

8 Sept 2017

By email: Alcohol.Review@nt.gov.au

Dear Mr Riley and Panel Members,

Please find attached ABA's supplementary submission to the Northern Territory Review.

We are grateful for the opportunity to present this supplementary submission and look forward to working with you for the duration of the Review.

Should you have any questions about the information in this submission or any other issues going forward please contact me on fergus@alcoholbeveragesaustralia.org.au or 0408 200 078.

Yours sincerely



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Manipulating Emotions and Evidence: the public health lobby's attempt to silence debate

Introduction

The Australian alcohol industry welcomes evidence-based debate when it comes to policy and legislation regarding alcohol and alcohol-related harm. It is only when diverse views, evidence and thoughts are brought together that the best decisions for the community can be made. Alcohol Beverages Australia (ABA) and its members actively participate in these discussions and encourage all stakeholders, including the public health lobby to do so.

Through its supplementary submission to this review, the Foundation for Alcohol Research and Education (FARE) has attempted to discredit evidence presented by the alcohol industry by equating it to the tobacco industry. Rather than tackle the evidence presented by industry and its implications, FARE is aiming a clumsy scare campaign at politicians, policy and decision makers to deny the industry a seat at the table as an advocate of evidence-based solutions to alcohol harm.

Alcohol is not tobacco. As clearly stated by Todd Harper from the Cancer Council Victoria:

“Tobacco is in a unique category. Tobacco kills two out of three of its long term users. There is no product as deadly or as dangerous as a consumables than tobacco. Alcohol is on a far lower level of risk.”¹

This outdated approach is unfounded, irresponsible, unnecessary and contrary to the best interests of Northern Territorians. It is an unfortunate attempt to deflect the constructive and evidence-based submissions of the alcohol industry.

ABA and the industry strongly believe in the right of the public health lobby to partake in the debate and to promote their views and evidence; but it does not follow that their position in the debate is above scrutiny. It is the very essence of a sound and transparent review process that all evidence is welcomed and scrutinised.

Anti-alcohol lobbyists have long taken a very narrow view of the benefits related to the responsible consumption of alcohol and campaigned to mislead the public about the health benefits of alcohol consumption as part of a healthy, sustainable lifestyle. For instance, FARE holds the view that there is no safe level of alcohol consumption². This is an outdated notion that cynically ignores the latest scientific research (see **Moderate Consumption** below) in an agenda-driven attempt to demonise alcohol consumption.

ABA urges the NT Government's to ignore this distraction as it prepares its response to this inquiry to ensure it is not influenced by anything other than irrefutable evidence.

Moderate Consumption

The FARE supplementary submission, with regard to potential health benefits of moderate alcohol consumption, engages in the exact “merchants of doubt” and “insisting the science is uncertain” tactics it seeks to disparage.

¹ Harper, T. (2017, April 29) Panel discussion with Sunrise, Channel 7.

² Foundation for Alcohol Research and Education. (2017). *Australian drinking guidelines*. Retrieved from [http://fare.org.au/resources/australian-drinking-guidelines] on 13 September 2017.

Research into the health effects of moderate alcohol consumption is not new. Research since the 1970s has credibly established that moderate alcohol consumption is linked with a protective effect on cardiovascular disease and all-cause mortality when compared to abstaining from alcohol.

This year the esteemed *British Medical Journal* published a landmark study which comprehensively indicated that moderate alcohol consumption is associated with a lower risk of several cardiovascular diseases³. What makes this paper significant is the fact that it was a longitudinal study with an enormous study size of nearly two million individuals.

The study confirmed the existing evidence that consistently shows moderate alcohol consumption is linked with a protective effect on cardiovascular disease when compared to abstaining from alcohol. Some of the findings are as follows:

Health Outcome	Risk Estimates of Abstainers Compared to Moderate Drinkers
All-cause mortality	24% increased risk for abstainers.
Fatal cardiovascular disease	32% increased risk for abstainers.
Coronary heart disease	31% increased risk for abstainers.
Myocardial infraction	32% increased risk for abstainers.
Unheralded coronary heart disease death	56% increased risk for abstainers.
Cardiac arrest/sudden cardiac death	Equivalent to moderate drinkers.
Ischemic stroke	12% increased risk for abstainers.
Peripheral arterial disease	22% increased risk for abstainers.

Despite this evidence, FARE claims that the reason for the higher risk of certain negative health outcomes for abstainers comes down to some abstainers being those who become unwell and then abstain from alcohol. This cohort are dubbed 'sick-quitters'.

