

Reply to the Letter to the Editor of J. G. Heckmann

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We thank Dr. Heckmann for raising the issue of ischaemic stroke being related to drinking patterns in his comment [1] on our article "Alcohol-attributable Mortality in Switzerland in 2011" [2].

A long way from anecdotal evidence to quantification

The methodology used in the latter article is based on the Comparative Risk Assessment (CRA) of the Global Burden of Disease (GBD) 2010 study [3], which can be considered as the current standard for estimating alcohol-attributable mortality. This methodology and particularly the association between risk factors and diseases is in a constant flux as new evidence becomes available [4]. Often, the association between a specific disease and alcohol is known for a while but the causality and strength of the causal association is not established. One more recent example would be tuberculosis [4], which was not included in earlier Global Burden of Disease (GBD) estimates, but has been included in the recent GBD 2010 study and our estimates. The GBD sets very strict criteria when a health condition is causally attributed to a risk factor, such as biological mechanism, temporality (cause precedes the effect), consistency across studies and the estimated effect size [5]. A typical example for non-inclusion is depression for which a link to alcohol is well known [6], but it is still difficult to determine whether a depression is a consequence of alcohol consumption or alcohol is used as a self-medication for depression. Thus, it has not yet been possible to quantify the effect size for alcohol-attributable depression and it was therefore not included in GBD and in our estimates.

As for ischemic stroke, we agree that heavy drinking occasions can trigger this condition, as shown in a recent systematic review [7]. In this respect, the aetiology of ischemic stroke is similar to ischemic heart disease, where irregular heavy drinking occasions have been shown to be related to increased mortality in overall light to moderate drinkers [8, 9]. However, we are not aware of any systematic review or meta-analysis which would combine the impact

of both dimensions of average consumption and irregular heavy drinking occasions, so it was decided in the CRA of the GBD to model ischemic stroke based on the meta-analysis for average drinking only [10].

The concept of Halloween Stroke is broadly similar to the long known holiday heart syndrome [11] for ischemic heart disease due to its higher incidence rates after holidays and weekends. The excess occurrence of myocardial infarctions and strokes on Mondays and sometimes Saturdays have already been given different labels such as Monday blues or weekend warrior phenomenon [12].

To conclude, there is very likely a causal relationship between heavy irregular drinking on weekends or holidays and stroke on the following day(s), but its quantification has not been achieved yet. Whether this will be labelled Monday stroke, Holiday stroke, or Halloween stroke in the future is subject to debate and will be determined by scientific consensus. We are, however, not in favour of a label that refers to a single particular holiday which is popular as a drinking event mainly in the US.

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