

## Alcohol consumption, wealth, and health

### Authors' reply

We thank Martin Frisher for his Correspondence about our Article,<sup>1</sup> in which we used linked data to investigate the alcohol harms paradox. We found that increased alcohol consumption was associated with greater harms attributable to alcohol, but that populations of low socioeconomic status (measured by area-based deprivation, income, educational attainment, and social class) were disproportionately affected by alcohol-attributable harm. We found this disparity to be the case even when adjusting for differences in binge drinking, smoking, and body-mass index. We took advantage of the longitudinal nature of our data by excluding people who had a history of alcohol-related and drug-related harm and testing whether our results could be accounted for by social drift (ie, people becoming poor as a result of high-risk alcohol consumption), which we found they could not.

Frisher stated that "alcohol use does not necessarily correspond to adverse health outcomes". Although he referred to results for self-rated general health, our results showed that alcohol consumption was clearly associated with increased risk of alcohol-attributable harms. The most socially advantaged might be at less risk of harm, but consumption across the socioeconomic spectrum still carries a health risk and our findings in no way suggest otherwise. Although we appreciate that other cross-sectional research investigating self-reported outcomes might find less evidence of harm, our study aligns with the wealth of evidence showing the substantial health burdens that arise from alcohol consumption.<sup>2</sup> Furthermore, the public health message is now far clearer as a result of more causal analyses—in particular, Mendelian

randomisation approaches have found no cardiovascular risk protection with low levels of alcohol consumption.<sup>3</sup> Therefore, we feel that the implications for public health are very clear: alcohol is a cause of harm to populations globally and evidence-based actions to address this burden need to be fully implemented.

Our study also has implications for the understanding that public health policy makers have of health inequalities. Policies that reduce alcohol consumption across society are likely to disproportionately benefit the poorest in society. It is sometimes suggested that price-based measures (such as taxation or minimum unit pricing) impose greater financial costs on the poorest in society,<sup>4</sup> but our study suggests that their health is likely to benefit the most. Although addressing behavioural risk factors is important to improve population health, this strategy is unlikely to be sufficient to address socioeconomic inequalities in health. There is a continuing need to also focus on addressing underlying social inequalities.

We declare no competing interests.

Copyright © The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY 4.0 license.

\**Srinivasa Vittal Katikireddi, Elise Whitley, Jim Lewsey, Alastair H Leyland*  
vittal.katikireddi@glasgow.ac.uk

Medical Research Council (MRC)/Scottish Government Chief Scientist Office (CSO) Social and Public Health Sciences Unit (SVK, EW, AHL), and Health Economics and Health Technology Assessment (JL), University of Glasgow, Glasgow G2 3QB, UK

- 1 Katikireddi SV, Whitley E, Lewsey J, Gray L, Leyland AH. Socioeconomic status as an effect modifier of alcohol consumption and harm: analysis of linked cohort data. *Lancet Public Health* 2017; 2: e267–76.
- 2 Babor T, Caetano R, Casswell S, et al. Alcohol: no ordinary commodity. Research and public policy. 2nd edn. Oxford: Oxford University Press, 2010.
- 3 Holmes MV, Dale CE, Zuccolo L, et al. Association between alcohol and cardiovascular disease: Mendelian randomisation analysis based on individual participant data. *BMJ* 2014; 349: g4164.

- 4 Katikireddi SV, Bond L, Hilton S. Changing policy framing as a deliberate strategy for public health advocacy: a qualitative policy case study of minimum unit pricing of alcohol. *Milbank Q* 2014; 92: 250–83.