In response to this, the NT Government should consider the recent peer-reviewed paper, *Associations between Alcohol Consumption and Cardio-metabolic Risk Factors in Young Adults*, published in the *European Journal of Preventive Cardiology*⁴.

This study examined alcohol consumption and cardio-metabolic health in a cohort of young Australian adults aged 25 to 36 years. It found that moderate alcohol consumption was associated with a lower prevalence of metabolic syndrome (that is the collection of conditions that occur together and increase the risk of heart disease) when compared to abstainers.

Considering the age group the study focused on it is unlikely that abstainers are 'sick-quitters' and so provides further evidence of the potential benefits of alcohol consumption when comparing abstainers to moderate alcohol consumers.

³ Bell, S., Daskalopoulou, M., Rapsomaniki, E., George, J., Britton, A., Bobak, M., ... & Hemingway, H. (2017). Association between clinically recorded alcohol consumption and initial presentation of 12 cardiovascular diseases: population based cohort study using linked health records. *British Medical Journal* 356, j909.

⁴ Du, D., Bruno, R., Dwyer, T., Venn, A., & Gall, S. (2017). Associations between alcohol consumption and cardio-metabolic risk factors in young adults. *European Journal of Preventive Cardiology*, 2047487317724008.

Potential health benefits of light to moderate alcohol consumption are not limited to cardiovascular disease but also extend to ischemic heart disease, diabetes and all-cause mortality. For ease of reference, ABA has put together a small cross section of this research at **Attachment A**.

Population Wide Measures v Targeted Measures

ABA believes that targeted action should be taken to reduce alcohol related harms and it backs this understanding with investment and action. The industry had made significant investment into the multi award winning DrinkWise organisation which has had continued success with specifically targeted educational and cultural change media and advertising campaigns.

A good example is the *How to Drink Properly* campaign. One-third of 18 to 24 year-olds who experienced the campaign reported they subsequently drank less on a night out and 80 per cent considered the benefits of responsible drinking. By using a combination of poignant and targeted messaging with practical tips and resources, DrinkWise strikes the right tone with its target audience to ensure its far-reaching campaigns are a success that is supported by the entire industry.

In the United Kingdom, targeted programmes with industry collaboration are demonstrating measurable success, such as *Local Alcohol Partnerships* by the Portman Group⁵. A number of industry-funded schemes have been made available to local authorities to target alcohol misuse and promote safer, better managed night-time economies through close partnership working with councils, police, healthcare providers, licensing authorities and the third sector. The improvement of the national picture and maintaining positive national trends mandates that local problems require local solutions. *Local Alcohol Partnerships* have shown a significant decrease in alcohol-related harm where its schemes operate.

It is because we are dedicated to the reduction of alcohol related harms that we encourage governments to invest in evidence-based targeted responses. A blanket approach to alcohol policy does not provide the solutions or support needed at a localised or individual level.

Further to this, in August 2017 the journal *Alcohol and Alcoholism* published a commentary on the evidence and effectiveness of population wide policy⁶. The commentary highlighted a wide range of the latest research to explore the confidence placed in effectiveness of preventative policy measures advocated at the global level. The authors demonstrated that providing one set of policy measures for all countries or across all groups within a single country was not evidence-based. Population wide policies neglect contextual and cultural determinants – social, economic, demographic and political – which are diverse and should not be treated as if they are a single, homogenous entity. Instead, when an alcoholic beverage prevention program is being planned, policy-makers and stakeholders were recommended to consider targeted policies in order to:

⁵ Portman Group. (2017). Responsibility Programmes: Local Alcohol Partnerships. Retrieved from [http://www.portmangroup.org.uk/responsibility-programmes/landing_page/local-partnerships] on 13 September 2017.

⁶ Allamani, A., Beccaria, F., & Einstein, S. (2017). A Commentary on the Limits of Alcoholic Beverage Policies. *Alcohol and Alcoholism*, 1-9.

- focus on delineated population sectors or subgroups (like young, women, older people, and lower socio-economic groups);
- address targeted problems (like heavy drinking and heavy episodic drinking) and harm (such as liver cirrhosis, cancer, road accidents), rather than consumption per se;
- collect information about relevant contextual determinants in each country and community, listen to the population's needs, and actually tailor the proposed policy to the different contexts;
- plan an evaluations program, so that successful interventions can be replicated.

