Statistical model attempting to estimate level of alcohol consumption that is 'optimal' for health

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Scientists from Australia and Oxford University have carried out a complex analysis in an attempt to determine the "optimal" level of alcohol consumption that is associated with the lowest rates of chronic disease in the UK. They conclude that the intake of about one-half of a typical drink per day would result in the healthiest outcomes, and the authors conclude that the recommended alcohol intake for the UK should be reduced from the current advised level of drinking.

There were a number of concerns by Forum members about the paper. It is based on an extremely complex statistical model that requires many assumptions, most of which cannot be validated. The parameters chosen to use in such a model determine the results, and a number of instances were identified where the values used in this analysis do not reflect current scientific knowledge. Further, the conclusions of the authors are based exclusively on the lowest point of the "J-shaped" curve for alcohol and disease, and disregard the findings that the risk of death, in comparison with non-drinkers, remains lower for drinkers of alcohol of up to several drinks per day.

There were other aspects of the paper that were of particular concern: (1) focusing only on the average amount of alcohol consumed, while the pattern of drinking (regular moderate versus binge drinking) has the greatest effect on health outcomes; (2) giving a single recommended level of alcohol intake irrespective of age; the greatest risks and lowest

expected benefits of <u>alcohol intake</u> are among the young, whereas most of the putative health benefits relate to the diseases of ageing; (3) giving a single value for both men and women, since women are known to react (both adversely and beneficially) to lower levels of alcohol than do men; (4) the use of their estimated value alone for making recommendations for the population; guidelines should be based on a large number of social and <u>behavioral factors</u>, not just on the results of one scientific study.

The level of alcohol that is most likely to be associated with the lowest risk of adverse health outcomes and the most likely health benefits varies markedly among individuals. Middle-aged men and post-menopausal women are most likely to demonstrate enhanced health (e.g., lower risk of cardiovascular diseases, diabetes, dementia) from moderate drinking. For all ages, <u>binge drinking</u> is associated with predominantly adverse outcomes. In general, women should drink less than men. While the analyses presented in this paper are of scientific interest, they alone do not support changes in the current population recommendations for <u>alcohol consumption</u>.

  More information: Nichols M, Scarborough P, Allender S, Rayner M. What is the optimal level of population alcohol consumption for chronic disease prevention in England? Modelling the impact of changes in average consumption levels. *BMJ Open* 2012;2:e000957. doi:10.1136/bmjopen-2012-000957

For the detailed critique of this paper by the International Scientific Forum on Alcohol Research and a listing of references, go to <u>www.bu.edu/alcohol-forum</u> , click on <u>www.bu.edu/alcohol-forum/criti … consumption-that-is-</u>%e2%80%9coptimal%e2%80%9d-for-health-6-june-2012/