## **Authors' reply**

We thank Alain Braillon for his comments on our study on alcohol use disorders and dementia in France.<sup>1</sup> It opened up the discussion beyond the results of this study, which had to be restricted to alcohol use disorders, as our study was based on hospital records and did not include information on reported levels of alcohol consumption.

Braillon is right: systematic reviews<sup>2</sup> as well as large studies, including neuroimaging studies,<sup>3</sup> show that moderate alcohol consumption is linked to functional and structural impairments of the brain. This effect was found primarily in studies of people under the age of 65 years, whereas in studies focusing on older people results are more ambiguous.

Future research is necessary to identify reasons for the seemingly different effects of alcohol use disorders for different ages (eg, by full adjusting for the effect of competing risks on premature death, or analysing the potential interactions between risk factors). However, we would like to point out that neuroimaging studies, such as that of Topiwala and colleagues,<sup>3</sup> which used multiple measurements of exposure, validated specific outcomes, and large population-based samples with high follow-up rates, provide stronger evidence than most of the studies in the field, which use only one measure of exposure, often failing to exclude sick-quitters, and unspecific outcomes. Thus, decision makers should rather base our policies on the precautionary principle and initiate proven effective and cost-effective measures to reduce overall consumption, such as WHO's best buys (ie, higher taxation, restrictions on availability, and a ban on advertising and marketing of alcohol).<sup>4</sup>

Even though our results regarding the effect of alcohol use disorders as the largest risk factor for all types of dementia need to be confirmed, decision makers should additionally implement preventive measures for heavy drinking, such as brief interventions or early treatment at the primary care level.<sup>5</sup> As for future research, if it was possible to include alcohol use measures routinely in hospital charts, this would give us much better evidence on the impact of alcohol use for the full continuum of use patterns and would help improve our understanding of the association between alcohol use and dementia dramatically.

We declare no competing interests.

Copyright © 2018 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND 4.0 license.

## \*Michaël Schwarzinger, Carol Dufouil, Jürgen Rehm michael.schwarzinger@

## transhealthecon.net

Translational Health Economics Network, Paris, France and Infection, Antimicrobials, Modelling, Evolution, UMR 1137, INSERM, Université Paris Diderot, Sorbonne Paris Cité, Paris, France (MS); INSERM, University of Bordeaux, and U1219-Bordeaux Population Health, ISPED-Bordeaux School of Public Health, Bordeaux, France (CD): Bordeaux University Hospital. Public Health Department, Medical Information Service, Bordeaux, France (CD); Dalla Lana School of Public Health, Institute of Medical Science, and Department of Psychiatry University of Toronto, Toronto, ON, Canada (JR); Campbell Family Mental Health Research Institute, and Institute for Mental Health Policy Research, CAMH, Toronto, ON, Canada (JR); and Institute for Clinical Psychology and Psychotherapy, Technische Universität Dresden, Dresden, Germany (JR)

- Schwarzinger M, Pollock BG, Hasan OSM, Dufouil C, Rehm J. Contribution of alcohol use disorders to the burden of dementia in France 2008–13: a nationwide retrospective cohort study. Lancet Public Health 2018; 3: e124–32.
- Verbaten MN. Chronic effects of low to moderate alcohol consumption on structural and functional properties of the brain: beneficial or not? Hum Psychopharmacol 2009; 24: 199–205.
- Topiwala A, Allan CL, Valkanova V, et al. Moderate alcohol consumption as risk factor for adverse brain outcomes and cognitive decline: longitudinal cohort study. *BMJ* 2017; 357: j2353.
- 4 Chisholm D, Moro D, Bertram M, et al. Are the "best buys" for alcohol control still valid? An update on the comparative cost-effectiveness of alcohol control strategies at the global level. J Stud Alcohol Drugs 2018 (in press).
- 5 Rehm J, Anderson P, Manthey J, et al. Alcohol use disorders in primary health care: what do we know and where do we go? Alcohol Alcohol 2016; 51: 422-27.