A peer reviewed paper titled *Alcohol Policy Changes and 22-year Trends in Individual Alcohol Consumption in a Swiss Adult Population* published in *British Medical Journal Open*⁷ also looked at the outcomes of policy wide measures and concluded no association between alcohol legislative changes and individual alcohol intake could be found. The decrease in overall alcohol consumption between 1993 and 2014 was attributed to secular trends. The results of the study contributed to a growing evidence base that alcohol policy interventions such as legislative restrictions applied to alcohol marketing have little impact on hazardous behaviour.

With the success of DrinkWise's targeted campaigns and the growing body of evidence suggesting that targeted measures are more effective than population wide measures in reducing alcohol harm, ABA again urges the review panel to consider more targeted measures as outlined in our original submissions.

Minimum Unit Pricing – the Canadian Experience

The British Columbian experience with minimum unit pricing is often used as a real world example of the way in which a floor price for alcohol can be beneficial in combating alcohol related harm. Looking closely at the actual data available related to alcohol overdose and alcohol related deaths since the introduction of MUP, a very different story about the effects of a MUP is revealed.

Alcohol Overdose – British Columbia

If MUP targets the heaviest drinkers then the expectation is that hospitalisations for alcohol overdoses would decrease with the introduction of a MUP. This is because alcohol overdoses would be reflective of drinking patterns amongst the heaviest drinkers and not moderate drinkers. This has not been the case, with an actual increase in the rate of alcohol overdose hospitalisation since the introduction of MUP.

The paper titled, *Overdose Events in British Columbia: Trends in Substances Involved, Contexts and Responses*⁸, shows that between 2002 and 2009 the rate of hospitalisations for alcohol overdose increased from 4.4 to 5.1 per 100,000 of the population. This equates to a 16% increase in the rate of alcohol overdose hospitalisation since the introduction of MUP in British Columbia.

⁷ Dumont, S., Marques-Vidal, P., Favrod-Coune, T., Theler, J. M., Gaspoz, J. M., Broers, B., & Guessous, I. (2017). Alcohol policy changes and 22-year trends in individual alcohol consumption in a Swiss adult population: a 1993–2014 cross-sectional population-based study. *BMJ open*, 7(3), e014828.

⁸ Vallance, K., Martin, G., Stockwell, T., Macdonald, S., Chow, C., Ivsins, A., Buxton, J., Tu, A., Sandhu, J., Chu, T. and Fair, B. (2012). *Overdose Events in British Columbia: Trends in Substances Involved, Contexts and Responses*. CARBC Statistical Bulletin #8, Victoria, British Columbia: University of Victoria.

Alcohol Related Deaths – British Columbia

Also, if MUP effectively targets the heaviest drinkers then the expectation would also be that alcohol related deaths would decrease as a result of the introduction of an MUP. This is because those drinking at the heaviest levels would be most susceptible to alcohol related death. This has not occurred and in fact, alcohol related deaths have increased in British Columbia since the introduction of the MUP.

The FARE organisation claims that there has been a 31.7% decrease in wholly alcohol-attributable deaths in British Columbia since the introduction of the MUP. FARE's claim is based on the paper *The relationship between minimum alcohol prices, outlet densities and alcohol attributable death in British Columbia, 2002-09*⁹. This paper does not look at actual figures. Instead the actual figures are changed using statistical modelling.

In contrast, a study by Centre for Addiction Research of British Columbia in the University of Victoria, *Alcohol-Related Deaths in British Columbia*¹⁰ shows that when looking at actual figures based on Annual Reports from the British Columbia Vital Statistics Agency during the period 2002 to 2011, deaths directly related to alcohol increased in British Columbia despite the introduction of an MUP.

During the period 2002 to 2011 the number of deaths in British Columbia directly related to alcohol increased from 315 to 443. This represents a 41% increase in the number of alcohol related deaths since the MUP was introduced.

Considering that there has been an increase in both alcohol related deaths and alcohol overdose in British Columbia since the introduction of MUP, it would be difficult to say that MUP has had any impact on alcohol related harms or that they accurately target the behaviour of heavy drinkers.

⁹ Zhao, J., Stockwell, T., Martin, G., Macdonald, S., Vallance, K., Treno, A., ...& Buxton, J. (2013). The relationship between minimum alcohol prices, outlet densities and alcohol-attributable deaths in British Columbia, 2002-09. *Addiction*, 108(6), 1059-1069.

