

**Assessing Alcohol Consumption in Older Adults: Looking for a Solution to Inform  
Evaluation of Social Marketing Campaigns**

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## Introduction

Alcohol consumption in older people presents unique challenges due to changes in body composition, co-morbid conditions and associated mediations, as well as a reduction in metabolic capacity. As such, this generation has been identified as an at-risk group by the NHRMC (NHRMC, 2011). For the purpose of this paper “older” adults are individuals aged 65 years and over. The NHMRC produced guidelines for minimising the risks associated with alcohol consumption in 2001 (NHMRC, 2001). While the 2001 NHMRC guidelines did not provide specific recommendations regarding levels of consumption for older people the revised 2009 guidelines recommend, *‘Older people are advised to consult with their health professionals about the most appropriate level of drinking for their health’* (NHMRC, 2009). Alcohol consumption among the elderly has received considerably less attention than has consumption in young people (St John, 2010); despite the fact that one-third of the alcohol-attributable burden of disease worldwide is experienced by people aged 45 and over (Rehm et al., 2009). Thus, there is a need for social marketing campaigns targeting this age group – including those designed to increase their knowledge of standard drinks, raise their awareness of the risks of alcohol consumption for older adults, and to encourage them – where indicated – to reduce their alcohol consumption.

However, central to assessing the effectiveness of such social marketing campaigns will be determining appropriate tools to assess levels of alcohol consumption among this age group. The measurement of alcohol consumption remains a contentious issue despite numerous comparative studies; (Gmel, Graham, Keundig & Kuntsche, 2006). Various methods of measuring alcohol are available such as Beverage-Specific Quantity/Frequency measure (Gmel et al., 2006) which measures ‘usual’ frequency and quantity for each beverage. The most widely used approaches in the assessment of ‘current’ drinking or alcohol consumption are the quantity-frequency (QF) and the graduated quantity-frequency (GF) technique; these methods all rely on participants being able to identify what a standard size drink is. Underreporting of drinking levels is a particular issue in identifying harmful drinking in the elderly (Widner & Zeichner, 1991). In a previous study we found 71% of the 203 older adults (aged 60-92 years) surveyed overestimated the size of a standard glass of wine (Jones et al, 2011). These findings are consistent Rundle-Theile, Ball and Gillespie (2008) who found that many Australians were unaware of the number of standard drinks in a standard bottle of wine. This study aims to contribute to the knowledge in this area by examining two methods of measuring alcohol consumption in the elderly to allow improved evaluations of social marketing campaigns in this population. We compare two methods of self-reporting alcohol consumption; a survey and a daily diary.

## Method

Participants who had completed a survey in our earlier study were asked if they were willing to be contacted to participate in a further study which involved completing a seven-day diary. Twenty participants agreed to complete the diary; this involved recording the number, type and serving size of alcoholic drinks they consumed each day. The diary included images of a range of glasses filled to different levels rather than just a standard drink chart to improve accuracy of reporting (see Appendix A). The response rate of the diary participants was 100%; however five participants did not complete the survey questions in a manner allowing inclusion in the analysis. Therefore analysis was conducted on 15 participants’ data.

## Results

The majority of older people reported consuming up to three standard drinks on any given day (65% survey data; 90% diary). Only one person reported drinking five or more standard drinks in a day, and this was reported in the diary.

Table 1. Standard number of drinks reported in the survey and the diaries

Number of Standard Drinks	Survey Freq (%) (n=16)	Diary Freq (%) (n=20)
<1	4 (20)	3 (15)
1 – 3	9 (45)	15 (75)
3 – 5	3 (15)	1 (5)
5+	0 (0)	1 (5)

The reported average daily consumption levels were higher in the survey data ( $m=2.06$ ,  $SD=1.5$ ) than the diary data ( $m=1.99$ ,  $SD=1.20$ ). The average level of alcohol consumption reported in the survey was .07 standard drinks higher than reported in the diary (95% CI: -.62 to .48) more than diary-reported amounts, although paired samples  $t$  test showed that this difference was not statistically significant ( $t(15)=-.28$ ,  $p=.79$ ). It is important to note that this difference is clinically significant (that is, for an older person with co-morbid conditions or on certain medications the difference between, for example, 2 standard drinks and 2.7 standard drinks per day would have implications for their level of risk); and the lack of statistical significance is the result of the small sample size.

## Discussion

The older population faces unique health challenges which can lead to higher risks of alcohol-related harm. They are more susceptible to falls resulting in serious injury and likely to be taking medications which can produce adverse side effects when combined with alcohol (Aira,2005). Furthermore, their knowledge of what constitutes a standard drink, and what safe drinking levels are, is generally low. This presents a unique challenge in both educating this generation and measuring consumption levels. Research in the early 1990s demonstrated that standard drink labels on alcohol beverages significantly reduce the mean error in adults' estimations of alcohol content (Stockwell, Blaze-Temple & Walker, 1991); however, it is clear that this knowledge has not been adequately developed in this high-risk population.

This study was designed to examine two methods of self-reporting alcohol consumption in people aged over 60 years. The results suggest a clinically relevant difference in the data obtained between the two methods. This finding is important for social marketers undertaking interventions to reduce alcohol consumption in this target group. Combined with evidence on older adults' overestimation of the size of a standard drink, this suggests the need to carefully consider how the effects of such interventions could best be measured. This is particularly important given the current public health emphasis, and media focus, on promoting the message of no more than two standard drinks per day (for the general population). The primary limitation of our study was the small sample size, which limited the ability to undertake statistical analyses. However, the size of the difference between the two measures suggests the need for further research with larger samples. It is also important to note that the amounts reported in the diary were averaged over seven days as this was the time period over which participants were asked to complete the diaries, whereas the survey asked participants to report their consumption for a two day period; thus some of the difference may be due to the time of the week (e.g., weekend vs weekdays) incorporated in the survey responses.

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## Appendix A. Alcohol Diary Drink Size Guide

### WINE

(A) 100ml



(B) 140ml



(C) 180ml



(D) 220ml



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### SPIRITS

(A) 20ml



(B) 30ml



(C) 40ml



(D) 50ml



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### PORT/SHERRY

(A) 20ml



(B) 40ml



(C) 60ml



(D) 80ml

