ropu Whariki, Massey University
22. Alcohol Healthwatch (2007). **Fetal alcohol spectrum disorder in New Zealand: Activating the Awareness and Intervention Continuum.** Briefing paper. Auckland. N.Z. Alcohol Healthwatch. Online at:
http://www.ahw.co.nz/action_on_liquor.html
This Alcohol Healthwatch Action on Liquor briefing paper outlines current knowledge of Fetal Alcohol Spectrum Disorder, caused by drinking alcohol during pregnancy and the situation in Aotearoa New Zealand regarding its prevention and treatment. The purpose of the paper is to inform and guide the development of effective policy and responses within the various relevant public sectors. See the Alcohol Healthwatch newsletter News & Views, issue 1, 2007 for a brief summary of this paper.
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http://www.alac.org.nz/DBTextworks/PDF/ALAC_Substance_Abuse_Report.pdf
This report analyses data from Te Rau Hinengaro: the New Zealand Mental Health survey to determine the prevalence of substance disorders in New Zealand and their patterns of onset and impact for adults in New Zealand.
24. Connor, J. (2008). **The knock on effects of unrestrained drinking.** (Editorial) *New Zealand Medical Journal*, 121(1271): 11-14. Online at:
<http://www.nzma.org.nz/journal/121-1271/2979/>
This editorial highlights the harm to others caused by excessive drinking and urges more effective population-based approaches to reduce this harm in New Zealand.

25. Lee, K.H., Snape, L. (2008). **The role of alcohol in maxillofacial fractures.** *New Zealand Medical Journal*, 121(1271): 15-23. Online at: <http://www.nzma.org.nz/journal/121-1271/2978/>
This study examined the experience of the Christchurch Hospital in treating alcohol-related facial fractures over an 11 year period. Of the 2581 patients seen with facial fractures during the study period, 49% of the injuries were alcohol-related. Males accounted for 88% of alcohol-related fractures and 59% were males in the 15 to 29 year age group; 78% of alcohol-related fractures were due to interpersonal violence and 13% to motor vehicle accidents. 65% required hospital admission and 58% underwent surgery.
26. Buchanan, J.; Colquhoun, A.; Friedlander, L.; Evans, S.; Whitley, B.; Thomson, M. (2005). **Maxillofacial fractures at Waikato Hospital, New Zealand: 1989 - 2000.** *New Zealand Medical Journal*, 118(1217), 9pp. Online at: <http://www.nzma.org.nz/journal/118-1217/1529/>
Interpersonal violence and use of alcohol were identified as major risk indicators for facial injuries in this study.

Specific Populations

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The authors conclude that the impact of BZP on Auckland City Hospital's emergency department was relatively small during this period. Data for 2005 and 2006 is currently being analysed.
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This report presents results of a national survey on the use of tobacco, alcohol, kava, marijuana, other recreational drugs and gambling for Pacific people living in Aotearoa New Zealand. The four ethnic groups compared to the total Pacific sampler were Samoan, Cook Islands Maori, Tongan and Niuean.
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This paper reviews New Zealand and international literature with the aim of identifying factors associated with an increased risk of alcohol and other drugs misuse among New Zealand's Asian population – and any concerns that may not have been recognised, or responded to, in current AOD services.

Interventions

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Presentations from the ALAC Working Together conference 2007 are now available online via the Past Events page of ALAC website. Conference streams included: Monitoring and enforcement; Initiatives to reduce intoxication; Social marketing; Evaluation of community projects; and Policy, planning and regulation. Keynote and other presentations and Workshops can also be accessed.
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<http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/journals-and-magazines/social-policy-journal/spj25/what-works-reduce-alcohol-related-harm-25-pages-118-141.html>
41. Wiggers, J. (2007). **Reducing alcohol related violence and improving community safety: the Alcohol Linking Program**. *NSW Public Health Bulletin*, 18(5-6): 183-185. Online at:
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This initiative was trialled in Wanganui during 2003 and 2004 and later adapted and implemented in Taranaki region. There is evidence that this initiative dramatically reduced drug-related suspension rates in participating schools.

