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## **Alcohol assessment: the practice, knowledge, and attitudes of staff working in the general medical wards of a large metropolitan hospital**

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### **Abstract**

**Aims** To measure the prevalence of routine alcohol assessment; to assess its clinical utility in the general medical wards of a large urban hospital; and to assess medical and nursing staff knowledge with regard to standard drink measures and recommended drinking limits as well as their attitudes towards alcohol assessment.

**Methods** The prevalence of alcohol assessment and the clinical utility of the resulting information was determined via a retrospective file review (n=109). The knowledge and attitudes of medical and nursing staff were measured via questionnaire (n=106).

**Results** The file review data indicated 78% ( $\pm 7.25$ ) of patients admitted to the general medical wards were queried with regard to their alcohol consumption. However, the clinical utility of the recorded information was generally poor and the accuracy questionable. Only 12% of questionnaire respondents were able to accurately identify the standard drink equivalents for beer, wine, and spirits and only 8% were able to accurately identify the recommended drinking limits (per drinking occasion and per week) for both males and females. Attitudes towards alcohol assessment were positive.

**Conclusions** Patient alcohol consumption is frequently assessed, but the clinical utility of the resulting information is limited. The use of a structured alcohol screen and the provision of appropriate staff training are recommended.

Research indicates that between 20–25% of adult New Zealanders regularly exceed recommended limits for responsible alcohol consumption.<sup>1,2</sup> The resulting costs to the individual, the individual's family, and society at large are significant. For example, excessive alcohol consumption is implicated in a range of health problems,<sup>3</sup> fuels domestic violence,<sup>4</sup> and is thought to cost New Zealand over one billion dollars per annum in lost productivity alone.<sup>5</sup>

Specialist alcohol treatment is one means by which these costs may be allayed. Adherence to an evidenced-based, specialist treatment intervention can effectively reduce alcohol consumption and the associated harms.<sup>6,7</sup> Relatively brief, yet effective, interventions are also available that can be delivered opportunistically in non-specialist settings.<sup>8,9</sup>

Typically consisting of simple advice regarding safe drinking behaviour, these brief interventions primarily target those people with mild-to-moderate alcohol-related problems who do not require specialist assistance.<sup>8,10</sup> Nevertheless, a brief intervention may also facilitate entry into a specialist alcohol treatment service if required.

The hospital is an ideal venue for brief intervention. Many people are admitted to hospital for accidents or health problems related to excessive alcohol consumption,<sup>11,12</sup> and the effectiveness of a brief alcohol intervention has been demonstrated in a range of hospital departments.<sup>13-15</sup> Furthermore, as excessive alcohol consumption is a legitimate health issue, it is unlikely that persons admitted to a hospital would object to discussing their drinking behaviours.

Given the opportunistic nature of brief intervention, however, successful provision is reliant on an effective alcohol assessment in the first instance. The health professional must elicit information pertaining to the type, quantity, and frequency of an individual's alcohol consumption. A working knowledge of standard drink measures and recommended drinking limits is also needed in order to inform an accurate assessment.

Little is known about alcohol assessment in New Zealand-based hospitals. National standards for routine alcohol assessment in a hospital setting do not exist, and the prevalence or utility of routine alcohol assessment practice in New Zealand hospitals have remained largely unexamined. It is difficult to determine, therefore, whether current methods of alcohol assessment would usefully support brief intervention.

This paper reviews the prevalence and utility of routine alcohol assessment practice in the general medical wards of a large, metropolitan hospital. The knowledge of ward staff with regard to standard drink measures and recommended drinking limits were assessed as were their attitudes towards working with alcohol affected individuals. All data were collected as a prelude to a larger project that sought to promote brief intervention within the study setting. Our research findings provide insight into hospital-based alcohol assessment and the ability of the latter to support brief intervention initiatives.

## Method

The study was conducted in the general medical wards of Auckland City Hospital. Auckland City Hospital is the largest hospital in New Zealand and serves a catchment population of 430,000. The hospital contains four general medical wards to which approximately 11,000 patients are admitted per year. Standard practice at the time of this study was to assess alcohol consumption via a specific question included in the 'social history' section of the patient admission form. This question was simply worded, "alcohol (amount and duration)" and a space was provided in which to enter the resulting information. The admission form was typically completed by a medical staff member, although, nursing staff would complete the social history section of the admission form on occasion.

The admission form contained no instruction on how the requested information might best be elicited or what level of alcohol consumption might be considered problematic. There was no supporting resource material that might assist in these tasks. Eliciting appropriate information and making a determination based on this information (as to the excessiveness or otherwise of the reported consumption) was dependent on the expertise of the admitting staff member.

