

# Reducing alcohol-related harm: the untapped potential of pre-hospital care workers

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Harmful use of alcohol is a major international social and public health problem, responsible for 2.3 million premature deaths worldwide, 4.4% of the global burden of disease and an estimated economic costs between US\$210,000 and \$665,000 million [1]. Growing recognition of the enormity of the problem has led to national policies and initiatives in a number of countries and indications that the World Health Organisation is soon to embark on a global offensive [2]. Health-care professionals play a vital role in reducing alcohol-related harm; however, to date, efforts have largely focussed on the use of screening and brief interventions by medical practitioners in primary and acute settings. Much less attention has been given to the potential role of other health-care providers, with the exception of recent investigations into the role of staff in emergency departments [3]. One group of health-care providers who are in a potentially pivotal position to detect and intervene with patients who

engage in risky alcohol consumption, but whose role has not yet been systematically evaluated, is pre-hospital care workers. We explore the potential roles that ambulance officers (AOs), paramedics and emergency medical technicians (EMTs) can play in contributing to the now global impetus to reduce the harmful use of alcohol.<sup>1</sup>

## Understanding and monitoring alcohol use and its harms in the community

Excessive drinkers are known to be over-represented in accident and emergency departments (A&E) [4], many of whom are transported by ambulance. Ambulance staff and EMTs also attend and treat patients affected by alcohol who are not transported to hospital A&E departments or come into contact with other health services. Internationally, data show alcohol consumption and related harms play an increasingly significant role in the work of emergency service personnel. A study in a single ambulance station in Australia showed 14% of all call-outs involved alcohol consumption, with patients in over half of these showing signs of moderate to high levels of intoxication [5]. A recent state-wide survey of ambulance officers in New South Wales, Australia, found that most officers estimated that 30% or more of all call-outs between the hours 10:00 PM and 6:00 AM involved alcohol-affected patients,

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<sup>1</sup> In Australia, the terms ‘ambulance officer’ and ‘paramedic’ are used interchangeably and are equivalent to EMT-Is/EMT-Ps in the USA in terms of training requirements and roles. The Ambulance Service of NSW, Australia, requires paramedics to undergo an 8-week induction course, a 12-month on-road training program, followed by 3 weeks of classroom training and assessment and a further 2 years of practical experience before becoming fully qualified.

with approximately 20% of these patients not transported to hospital [6]. Between November 2006 and October 2007, the London Ambulance Service responded to 38,849 alcohol-related incidents, an increase of 12 per cent compared to the previous 2 years, with two thirds of all emergency calls on weekend nights being alcohol-related [7].

Pre-hospital care workers view first hand the environment in which people live, work and recreate, and the situations and contributing factors to incidents in which people experience alcohol-related harms. Australian ambulance officers estimate that eight out of every ten incidents of domestic violence and assault and five out of every ten suicides or suicide attempts are alcohol-related [6]. In the US, one study indicated that patients transported for alcohol intoxication had nine times the risk of also being transported for assault [8]. The high volume of alcohol-related incidents attended by pre-hospital care workers gives them a unique perspective on alcohol misuse and harm in the community, and potentially provides a rich dataset not obtainable by any other means. Yet little research has been conducted exploring the promising insights that pre-hospital care data may provide. Such data would afford a deeper and broader understanding of the prevalence and characteristics of alcohol-related harm in the community. The WHO recently identified the need for improved mechanisms for assessing and reporting on alcohol-related harms, and innovative surveillance systems for evaluating and monitoring responses to strategies and policies [1]. Ambulance and EMT data have the potential to meet some of these requirements relative to other current data sources.

### Detection and screening of alcohol-affected patients

Pre-hospital care workers have been shown to be effective at screening patients for a range of clinical health problems such as stroke [9], but few non-clinical health problems. Though there has been some investigation of their success in screening for domestic violence [10], few other non-clinical or public health issues have been considered. Early identification and detection of ‘at risk’ drinkers is essential for effective treatment and improved health outcomes for drinkers and their families. Most patients who drink at harmful levels go undetected in both primary care [11] and emergency department settings [12]. Consequently, it is now recommended that detection and screening for problem drinking be incorporated into the routine practice of health-care professionals in all settings [13]. Australian ambulance officers appear willing to contribute to this effort. While the main role of ambulance officers is to provide emergency pre-hospital care and transportation of

patients, a majority (68%) perceive that their role also involves identifying patients at risk of alcohol-related harm and referring them to appropriate services [6]. It is likely that this willingness to engage with alcohol-affected patients reflects the high number of alcohol-related incidents attended, and the substantial number of alcohol-affected patients not transported to hospital. Their role may be especially important in rural communities where a limited number of GPs and often no drug and alcohol services are available.