¹⁰ Centre for Addictions Research of BC (2013). Alcohol-related deaths in British Columbia. CARBC Data Notes, Victoria, British Columbia: University of Victoria.

Attachment A

Systematic reviews and observational studies on alcohol consumption by health outcome

Cardiovascular Diseases

<u>Study</u>	<u>Key Messages</u>
Huang, C., Zhan, J., Liu, Y.J., Li, D.J., Wang, S. Q., He, Q.Q. (2014). Association between alcohol consumption and risk of cardiovascular disease and all-cause mortality in patients with hypertension: a meta-analysis of prospective cohort studies. Mayo Clinic Proceed. 89(9): 1201-10.	<ul style="list-style-type: none">> Findings suggest that low-to-moderate alcohol consumption was inversely significantly associated with the risk of CVD and all-cause mortality (ACM) in patients with hypertension.> The most beneficial alcohol dose is higher in men than in women because males metabolize ethanol in a different way, leading to a lower risk of disease at relatively higher alcohol intake levels than women.> Different alcohol beverages made no difference when the amount of ethanol was computed for purpose. However, red wine, rich in polyphenols, has been shown to be more protective owing to antioxidants and anti-inflammatory properties.
Ronksley, P. E., Brien, S. E., Turner, B. J., Mukamal, K. J., & Ghali, W. A. (2011). Association of alcohol consumption with selected cardiovascular disease outcomes: A systematic review and meta-analysis. British Medical Journal, 342(7795), 479.	<ul style="list-style-type: none">> Light to moderate alcohol consumption is associated with a reduced risk of multiple cardiovascular outcomes.> The lowest risk of coronary heart disease mortality occurred with 1–2 drinks a day.> Secondary analysis of mortality from all causes showed lower risk for drinkers compared with non-drinkers.
Brien, S. E., Ronksley, P. E., Turner, B. J., Mukamal, K. J., & Ghali, W. A. (2011). Effect of alcohol consumption on biological markers associated with risk of coronary heart disease: Systematic review and meta-analysis of interventional studies. British Medical Journal, 342, d636.	<ul style="list-style-type: none">> Favourable changes in several cardiovascular biomarkers provide indirect pathophysiological support for a protective effect of moderate alcohol use on coronary heart disease.> Moderate alcohol consumption showed (a dose-response relation with higher levels of high density lipoprotein cholesterol and adiponectin and lower levels of fibrinogen.> Results were similar across beverage types.
Klatsky, A. L. (2010). Alcohol and cardiovascular health. Physiology and Behavior, 100(1): 76-81.	<ul style="list-style-type: none">> Lighter drinking is not clearly related to increased risk of any cardiovascular condition and, in observational studies, is related to lower risk of coronary heart disease, ischemic stroke, and diabetes mellitus.> Increased cardiovascular risks of heavy drinking include: (1) alcoholic cardiomyopathy, (2) systemic hypertension (high blood pressure), (3) heart rhythm disturbances, and (4) hemorrhagic stroke.

	<p>> International comparisons and some prospective study data suggest that wine is more protective against CHD than liquor or beer. Possible non-alcohol beneficial components in wine (especially red) support possible extra protection by wine, but a healthier pattern of drinking or more favorable risk traits in wine drinkers may be involved.</p>
<p>Droste DW, Iliescu C, Vaillant M, Gantenbein M, De Bremaeker N, Lieunard C, Velez T, Meyer M, Guth T, Kuemmerle A, Gilson G, Chioti A. A daily glass of red wine associated with lifestyle changes independently improves blood lipids in patients with carotid arteriosclerosis: results from a randomized controlled trial. Nutr J. 2013; 12(1): 147.</p>	<p>> Lifestyle changes including a modified Mediterranean diet and physical exercise as well as a glass of red wine daily improve independently the LDL/HDL ratio in patients. This may also translate in a reduction of future heart attacks and strokes.</p> <p>> The group that did not drink wine showed an increase in LDL and total cholesterol.</p> <p>> Findings did not address whether there is a particularly beneficial effect of red wine over other forms of alcohol, but suggest that regular consumption of small quantities of any form of alcohol prevents cerebro-cardiovascular diseases rather than that there is a particular benefit of red wine.</p>