We assessed how commonly the alcohol question was asked of patients and the utility of the resulting information by a retrospective file review. 120 files from clients admitted to the four general medical wards during a 3-month period (April–June 2004) were randomly selected for review (40 files were selected for each month sampled).

Random selection was employed, as a large number of patients (approximately 2750) were admitted during this period. The sample size afforded a margin of error of plus or minus ( $\pm$ ) 7.25%, at a confidence level of 95%, for the prevalence calculation (described below). Once each file was located, the patient admission form was sought and a determination made (yes/no) as to whether any information had been recorded in response to the alcohol assessment question.

The presence of recorded information was taken as evidence the assessment question had been asked. The reported prevalence of alcohol assessment was based on this yes/no measure. All recorded information was then copied verbatim and subsequently reviewed for references to the quantity and frequency of an individual's alcohol consumption and to the use of standard drink measures or type of alcohol consumed.

The knowledge of medical and nursing staff with regard to standard drink measures and recommended drinking limits as defined by the Alcohol Advisory Council (ALAC) was assessed via a series of multiple choice questions. Four response options were provided for the standard drink questions and six response options were provided for the recommended drinking limits.

The correct answers were:

- 1 standard drink is equal to a 330 ml can of beer (at 4% alcohol), 100 ml glass of table wine, and 30 ml of straight spirits;
- Recommended drinking limits for males are no more than 21 standard drinks in any 1 week and no more than 6 on any one drinking occasion—and for females they are no more than 14 standard drinks in any 1 week and no more than 4 on any one drinking occasion.

The attitudes of medical and nursing staff in regard to both alcohol assessment and intervention were measured via the shortened version of the alcohol and alcohol problems perception questionnaire (SAAPPQ).

**Table 1. Demographic profile of questionnaire sample**

Variable		Nurses	Doctors	Overall
<b>Gender</b>	Male	9% (7/79)	57% (13/23)	20% (20/102)
	Female	91% (72/79)	44% (10/23)	80% (82/102)
<b>Age</b>	20-29	33% (27/82)	29% (7/24)	32% (34/106)
	30-39	32% (26/82)	25% (6/24)	30% (32/106)
	40-49	27% (22/82)	29% (7/24)	27% (29/106)
	50+	8% (7/82)	17% (4/24)	11% (11/106)
<b>Ethnicity</b>	NZ European	40% (29/72)	50% (10/20)	42% (39/92)
	Maori	6% (4/72)	0% (0/20)	4% (4/92)
	Pacific Island	8% (6/72)	0% (0/20)	7% (6/92)
	Asian	31% (22/72)	40% (8/20)	33% (30/92)
	Other	15% (11/72)	10% (2/20)	14% (13/92)

Sample sizes vary between variables as not all participants answered each question

The SAAPPQ is a validated, 10-item, 7-point rating scale designed to measure a health professionals motivation or willingness to work with drinkers (“motivation”); their expectations of work satisfaction with these clients (“work satisfaction”); their feelings about their adequacy of their knowledge and skills in working with these clients (“role adequacy”); the extent to which they feel they have the right to work with drinkers (“role legitimacy”); and their self-esteem in this specific task (“task specific self-esteem”).<sup>16,17</sup>

The knowledge and attitude questions were included in a survey sent to all medical (n=49) and nursing staff (n=145) employed in the general medical wards at the time of the study. Completed anonymous

surveys were collected in identifiable boxes on each participating ward. All potential participants were followed up by a second mail-out. The final response rate did not differ between the two occupational groups: 57% (82/145) of nursing staff returned surveys compared to 49% (24/49) of medical staff. This gave an overall response rate of 55% (106/194). Selected demographic characteristics of the sample are presented in Table 1.

## Results

**Practice**—A patient admission form was located in 91% (109/120) of files randomly selected for review. Information pertaining to patient alcohol consumption was recorded in response to the standard alcohol assessment question in 78% (85/109) of these files. The latter figure may be considered the prevalence rate of alcohol assessment in the study setting ( $\pm 7.25\%$ ). The level of information recorded in these 85 files was typically sparse. One or two worded responses such as “nil”, “not much” or “occasional” were provided in 71% (60/85) of cases.

The recorded response indicated current alcohol use in 54% (46/85) of cases and abstinence in the remaining 46% (39/85). Information pertaining to the quantity and frequency of alcohol consumption was specified in 14 out of the 46 files in which current alcohol use was indicated. Examples included: “1 glass wine/day”, “1–2 standard [drinks]/day” and “3 jugs of beer per week; binge, only on Saturday”.