Most ambulance officers in Australia (67%) report that they “usually” or “always” ask patients whether they have been drinking, less than half (41%) reported asking patients about the quantity and/or frequency of alcohol use, and only 1% reported regularly screening patients for alcohol problems [6]. While these findings may reflect the reported low levels of confidence that ambulance officers have in regard to asking about drinking behaviour and using screening tools [6], there are clear opportunities to increase rates of reliable and valid data collection and screening by pre-hospital care workers. Identification of ‘at-risk’ drinkers can be done by incorporating clinical inquiry and direct observation as part of routine practice and/or by using validated screening tools [11]. Both the AUDIT (Alcohol Use Disorders Identification Test) [14] and FAST (Fast Alcohol Screening Test) [15] alcohol screening tests would be appropriate for this purpose as they are brief (2 min and 20 s, respectively) and have been validated for use in primary care and accident and emergency care settings.

### Brief intervention and referral

The effectiveness of early brief interventions in reducing excessive alcohol consumption and associated morbidity and mortality has been well established among general practitioners [16], and to a lesser extent in accident and emergency (A&E) departments [3]. Australian data indicate that most ambulance officers believe they should be trained in how to give brief advice and make referrals [6], suggesting another unrealised opportunity for officers to contribute to reducing alcohol-related harm. Brief advice requires minimal training and is considered an ideal, cost-effective intervention for delivery in a range of health-care settings. Intervention can be immediate, that is, alcohol-affected patients can be identified, given brief advice and referred for follow-up intervention once emergency conditions have been treated either at the incident site or during transportation. Where appropriate, such as for more heavily intoxicated patients, brief advice can be delivered at a later, more convenient time. Further, EMT records could be used to identify alcohol-affected patients transported on multiple

occasions for referral for more intensive intervention [8]. Written information on alcohol and local alcohol services can also be easily provided to at-risk patients, both at call-outs and/or by mail.

Patients with relatively minor injuries and no co-existing emergency medical conditions could also be transported directly to an appropriate drug and alcohol referral service rather than to hospital to relieve the pressure on hospital-based A & E departments. A recent initiative by the Camden Council and London Ambulance Service (LAS), in which a dedicated ‘alternative response vehicle’ is being used to deal with alcohol-related calls on weekend nights, follows a previous successful trial of the scheme in central London. LAS staff are provided with training to offer brief advice and, where necessary, direct patients to appropriate primary care or specialist alcohol treatment services. The pilot project aims to reduce the harm caused by alcohol, identify and refer ‘at risk’ drinkers for appropriate treatment, and to ease the strain on local hospital emergency departments. While the results of this project will be important for its continuation beyond the 6-month trial period, similar initiatives should be trialed in other areas and countries and evaluated for their impact and cost-effectiveness in reducing alcohol-related harm.

### Beyond detection and brief intervention

Paramedic and emergency services were originally developed to provide rapid care and transport for patients with life-threatening conditions to hospitals [8]. However, this role has expanded over the years and, in Australia at least, data indicate that pre-hospital care workers are willing to undertake a number of other actions as part of their work. A significant proportion of Australian ambulance officers, for example, have indicated their willingness to meet with GPs and health providers to plan more effective referral networks (64%), talk to community groups (e.g., schools, youth groups) about alcohol and safe drinking practices (52%), and work with local police and other agencies in developing harm-reduction strategies (67%) [6]. A recent example of this expanded role for pre-hospital care workers is the ADAPT (Ambulance Drug and Alcohol Program for Teenagers) Program currently being trialed in Melbourne, Australia. The program, developed by the Metropolitan Ambulance Service in consultations with school teachers and education consultants, aims to increase student understanding of how to identify and minimise risks associated with drinking and partying, and how to manage a medical emergency involving alcohol. Ambulance officers deliver the program in schools and supply teachers with a resource kit containing a CD-ROM, worksheets, suggested activities and additional resources [17].

