# Alcohol consumption and liver, pancreatic, head and neck cancers in Australia: Time- series analyses

## Researchers

1. Heng (Jason) Jiang is a Research Fellow at the Centre for Alcohol Policy Research, La Trobe University.
2. Michael Livingston is a senior research fellow at the Centre for Alcohol Policy Research, La Trobe University.
3. Robin Room is Professor and Director of the Centre for Alcohol Policy Research, La Trobe University.

## Summary

This report examines the magnitude and distributions of the preventive effects from the reduction of population drinking on three types of cancer mortality across different gender and age groups in Australia between 1968 and 2011, controlling for the effects of smoking and health expenditure. The report extends our understanding of the role that alcohol plays with respect to liver, pancreatic, head and neck cancers in Australia at an aggregate level.

The report provides the first suggestive evidence that there could be significant preventive effects on liver, head and neck cancer deaths from reducing population drinking levels, particularly among men and older age groups.

## Outcomes

This research has found that reducing alcohol consumption at the population level would lead to a reduction in cancer deaths in Australia.

Substantial epidemiological evidence has been provided in the last several decades to show that alcohol contributes to the development of a number of types of cancers, though many of the mechanisms underlying alcohol-related cancer development remain unclear. This study extends our understanding of the role that alcohol plays with respect to liver, pancreatic, head and neck cancers in Australia in the last 50 years from an aggregate perspective, using time series methods with an innovative lagged effects estimation and lag-length selection process.

In large part, the findings from these aggregate analyses are convergent with the results from individual-level longitudinal studies. The policy implications of the report are that there would be significant preventive effects on liver, head and neck cancer deaths, particularly among older age groups, from reducing population drinking levels.

## Key findings

1. Change in alcohol consumption per capita was significantly and positively associated with change in both male and female head and neck cancer mortality, particularly among males and females aged 50 and above.
2. Change in alcohol consumption per capita was significantly and positively associated with change in male liver cancer mortality, particularly among males aged 50-69.
3. No associations were found between alcohol consumption per capita and pancreatic cancer mortality.
4. The results suggest that one litre decreases in annual alcohol consumption per capita were associated with reductions of 11.6 per cent in male and 7.3 per cent in female head and neck cancer mortality across a 20-year period.
5. The results also suggest that one litre decreases in annual alcohol consumption per capita were associated with a reduction of male liver cancer mortality of 15.0 per cent across a 20-year period.
6. In total, it is estimated from the analysis that about 6.5 per cent of male and 4.1 per cent of female head and neck cancer deaths were related to alcohol consumption in Australia between 1968 and 2011.
7. Alcohol consumption was estimated to be responsible for 8.4 per cent of male liver cancer deaths in Australia in the last 50 years.

[view the report](https://fare.org.au/wp-content/uploads/Jiang-et-al-Alcohol-and-cancer-25-September-2017.pdf)

[view the media release](https://fare.org.au/wp-content/uploads/Media-release-NATIONS-ALCOHOL-CONSUMPTION-A-KEY-TO-REDUCING-CANCER-DEATHS-Final.pdf)