Ischemic Heart Disease

<u>Study</u>	<u>Key Messages</u>
<p>Yang, Y., Liu, D. C., Wang, Q. M., Long, Q. Q., Zhao, S., Zhang, Z., et al. (2016). Alcohol consumption and risk of coronary artery disease: A dose-response meta-analysis of prospective studies. Nutrition, 32(6), 637-644.</p>	<p>> Alcohol consumption in moderation is associated with a reduced risk of coronary artery disease (CAD) with 36 grams/day of alcohol conferring a 31% lower risk than other levels.</p> <p>> There are several possible mechanisms for protection against CAD by alcohol, with the leading possibility being related to the levels of plasma lipoproteins and a decrease in LDL cholesterol.</p> <p>> Findings suggest established light to moderate drinkers, accounting for the majority of drinkers in the USA and Western Europe, do not need to change their drinking habits, except in special circumstances.</p>
<p>Roerecke, M., & Rehm, J. (2014). Alcohol consumption, drinking patterns, and ischemic heart disease: a narrative review of meta-analyses and a systematic review and meta-analysis of the impact of heavy drinking occasions on risk for moderate drinkers. BMC medicine, 12(1), 1.</p>	<p>> Epidemiological evidence for a beneficial effect of low alcohol consumption without heavy drinking episodes is strong, corroborated by experimental evidence.</p> <p>> Episodic and chronic heavy drinking do not provide any beneficial effect on ischemic heart disease (IHD).</p>

	<p>> When examining average alcohol consumption in comparison to lifetime abstainers, the relationship with IHD risk follows a J-curve.</p>
<p>Hvidtfeldt UA, Tolstrup JS, Jakobsen MU, Heitmann BL, Grønbaek M, O'Reilly E, Bälter K, Goldbourt U, Hallmans G, Knekt P, Liu S, Pereira M, Pietinen P, Spiegelman D, Stevens J, Virtamo J, Willett WC, Rimm EB, Ascherio A. Alcohol and intake and risk of coronary heart disease in younger, middle-aged and older adults. <i>Circulation</i>. 2010; 121: 1589-97.</p>	<p>> Alcohol is also associated with a decreased risk of coronary heart disease (CHD) in younger adults; however, the absolute risk was small compared with middle-aged and older adults.</p> <p>> Several plausible explanations for the lowered risk of CHD among moderate drinkers exist. The evidence is strongest for a mechanism involving alcohol increasing high-density lipoprotein cholesterol and reducing plasma fibrinogen levels, thereby reducing platelet aggregability.</p> <p>> This study supports current knowledge that alcohol in moderate amounts protects against CHD in both men and women. Findings further suggest that this effect is also present in younger age groups.</p>

Heart Failure / Myocardial infraction

<u>Study</u>	<u>Key Messages</u>
<p>Brügger-Andersen T, Pönitz V, Snapinn S, Dickstein K, OPTIMAAL study group. Moderate alcohol consumption is associated with reduced long-term cardiovascular risk in patients following a complicated acute myocardial infarction. <i>Int J Cardiol</i>. 2009; 133(2): 229-32.</p>	<p>> Results demonstrate a strong positive association between moderate alcohol use and survival in patients following complicated acute myocardial infection.</p> <p>> Both heavy drinkers and abstainers had poorer prognosis, with no significance difference between those 2 groups.</p> <p>> Results are in accordance with earlier studies that also suggest a U-shaped relationship between alcohol use and survival following MI with an increased CV-mortality associated both with abstinence and excessive use.</p>
<p>Larsson, S. C., Orsini, N., & Wolk, A. (2015). Alcohol consumption and risk of heart failure: a dose–response meta-analysis of prospective studies. <i>European journal of heart failure</i>, 17(4), 367-373.</p>	<p>> Results from this meta-analysis showed that alcohol consumption in moderation is associated with a reduced risk of heart failure (HF).</p> <p>> Light to moderate alcohol consumption may improve insulin sensitivity and endothelial function, reduce oxidative stress, and influence coagulation and fibrinolytic cascades.</p>