Eight of these 14 files accounted for the type of alcohol consumed and 3 used standard drink measures. The remaining 32 files in which current alcohol use was indicated provided minimal detail. Either the quantity or frequency of alcohol consumption was recorded, but never both and rarely in a useful form. Examples included: “now and again”, “alcohol socially”, and “occasional glass of wine”. Four of these 32 files accounted for the type of alcohol consumed. No references to standard drink measures were evident.

Overall, excessive alcohol consumption was indicated in 5% (4/85) of files in which alcohol assessment information had been recorded.

**Knowledge**—Knowledge of standard drink equivalents—for spirits, wine and beer; and recommended weekly and single session drinking limits—were measured via a series of multiple choice questions. Table 2 outlines the percentage of respondents, by occupational group and for the total sample, who identified correct responses.

Overall, 12% of respondents were able to accurately identify standard drink equivalents for all three alcohol sources and 8% were able to accurately identify the recommended weekly and single session drinking limits for both men and women.

Chi-squared analysis revealed medical staff were more likely to answer both information sets correctly ( $\chi^2=4.677$ ,  $df=1$ ,  $p=0.031$  and  $\chi^2=24.643$ ,  $df=1$ ,  $p<0.001$ , respectively).

**Table 2. Percentage of participants who correctly identified standard drink quantities and recommended drinking limits**

		<b>Total</b> (n = 106)	<b>Nurses</b> (n = 82)	<b>Doctors</b> (n = 24)
<b>Standard Drink Quantities</b>	Spirit	53%	43%	88%
	Wine	26%	24%	33%
	Beer	50%	42%	79%
	<b>All Correct</b>	<b>12%</b>	<b>9%</b>	<b>25%</b>
<b>Drinking Limits</b>	Per occasion – Male	13%	6%	38%
	Per occasion – Female	13%	4%	46%
	Weekly – Male	28%	12%	83%
	Weekly – Female	35%	20%	88%
	<b>All Correct</b>	<b>8%</b>	<b>1%</b>	<b>33%</b>

**Table 3. Mean SAAPPQ scores**

<b>SAAPPQ Domain</b>	<b>Total</b>	<b>Nurses</b>	<b>Doctors</b>	<b>p-value</b>
Work Satisfaction	3.4	3.4	3.2	0.346
Task Specific Self Esteem	4.8	4.8	4.8	0.651
Motivation	4.1	4.2	3.8	0.026*
Role Legitimacy	5.2	5.0	6.0	0.001**
Role Adequacy	4.0	3.8	4.7	0.003**
<b>Overall Composite Score</b>	<b>4.3</b>	<b>4.2</b>	<b>4.5</b>	<b>0.021*</b>

\* p <0.05, \*\* p <0.01

**Attitudes**—Attitudes of ward staff with respect to alcohol assessment and intervention were measured via the SAAPPQ. On this scale, a score of 3.5 is considered a neutral response with higher scores indicating a more positive attitude (and, conversely, lower scores indicating a more negative attitude).

Overall, the mean score in four out of the five domain areas and the mean composite SAAPPQ score (the mean score across all five domains) were indicative of positive attitudes (Table 3). “Work satisfaction” was the only domain area in which the mean response fell below a score of 3.5. Statistically significant differences between medical and nursing respondents were evident on three out of the five domain scores (statistics based on Mann-Whitney U test, p value reported in Table 3).

Medical respondents reported more positive attitudes on the “role legitimacy” and “role adequacy” domains and less positive attitudes on the “motivation” domain when compared to nursing respondents. The difference between medical and nursing staff on the composite SAAPPQ score also reached a level of statistical significance.

## Discussion

This paper sought to examine the alcohol assessment practice, knowledge, and attitudes of staff working in the general medical wards of a large, metropolitan hospital. It was anticipated that the findings would provide some insight into the prevalence and utility of hospital-based alcohol assessment and the ability of the latter to support brief intervention initiatives.

The results suggest patient alcohol consumption is routinely assessed, 78% of files reviewed, but the usefulness of the resulting information may be low. The latter was evidenced by the type of alcohol assessment information recorded, the inference of the recorded information, and participant response to the multi-choice questions.

Recorded alcohol assessment information comprised one or two word responses such as “nil”, “not much”, or “occasional” in 71% of cases. The clinical utility of this type of information is limited. A “nil” response may refer to a temporary period of alcohol abstinence or abstinence as a long-term lifestyle choice. Similarly, an “occasional” response may refer to a glass of wine with dinner once or twice a year or to regular binging on hard liquor at celebratory events.

