

Universal screening of acute medical admissions for excess alcohol consumption: What's the misuse?

Stephen R. Atkinson¹, Nikhil Vergis¹, Alexandre Louvet^{2,*}, Mark R. Thursz^{1,*}

¹Department of Hepatology, Division of Surgery and Cancer, Imperial College London, UK; ²Service des maladies de l'appareil digestif, Hôpital Huriez, Lille, France

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Alcohol misuse is frequently identified amongst patients presenting to Emergency Departments. Additionally, “covert” alcohol excess may be identified in cases where admission is not obviously related to alcohol or its sequelae. In this issue, Westwood and colleagues examine the feasibility of screening acute medical admissions for alcohol use disorders with a retrospective, observational cohort study encompassing more than 50,000 admissions over a 3-year period. Screening was completed in >90% of hospital admissions. Patients at “high” and “increasing” risk of alcohol related harm, the minority, were identified using a modification of the Paddington Alcohol Test and further assessed by an Alcohol Specialist Nurse Service (ASNS) using the Alcohol Use Disorders Identification Test (AUDIT). In their 1968 paper, ‘Principles and Practice of Screening for Disease’, Wilson and Jungner described principles central to the effective detection of early disease; the study by Westwood and colleagues can be considered with respect to these criteria (Table 1).¹

Certainly, alcohol misuse is an important health problem. Around 200 different diseases, including a significant proportion of cancers, are wholly or partly attributable to alcohol.² Globally nearly 6% of all deaths may be attributed to alcohol, rising to almost half for cirrhosis-related deaths.^{3,4} ALD is the most common aetiology in emergency presentations with decompensated cirrhosis. The healthcare and economic costs associated with alcohol misuse are estimated at £3.5bn and £21bn per annum, respectively, in England alone.⁵ Alcohol related liver, pancreas or brain damage all have an early phase that can be latent or symptomatic, satisfying Wilson and Jungner’s second criterion. Consequently, treatment of alcohol misuse could both reduce costs and arrest the development of end-organ damage, avoiding future hospital admissions, morbidity and mortality.

In this study, AUDIT scores were indicative of dependence in 68% and 80% of intermediate and higher risk individuals respectively. This demonstrates the suitability of the modified electronic Paddington Alcohol Test (mePAT) as a screening tool for alcohol use disorders. Individual susceptibility to end-organ damage from excess alcohol is highly variable and modulated by genetic and environmental co-factors. Thus, the mePAT cannot meet Wilson and Jungner’s third criterion regarding end-organ damage. Ultimately, to address the burden of diseases such as ALD, specific studies are required to assess the practicability of identifying and treating patients with early end-organ damage, secondary to alcohol, during hospital attendance.

Rates of engagement with healthcare services amongst patients with alcohol use disorders are known to be suboptimal.⁶ A large proportion of patients with ALD are not engaged with clinical services until they develop advanced disease. Indeed, in those eventually diagnosed with ALD, prior hospital attendance implies prior opportunity to detect and manage alcohol misuse: in almost half of patients who died during their index admission for liver disease, an opportunity to intervene on an earlier admission was identified.⁷ This is further highlighted in the current study – higher risk drinkers attended hospital more frequently in the preceding three years. Notably, the cohort of higher risk drinkers who did not undergo further assessment was characterised by more frequent emergency department attendances, a short duration of admission and higher likelihood of self-discharge, potentially reflecting entrenched behaviour. In contrast, patients who were admitted for reasons unrelated to alcohol misuse, but were at “increasing risk” of alcohol related harm, may represent those suitable for the screening test, in whom intervention may be more effective.

Completion of screening using the mePAT tool in 91% of admissions indicates its acceptability for use in the acute medical setting. The cost of implementation also appears acceptable: there will be an increased workload for admitting nursing staff, but this is minimised by electronic integration into standard workflows. By its nature, the method also allows for a continuing process of case identification.

However, significant uncertainty persists regarding treatment of alcohol use disorders and the recognition of when to treat, criterion 6. Westwood and colleagues were unable to demonstrate

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* Corresponding authors. Addresses: Service des maladies de l'appareil digestif, Hôpital Huriez, 59037 Lille cedex, France. Tel.: +33 3 20 44 53 03; fax: +33 3 20 44 55 64 (A. Louvet), or Department of Hepatology, Division of Surgery and Cancer, Imperial College London, UK. Tel.: +44 203 312 1903; fax: +44 207 724 9369 (M. Thursz).

