Patterns of ‘At Home’ Alcohol-related Injury Presentations to Emergency Departments in Queensland from 2003–2012

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Abstract

Aim: This study sought to explore and describe the patterns and scale of ‘at home’ alcohol-related injury presentations to participating emergency departments (EDs) in Queensland from 2003 to 2012.

Research Question: What were the patterns and scale of ‘at home’ alcohol-related injury presentations to EDs in Queensland from 2003 to 2012?

Background: Australia has been identified as having one of the largest alcohol consumption rates in the world and a high proportion of patients present at EDs having sustained alcohol-related injuries. Despite a common perception that most alcohol-related injuries are sustained at licensed venues, many are sustained at ‘other’ locations, including ‘at home’. Thus, it is important to assess the locations in which alcohol-related injuries are sustained.

Methods: A retrospective observational study was conducted. Emergency department surveillance data from the Queensland Injury Surveillance Unit (QISU) were reviewed to identify alcohol-related presentations at EDs from 2003 to 2012 (n = 12,296 cases were identified). A Chi-square analysis was then undertaken to assess the involvement of alcohol in each injury and an analysis of variance (ANOVA) and post-hoc testing was used to determine mean differences among age groups and their associated presentations. Multiple logistic regression analyses were conducted to identify whether any significant associations existed between injury location, risk factors and demographic characteristics. $P$ values of < 0.05 were considered statistically significant.
Results: Of all the injuries that were identified as being alcohol-related (n = 12,296), 41.07% occurred at ‘other’ locations, 36.14% ‘at home’, 13.00% on the street and 9.78% at licensed venues. Of the participants injured ‘at home’, more males (n = 2,635 or 59%) were injured than females (n = 1,807 or 41%). Together the 12–17 and 18–24 age groups accounted for approximately one third of the total ‘at home’ injured population. Further, the ‘at home’ alcohol-related injuries that led to presentations at EDs occurred most frequently on the weekends. ‘At home’ was also the most common location for alcohol-related injuries that were sustained as the result of violence by a spouse or partner. Females were far more likely than males to present at EDs with ‘at home’ injuries that were the result of violence by spouses or partners.

Conclusions: This was the first study to exclusively investigate ‘at home’ alcohol-related injuries. A greater proportion of alcohol-related injuries occurred ‘at home’ locations than at licensed venues. This finding is important, as the majority of previous research on alcohol-related injuries has focused on injuries that are sustained in public places such as licensed venues. Gaining insight into alcohol-related injuries that are sustained ‘at home’ locations is particularly important given that an increasing amount of drinking and alcohol-related injuries are sustained ‘at home’ and because homes represent unregulated environments.

Recommendations: Nurses and other health care professionals need to be aware of the increasing occurrence of ‘at home’ alcohol-related injuries. Understanding the changing drinking culture in Australia will also assist nurses to identify patients who could benefit from interventions and to implement harm minimisation strategies in communities. The likelihood that domestic violence is linked to ‘at home’ alcohol-related related injuries also needs to be addressed in
evidence-based education programmes for health care professionals. Further research in a wider setting that is more representative of Australia or other global populations should be undertaken to extend the findings of this study beyond Queensland. Given the size of the dataset and the similarity of recent reports of alcohol use and injuries across other Australian jurisdictions, it is likely that similar results would be obtained in other Australian states.

**Limitations:** This study suffered from a number of limitations. First, injury surveillance data was only reported for one state (i.e., Queensland); however, it should be noted that the hospitals in the study represented urban, regional and rural locations. Thus, the results may not be generalisable to the rest of Australia or other countries. Second, the data identified the locations at which the injuries were sustained, but not the locations at which the participants consumed the alcohol. The location of drinking may not always be the same as the location of injury. Finally, case capture varied throughout the study period. Thus, not all cases of alcohol-related injury could be identified.
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First, I would like to thank my primary supervisor, Professor Kim Usher, the Head of the School of Health at the University of New England. The door to Professor Usher’s office was always open and she was always available whenever I ran into trouble or had questions about my research or writing. She consistently encouraged and supported me. I am humbled by her unwavering commitment and willingness to assist me whenever I needed help.

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Finally, I must express my very profound gratitude to my parents, Ron and Evelyn, my husband Mark, my son Lincoln and my work colleagues for their unfailing support and continuous encouragement as I researched and wrote this thesis. This accomplishment would not have been possible without each of them.

Thank you,

Naomi Bunker
Candidate’s Certification

I certify that the substance of this thesis has not already been submitted for any degree and is not currently being submitted for any other degree or qualification.

I certify that any assistance received in preparing this thesis and all sources used have been acknowledged in this thesis.

Signature: [Redacted]

Date: 17/6/2016
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**List of Abbreviations**

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<th>Description</th>
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<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<tr>
<td>ADF</td>
<td>Australian Drug Foundation</td>
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<tr>
<td>AIHW</td>
<td>Australian Institute of Health and Welfare</td>
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<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<tr>
<td>CI</td>
<td>Confidence Interval</td>
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<tr>
<td>ED</td>
<td>Emergency Department</td>
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<td>HREC</td>
<td>Human Research Ethics Committee</td>
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<tr>
<td>IS</td>
<td>Injury Surveillance</td>
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<tr>
<td>ISS</td>
<td>Injury Surveillance System</td>
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<td>NDSIS</td>
<td>National Data Standards for Injury Surveillance</td>
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<tr>
<td>NHMRC</td>
<td>National Health and Medical Research Council</td>
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<tr>
<td>OHCP</td>
<td>Other Health Care Professionals</td>
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<td>OR</td>
<td>Odds Ratios</td>
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<td>PHA</td>
<td>Public Health Approach</td>
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<tr>
<td>QISU</td>
<td>Queensland Injury Surveillance Unit</td>
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<td>WHO</td>
<td>World Health Organization</td>
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# Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Alcohol-related injury</td>
<td>An injury that in some way has been identified as being associated with alcohol.</td>
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<td>‘At Home’</td>
<td>All injuries that were sustained either at the home of the participant presenting to the ED or the home of another individual, including any structures exterior to the main home dwelling.</td>
</tr>
<tr>
<td>Emergency Department (ED)</td>
<td>The department of a hospital that accepts patients presenting with urgent needs.</td>
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<tr>
<td>Injury</td>
<td>Any physical damage to an individual, including harm caused by accidents, falls, hits, weapons and acts of self-harm. Excludes psychological injury.</td>
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<tr>
<td>Triage</td>
<td>The basic structure that comprises a standard urgency rating scale or structure by which all ED incoming hospital patients are categorised into groups (Commonwealth Department of Health and Aging, 2009).</td>
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<tr>
<td>‘Other’ (Location)</td>
<td>The ‘other’ location category includes farms, residential institutions, recreation areas (e.g., parks), sports or athletics areas, hospitals or health services, shops or shopping centres, bush/camping grounds or caravan parks, service stations, mines or quarries, industrial or construction areas, schools and other unspecified areas.</td>
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