An accurate assessment requires detailed information regarding the length of reported abstinence or the type, quantity, and frequency of reported alcohol consumption. Detailed alcohol consumption data were only provided in 14 cases.

The recorded alcohol assessment information also indicate that 46% of patients abstained from alcohol consumption and that only 5% exceeded recommended drinking guidelines. These figures are almost certainly incorrect.

National household survey data indicate that 85% of adult New Zealanders consume alcohol at least once per year and that between 20–25% regularly exceed recommended drinking levels.<sup>1,2</sup> Similarly, prevalence studies conducted in hospital settings indicate that between 16–26% of admissions screen positive for alcohol misuse.<sup>18</sup>

It would appear that the standard alcohol assessment question in the study setting, therefore, was largely ineffective. It remains possible that the recorded responses were not an accurate reflection of the alcohol assessment actually conducted. Ward staff may have completed a thorough and accurate alcohol assessment, yet failed to record the results in a clinically useful manner.

Responses to the multi-choice questions suggest this was unlikely. Only 12% of respondents were able to correctly answer all three of the standard drink questions and only 8% of respondents were able to correctly identify all four of the recommended drinking limits questions.

Medical participants were significantly more likely to provide correct responses as compared to their nursing counterparts (25% vs 9% and 33% vs 1%, respectively); however, the majority of respondents in both groups were unable to do so. The general lack of knowledge in these areas may explain why references to the use of standard drink measures were only evident in three files.

The attitudinal data indicate that, whilst standard alcohol assessment practice may be poor, both medical and nursing respondents considered alcohol assessment to be a legitimate part of their professional role. Both groups also reported relatively high “task specific self esteem” and “composite SAAPPQ” scores. The former suggests most respondents felt comfortable providing an alcohol assessment, even if further training was seemingly required, and the latter suggests attitudes towards alcohol assessment were largely positive.

The “work satisfaction” domain received the lowest mean scores, suggesting alcohol assessment and intervention were not considered a particularly rewarding activity. Between-group differences in attitude were detected. Nursing respondents reported greater motivation for alcohol assessment, yet the medical respondents considered it a more legitimate part of their professional role and saw themselves as more adequately prepared to carry it out. The “knowledge” data confirmed the latter, but additional training and support were clearly needed by both groups.

Based on these findings it is difficult to draw any conclusion other than standard alcohol assessment practice in the study setting was seriously limited. The alcohol assessment question “alcohol (amount and duration)” was too broad and non-specific to elicit clinically meaningful data and staff knowledge of standard drink measures and recommended drinking limits was sparse at best. Nevertheless, compliance with the existing assessment question was high and attitudes towards alcohol assessment were largely positive. Thus, a platform for effective alcohol assessment was present: the medical and nursing staff were in the habit of regularly seeking alcohol consumption information and were supportive of this practice.

If the existing alcohol assessment question was replaced by a more effective alternative and if appropriate training and support resources were provided to staff, then the standard might improve. It is the recommendation of this paper, therefore, that the use of a structured, brief alcohol screen should be considered in the hospital setting. Validated screens that have previously been used for this purpose include the consumption scale of the Alcohol Use Disorders Identification Test (AUDIT)<sup>19</sup>, the CAGE<sup>20</sup> and the Short Michigan Alcohol Screening Test (SMAST).<sup>21</sup>

An appropriate training program should also be introduced to support staff in the alcohol screening process. Adhering to a recognised alcohol screening process would improve the standard of assessment and would usefully support possible brief intervention initiatives in the process.

The findings presented in this paper are unlikely to be unique to the study setting. A similar standard of alcohol assessment is probably evident in most hospitals across

New Zealand. Research would be needed to confirm this of course; however, the lack of any National standard for hospital-based alcohol assessment or similarly instructive guidelines suggests the general quality of alcohol assessment may be variable at best.

The use of a validated, brief alcohol screen should therefore be considered on a wider scale. Hospital wards throughout the country could review their existing assessment practice and make changes as appropriate. Any assessment practice that relies on a non-specific question such as “alcohol (amount and duration)” or the expertise of medical or nursing staff may be found wanting if the findings reported in this study are common throughout New Zealand.

As a final point, it is worth noting that this study investigated an area that has received minimal research attention. Further research into the prevalence and utility of routine alcohol assessment practice in hospital settings is needed. Future research could improve on some of the limitations inherent in the study design. Major limitations included the relatively low rate of medical respondents to the knowledge and attitude questions and the reliance on recorded information as a measure of alcohol assessment prevalence and utility.