E-mail addresses: alexandre.louvet@chru-lille.fr (A. Louvet), m.thursz@imperial.ac.uk (M.R. Thursz).



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Table 1. An assessment of the current study in relation to the principle of screening for early disease outlined by Wilson and Jungner.¹

Criterion	Satisfied for alcohol use disorder	Satisfied for alcohol-related liver disease
1. Importance of health problem	Yes	Yes
2. Latent or early symptomatic phase with an understood natural history	Yes	Yes
3. Suitable and acceptable test	Yes	Partially
4. Acceptable cost of testing	Yes	Unclear in the absence of a defined test
5. Continuing process of case detection	Yes	No
6. Treatment of disease and recognition of when to treat	Yes	Partially
7. Capacity for diagnosis and treatment	No	No

that assessment by an alcohol specialist nurse was associated with a significantly greater reduction in maximum daily alcohol consumption or the risk of a subsequent hospital admission. However, this was not the primary aim of the study. In addition, there is a well-recognised under-treatment of alcohol dependence syndromes, which raises significant questions regarding our ability to offer effective treatment to individuals identified via this screening process. Changes in drinking behaviour such as the increasing prevalence of binge drinking in Western countries, particularly the United Kingdom, pose a particular challenge. Binge drinkers disclose a higher risk of presentation to emergency units^{8,9} and are typically younger (18–43 years old)¹⁰ – presenting an opportunity to intervene at, or prior to, the early stages of end-organ damage. However, therapeutic tools to effectively engage with this cohort are lacking. Brief interventions, whilst effective in other groups, do not demonstrate any sustained benefit in this group.^{11–13} The present study enrolled patients irrespective of drinking patterns. However, it raises the question of whether screening for alcohol misuse, followed by more intensive assessment and intervention, delivered by an ASNS may be effective in combatting recalcitrant binge drinking in young individuals. The fact that these individuals apparently do not consider themselves unwell and may rate their health at or above the level of the general population may explain their apparent resistance to intervention.^{8,9}

This study also raises important questions about healthcare capacity. An estimated 1,000 patients per year were identified by screening, of which half were referred to inpatient services. If replicated elsewhere this workload would likely overwhelm the capacity of most alcohol services. Furthermore, the proportion of people with alcohol use disorders receiving treatment appears to be low – across Europe data indicates that fewer than 10% of individuals with an alcohol-use disorder receive treatment.^{14,15} Recent data from the United Kingdom indicates that only a third of individuals with probable dependence had consulted a doctor regarding their potential alcohol use disorder and a comparative minority, around 6%, were receiving substance misuse medication or counselling.¹⁶ The issue is not limited to alcohol use disorders however. In a large European study only 26% of patients diagnosed with a mental health disorder within a 12-month period had consulted formal mental health services within the same timeframe.¹⁴ This under-treatment is likely multifactorial – reflecting inadequate service provision and resources in combination with stigmatisation, marginalisation and difficulties engaging with healthcare services. Indeed, higher AUDIT scores have been associated with an increasing prevalence of requests for treatment being denied.¹⁶

Even with a dramatic increase in resources it seems unlikely that this unmet demand for treatment can be met. In this context, it is worth considering how additional assessments may be made

to more accurately define the potential benefit from intervention. This may entail defining individuals (i) most likely to engage based upon previous behaviour, (ii) with an increased risk of end-organ damage, potentially defined by known genetic risk loci such as the variant rs738409 in *PNPLA3* or (iii) evidence of end-organ damage either clinically or assessed by non-invasive methods.

Alcohol misuse is an immensely important health issue, with known opportunities and effective methods for intervention. Westwood and colleagues describe an acceptable, effective, feasible and sustainable method for screening acute medical admissions for evidence of alcohol use disorders. However, ensuring the required tools and resources are available for diagnosis presents significant challenges for therapeutic application, especially in the context of healthcare systems already operating at the limit of their resources. Before significant healthcare resource can be invested to address these challenges, a richer evidence base is required.

Conflict of interest

The authors declared that they do not have anything to disclose regarding funding or conflict of interest with respect to this manuscript.

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