Diabetes

Study	Key Messages
<p>Li XH, Yu FF, Zhou YH, He J. Association between alcohol consumption and the risk of incident type 2 diabetes: a systematic review and dose-response meta-analysis. Am J Clin Nutr. 2016 Mar;103(3):818-29.</p>	<ul style="list-style-type: none"> > Light and moderate alcohol consumption was associated with a lower risk of Type 2 Diabetes (T2D), whereas heavy alcohol consumption was not related to the risk of T2D. > A lower T2D risk was associated with alcohol consumption of 20 g/d in women and 40 g/d in men. > Light to moderate alcohol consumption was associated with a lower incidence of T2D among elderly people, whereas there were no significant associations related to sex between low, moderate, or heavy alcohol consumption and the risk of T2D.
<p>Knott C, Bell S, Britton A. Alcohol consumption and the risk of type 2 diabetes: A systematic review and dose-response meta-analysis of more than 1.9 million individuals from 38 observational studies. Diabetes Care. 2015 Sep;38(9):1804-12.</p>	<ul style="list-style-type: none"> > This is a review of more than 1.9 million individuals from 38 observational studies. > Relative to abstainers, reductions in the risk of type 2 diabetes were present at all levels of alcohol intake <63 g/day, with risks increasing above this threshold. > Peak risk reduction was present between 10–14 g/day at an 18% decrease in hazards. > Reductions in risk among moderate alcohol drinkers may be confined to women and non-Asian populations.
<p>Holst, C., Becker, U., Jørgensen, M. E., Grønbæk, M., & Tolstrup, J. S. (2017). Alcohol drinking patterns and risk of diabetes: a cohort study of 70,551 men and women from the general Danish population. Diabetologia, 1-10.</p>	<ul style="list-style-type: none"> > Findings suggest that alcohol drinking frequency is associated with risk of diabetes and that consumption of alcohol over 3–4 days per week is associated with the lowest risk of diabetes, relative to no alcohol consumption. > The large study population consisted of men and women with a wide age range from the general population. In addition, alcohol drinking patterns were assessed through detailed questions. > Wine consumption was associated with a significantly lower risk of type 2 diabetes: 20% risk reduction at 20–30 g pure alcohol/day.

All-cause mortality

Study	Key Messages
<p>Smyth A, Teo KK, Rangarajan S, O'Donnell M, Zhang X, Rana P, Leong DP, Dagenais G, Seron P, Rosengren A, Schutte AE, Lopez-Jaramillo P, Oguz A, Chifamba J, Diaz R, Lear S, Avezum A, Kumar R, Mohan V, Szuba A, Wei L, Yang W, Jian B, McKee M, Yusuf S; PURE Investigators. Alcohol consumption and cardiovascular disease, cancer, injury, admission to hospital, and mortality: a prospective cohort study. <i>Lancet</i>. 2015 Nov 14;386(10007):1945-54</p>	<ul style="list-style-type: none"> > This is a study of 114,970 participants from 12 countries. > High intake was associated with increased risk of mortality, consistent with previous studies. > Moderate drinking was associated with reduced risk of myocardial infarction, with no associated risk with cardiovascular disease. > Although wine drinking seemed to be associated with lower hazards of cardiovascular disease, injury, admission to hospital, and the composite outcome compared with spirit or beer drinkers, this result could also reflect characteristics of the drinker (e.g. wine drinkers might be healthier individuals of higher socioeconomic status, be more educated, or might consume healthier diets than spirit or beer drinkers) rather than the exposure of drinking wine itself.
<p>Ford, E.S., Zhao, G., Tsai, K., Li, C. (2011) Low-risk lifestyle behaviours and all-cause mortality: Findings from the National Health and Nutrition Examination Survey III Mortality Study. <i>Am J Pub Health</i>. 101: 1922-29.</p>	<ul style="list-style-type: none"> > Low-risk lifestyle factors, including low consumption of alcohol, exert a powerful and beneficial effect on mortality. > The lifestyle behaviors of interest included never smoked, healthy diet, adequate physical activity, and moderate alcohol consumption. > Those who had all 4 such behaviors were 63% less likely to die, and, furthermore, the number of low-risk behaviors was related to mortality in a dose-related fashion. Never-smoked was the strongest protective factor for mortality.
<p>Fuller, T. D. (2011). Moderate alcohol consumption and the risk of mortality. <i>Demography</i>, 48(3), 1105-1125.</p>	<ul style="list-style-type: none"> > Findings show that those who consume a moderate amount of alcohol have lower all-cause mortality and CHD mortality, and the relationship is possibly causal. > This article re-examines the issue using prospective data for more than 124,000 persons interviewed in the U.S. National Health Interview Surveys of 1997 through 2000 with mortality follow-up through 2002 using the Linked Mortality File. The study involves about 488,000 person-years. > Controlling for a variety of covariates, this study finds that compared with non-drinkers, those who consume a moderate amount of alcohol have lower all-cause and CHD mortality.