Though the focus of this article has been on alcohol-related harm, we would argue that greater attention and research funding be afforded to the area pre-hospital care in general and their potential expanded role in public health. Health-care systems and health-care delivery involves a wide number of groups and providers beyond the more conventional hospitals and general practitioners. This is evidenced by the significant number of people who are treated and cared for by pre-hospital care workers, but who are not transported to hospital or other primary care service. In Australia at least, paramedics are also willing to be involved in enhanced roles and responsibilities in addition to the more traditional ones. With increasing demands and pressures placed on hospitals and primary care services, it seems both timely and strategic that a rigorous research agenda for pre-hospital care be formulated.

### Conclusion

There are a number of unrealised opportunities for pre-hospital care workers to expand their role and contribute to reducing alcohol-related harm, both in terms of generating high-quality and unique data and implementing a range of intervention activities. Specific opportunities exist in developing and evaluating the cost-effectiveness of pre-hospital care worker-delivered interventions for alcohol misuse and alcohol-related harm, as well identifying those strategies most likely to encourage the successful adoption of cost-effective interventions into routine practice. All health-care providers have a role to play in reducing alcohol-related harm. Owing to the increasingly enormous burden associated with harmful use of alcohol, the time for action is now. Attention should be given to formulating a comprehensive health-care sector response that clearly articulates the role of pre-hospital care workers.

**Conflicts of interest** None.

### References

1. WHO (2008) The 61st World Health Assembly. Strategies to reduce the harmful use of alcohol. Report by the Secretariat. WHO
2. Grimm D (2008) Staggering toward a global strategy on alcohol abuse. *Science* 320:862–863
3. Nordqvist C, Johansson K, Bendtsen P (2004) Routine screening for risky alcohol consumption at an emergency department using the AUDIT-C questionnaire. *Drug Alcohol Depend* 74:71–75
4. Lock CA (2004) Screening and brief alcohol intervention: what, why, who, where and when? A review of the literature. *J Subs Use* 9(2):91–101

5. Gillham K et al (2005) Alcohol related ambulance attendances as an indicator of alcohol related harm in the community., in Unpublished paper
6. Lynagh M, Sanson-Fisher R, Shakeshaft A (2006) Ambulance Officers' knowledge and practice in regard to patients affected by alcohol and their perceived role in reducing alcohol-related harm., in (Unpublished manuscript)
7. London Ambulance Service. Alcohol-related ambulance calls rise 12% in London. 2007 [cited 2008 11.09.08]; Available from: [http://www.londonambulance.nhs.uk/news/archive/pressreleases/pressreleases\\_2007/dec20\\_07.htm](http://www.londonambulance.nhs.uk/news/archive/pressreleases/pressreleases_2007/dec20_07.htm)
8. Fullerton L et al (1998) Relationships between ambulance transports for alcohol intoxication and assault. *Acad Emerg Med* 5:325–329
9. Bray JE et al (2005) Paramedic identification of stroke: community validation of the Melbourne ambulance stroke screen. *Cerebrovasc Dis* 20:28–33
10. Nelson HD et al (2004) Screening women and elderly adults for family and intimate partner violence: a review of the evidence for the US Preventive Services Task Force. *Ann Intern Med* 140:387–396
11. Parker AJR, Marshall EJ, Ball DM (2008) Diagnosis and management of alcohol use disorders. *Br Med J* 336:496–501
12. Indig D et al (2008) Why are alcohol-related emergency department presentations under-detected? An exploratory study using nursing triage text. *Drug Alcohol Rev* 29:1–7
13. Raistrick D, Heather N, Godfrey C (2006) Review of the effectiveness of treatment for alcohol problems. National Treatment Agency for Substance Misuse, London
14. WHO (2001) AUDIT - the alcohol use disorders identification test: guidelines for use in primary care. 2nd Ed
15. Hodgson R et al (2002) The FAST alcohol screening test. *Alcohol* 37:61–66
16. Bertholet N et al (2005) Reduction in alcohol consumption by brief alcohol intervention in primary care. *Arch Intern Med* 165:986–995
17. Metropolitan Ambulance Service (2008) ADAPT. An ambulance drug & alcohol program for teenagers. Secondary school program. Melbourne, Australia