



Long working hours and alcohol use

A meta-analysis of cross-sectional and prospective data found that people who worked more than 40 hours a week were more likely to show risky alcohol use than people who worked fewer hours, although the increase was small. People who worked 55 hours a week or more were more likely to increase their alcohol use to levels that posed a health risk, but only 2 prospective published studies were available for this analysis.

Overview: Government guidelines on alcohol recommend that men should not regularly drink more than 3 to 4 units of alcohol per day and women should not regularly drink more than 2 to 3 units per day ([Department of Health 2015](#)). However, 34% of men and 28% of women in Great Britain exceed these limits on their heaviest drinking day of the week ([Office for National Statistics 2013](#)). Heavy drinking is defined as drinking more than 8 units of alcohol for men and more than 6 units for women. In 2011, the proportion of men drinking more than 8 units on their heaviest drinking day was 18% and the proportion of women drinking more than 6 units was 12%.

The European Working Time Directive limits working hours for people in EU countries to 48 hours a week to protect workers' health and safety ([European Commission 2003](#)). Working long hours has been shown to increase the risk of adverse health outcomes such as depression, anxiety and sleep deprivation ([Bannai and Tamakoshi 2014](#)). Long working hours may also increase the likelihood of risky drinking ([Gibb et al. 2011](#)).

Current advice: The NICE public health guideline on [alcohol-use disorders: preventing harmful drinking](#) recommends that NHS professionals should routinely carry out alcohol screening as an integral part of practice. Screening involves identifying people who are not seeking treatment for alcohol problems but who, in the view of the professional, may have an alcohol-use disorder. A validated alcohol questionnaire should be used with the adults being screened.

Adults who have been identified via screening as drinking a hazardous or harmful amount of alcohol should be offered a session of structured brief advice on alcohol.

The NICE pathway on [alcohol-use disorders](#) brings together all related NICE guidance and associated products on the conditions in a set of interactive topic-based diagrams.



New evidence: [Virtanen et al. \(2015\)](#) carried out a meta-analysis to assess whether long working hours were associated with using alcohol at a level that might pose a health risk. The authors identified 36 relevant published studies, 34 of which were cross-sectional and 2 prospective. This analysis also included unpublished individual participant data identified from a meta-analysis consortium and open access data collections: 27 sets of cross-sectional data and 18 sets of prospective data. The published and unpublished data were pooled into two groups for meta-analysis: cross-sectional data (61 studies, n=333,693) and prospective data (20 studies, n=100,602).

The published studies variously defined long working hours as 45 hours a week or more, more than 40 hours a week, or 'frequent overtime'. Alcohol use was based on self-reported frequency, and definitions of risky alcohol use varied considerably. The unpublished studies split working hours into less than 35 hours a week, 35–40 hours a week, 41–48 hours a week, 49–54 hours a week, and 55 hours a week or more. Risky alcohol use was defined as more than 14 drinks a week for women and more than 21 drinks a week for men.

Pooled analysis of the published and unpublished cross-sectional data found that long working hours were associated with a small increase in the likelihood of risky alcohol use (odds ratio [OR]=1.11, 95% confidence interval [CI] 1.05 to 1.18). The published cross-sectional studies were very heterogeneous, but meta-regression models of sex, study location, sociodemographic and population variables could not explain the heterogeneity.

Pooled analysis of the published and unpublished prospective data found that among people who used alcohol at safe levels at baseline, those who worked at least 55 hours a week were more likely to develop risky alcohol use than those who worked 35–40 hours a week (OR=1.12, 95% CI 1.04 to 1.20). Working 49–54 hours a week was associated with a similar risk of onset of risky alcohol use (OR=1.13, 95% CI 1.02 to 1.26).

Limitations of this analysis include that only 2 prospective published studies were available and most studies used self-reported data on working hours and alcohol use. All the included studies were observational, which limits the generalisability of these results.

Commentary: "As noted above, interpreting the literature on health effects of alcohol use is especially difficult because researchers, in the natural course of events, choose very different definitions of what constitutes 'heavy', 'excessive' or 'risky' alcohol use. In addition, most studies rely on personal recall by participants. For some drinkers, recall may be simple (for example, men who go to the pub every night and order 2 pints of beer), but for others (for example, regular drinkers of varying amounts of beer, spirits and wine) it may not.

"The findings of this new meta-analysis may have public health relevance if they do reflect a true causal relationship – that is, long hours led to increased alcohol use, and not, for example, that loneliness led to working long hours and increased alcohol use. But it is difficult to see how the findings can be incorporated into clinical practice, because the size of the effect at a personal level would be very small.

"The review is a reminder that as the size of a meta-analysis increases, smaller and smaller effects will become statistically significant, such that in an infinitely large study, the tiniest difference will be statistically significant. Epidemiological findings should be interpreted cautiously because it is so easy to be misled by observational studies, particularly when the findings refer to small effects." –

Professor Tom Sorahan, Professor of Occupational Epidemiology, University of Birmingham

Study sponsorship: This study was not funded.

About this article: This article appeared in the July 2015 issue of the [Eyes on Evidence newsletter](#). This free monthly newsletter from NICE Evidence Services outlines interesting new evidence and what it means for current practice. The articles do not constitute formal NICE guidance. The commentaries included are the opinions of contributors and do not necessarily reflect the views of NICE.

To receive the Eyes on Evidence newsletter, please complete the [online registration form](#).

[Visit Evidence Search](#)

Copyright © 2015 National Institute for Health and Care Excellence. All Rights Reserved.