A number of the medical respondents who completed the survey questions were also rotated onto the hospital ward after the retrospective file review. This raises the possibility that the review findings may not have been an accurate reflection of the medical respondent’s assessment practice.

**Competing interests:** Professor Ross McCormick was a board member on the JE Caughey Trust and provided medical advice to the now defunct Beer, Wines and Spirit Council of New Zealand at the time of this study. Dr Ian Scott was Deputy Chair of the Alcohol Advisory Council of New Zealand (ALAC) and an elected member of the Auckland District Health Board at the time of this study.

**Disclaimer:** The views of the authors do not necessarily represent the views or the policies of the Alcohol Advisory Council of New Zealand (ALAC), the Accident Compensation Corporation (ACC), the JE Caughey Trust, or Auckland City Hospital.

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## References:

1. ALAC. The Way We Drink. ALAC Occasional Publication No. 27. Alcohol Advisory Council of New Zealand; 2005.
2. Habgood R, Casswell S, Pledger M, Bhatta K. Drinking in New Zealand: National Surveys Comparison 1995 and 2000. Alcohol and Public Health Research Unit, University of Auckland; 2001.
3. Room R, Babor T, Rehm J. Alcohol and public health. *Lancet*. 2005; 365:519–30.
4. Rodriguez E, Lasch KE, Chandra P, Lee J. Family violence, employment status, welfare benefits, and alcohol drinking in the United States: what is the relation? *Epidemiol Community Health*. 2001;55:172–178.
5. Easton B. Taxing Harm: Modernising Alcohol Excise Duties. Alcohol Advisory Council of New Zealand; 2002.
6. Andreasson S, Ojehagen A. Psychosocial treatment for alcohol dependence. In: Berglund M, Thelander S, Jonsson, E editors. *Treating Alcohol and Drug Abuse: An Evidence Based Review*. Weinheim: Wiley-VCH; 2003, p43–188.
7. Miller WR, Wilbourne PL. Mesa Grande: a methodological analysis of clinical trials of treatments for alcohol use disorders. *Addiction*. 2002;97:265–277.
8. Moyer A, Finney J, Swearingen C, Vergun P. Brief interventions for alcohol problems: a meta-analytic review of controlled investigations in treatment-seeking and non-treatment seeking populations. *Addiction*. 2002;97:279–92.
9. Bien TH, Miller WR, Tonigan JS. Brief interventions for alcohol problems: a review. *Addiction*. 1993;88:315–36.
10. D'Onofrio G, Degutis L. Screening and brief intervention in the emergency department. *Alcohol Res Health*. 2004;28:63–72.
11. Humphrey G, Casswell S, Han DY. Alcohol and injury among attendees at a New Zealand emergency department. *N Z Med J*. 2003; 116(1168). <http://www.nzma.org.nz/journal/116-1168/298>
12. Foy, A. Alcohol problems in a general hospital. *Addict Biol*. 1999; 4:23–34.
13. Forsberg L, Ekman S, Halldin J, Ronnberg S. Brief interventions for risky consumption of alcohol at an emergency surgical ward. *Addict Behav*. 2000;25:471–475.
14. McManus S, Hipkins J, Haddard P, et al. Implementing an effective intervention for problem drinkers on medical wards. *Gen Hosp Psychiatry*. 2003;25:332–337.
15. 15.Monti P, Colby S, Barnett N, et al. Brief intervention for harm reduction with alcohol-positive older adolescents in a hospital emergency department. *J Consult Clin Psychol*. 1999;67:989–94.
16. Anderson P, Clement S. The AAPPQ revisited: the measurement of general practitioners attitudes towards alcohol problems. *Br J Addiction*. 1987;82:753–9.
17. Cartwright AKJ. The attitudes of helping agents towards the alcoholic client: the influence of experience, support, training, and self-esteem. *Br J Addict*. 1980;75:413–431.
18. Roche AM, Freeman T, Skinner N. From data to evidence, to action: findings from a systematic review of hospital screening studies for high risk alcohol consumption. *Drug Alcohol Depend*. 2006;83:1–14.
19. Bush K, Kivlahan DR, McDonnell MB, et al. The AUDIT alcohol consumption questions (AUDIT-C). *Arch Intern Med*. 1998;158:1789–1795.
20. Ewing JA. Detecting alcoholism: the CAGE questionnaire. *JAMA*. 1984;252:1905–1907.
21. Seltzer MA, Vinokur A, Van Rooijen LJ. A self-administered Short Michigan Alcohol Screening Test (*SMAST*). *J Stud Alcohol*. 1975;36:117–126.