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After running for three years ALAC's YATA (Youth Access to Alcohol) has been formally evaluated by Litmus. Case studies of YATA programmes in Whakatane, Gore, Manukau, Christchurch, Nelson, Waiheke Island, Waitakere and Kaitia are included in the report. An overview of the report is published in alcohol-org-nz, June 2006, p12-13 or see the link below for the full report.
45. Greenaway, S. Conway, K.; Casswell, S.; Huckle, T.; Sweetsur, P. (2005). **Auckland Regional Community Action Project on Alcohol evaluation report. Final report.** Auckland. N.Z. Centre for Social and Health Outcomes Research and Evaluation (SHORE) & Te Ropu Whariki, Massey University. Online at:
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This study was designed to test the impact of heightened liquor licensing enforcement activities targeting licensed premises in the Wellington area, compared with normal enforcement activity both before and after the intervention. The full report can be downloaded from web page noted below.
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The report considers the alcohol policies of Australia, Canada, United States, Denmark, Finland, Ireland, Japan, New Zealand, Norway, Sweden, England, Northern Ireland, Scotland and Wales. In the authors' view Australia and New Zealand have the most "extensive and detailed" policies, supported by evidence and with a commitment to monitoring and evaluation. A full review of this report can be found in Addiction, 100(10):1562-63.

48. Sim, M.; Morgan, E.; Batchelor, A. (2005). **Wellington City liquor control bylaw: evaluation report**. Wellington, N.Z. New Zealand Police. Online at: [http://www.ndp.govt.nz/moh.nsf/pagescm/1045/\\$File/wellingtonliquorbylaw.pdf](http://www.ndp.govt.nz/moh.nsf/pagescm/1045/$File/wellingtonliquorbylaw.pdf)
This report evaluates the impact of the liquor ban bylaw introduced in Wellington City and provides pointers on how to increase the effectiveness of liquor bans in public places.
49. Bennett, s.; Coggan, C.A. (2004). **Evaluation of the New Zealand Post "Drugs and alcohol - not at work, be smart, stay sharp" programme**. Auckland, N.Z.; Injury Prevention Research Centre. Online at: <http://www.fmhs.auckland.ac.nz/soph/centres/ipic/docs/cr88.pdf>
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- 51.Kingsbury, M. (2005). **Adolescent drug and alcohol abuse causes and outcomes**. *Social Work Now*, 32: 12-18, 2005. Online at: <http://www.cyf.govt.nz/documents/swn32.pdf>
Summarises recent research and suggested interventions
52. Hosking, J.; Ameratunga, S.; Bullen, C.; Civil, I.; Ng, A.; Rodgers, A. (2007). **Screening and intervention for alcohol problems following unintentional injury: a missed opportunity?**. *New Zealand Medical Journal*, 120(1249): 9pp. Online at: <http://www.nzma.org.nz/journal/120-1249/2417/content.pdf>
This study revealed that screening and interventions for alcohol problems among this group of patients was infrequent, indicating missed opportunities to reduce alcohol-related harm.
53. Durie, M. (2005). **Maori health promotion**; [powerpoint presentation] at Te Pae Mahutonga hui. Kirikiriroa Marae. Online at: <http://www.hpforum.org.nz/resources/MaoriHealthPromotion.pdf>
Presents the history of Maori health promotion with background information on the social and political environment for Maori since pre-colonial times. Includes references to the prevention of suicide and alcohol and drug use harm as modern health concerns for Maori. Concludes with examples of the application of Te Pae Mahutonga to Maori health promotion. 56 slides.
54. Matheson, A. (2005). **Alcohol in Auckland: reducing associated harm**. Auckland. N.Z.: Auckland Regional Public Health Service. Online at: http://www.arphs.govt.nz/Publications_Reports/alcoholtobacco/Alcohol%20in%20Aklid.reslo.pdf
This report provides an overview of alcohol use and misuse in the Auckland region. The lack of region specific data is identified and the need to develop some localised indicator data on trends in alcohol-related harm is flagged. This report also reviews the current literature surrounding interventions to reduce alcohol-related harm; what works and what does not. The report concludes with recommendations for the future direction of Auckland Regional Public Health Service's (ARPHS) alcohol projects.
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Further Information

56. ALAC (Alcohol Advisory Council) Website <http://www.alac.org.nz>
57. Alcohol HealthWatch. Website: <http://www.ahw.co.nz>
58. ACC. Website: <http://www.acc.co.nz>
59. Safe Communities Foundation New Zealand. Website: <http://www.safecommunities.org.nz>
60. SHORE (The Centre for Social and Health Outcomes Research and Evaluation), Massey University. Website: <http://www.shore.ac.nz>
61. IPRU (Injury Prevention Research Unit), University of Otago. Website: <http://www.otago.ac.nz/ipru>
62. The School of Population Health, The University of Auckland. Website: <http://www.fmhs.auckland.ac.nz/soph>
63. Injury Prevention Information Centre, The University of Auckland. Website: <http://www.fmhs.auckland.ac.nz/soph/centres/ipic>