

**Impact of alcohol and illicit drug use on the burden of disease and injury in Australia: Australian Burden of Disease Study 2011**

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This report by the Australian Institute of Health and Welfare revises and extends estimates reported as part of the 2011 Australian Burden of Disease Study (ABDS). The scope of the report is broad, and as such targets a wide audience including medical professionals, alcohol and drug workers, policy makers and the general public. The report provides some important extensions to ABDS 2011, notably an analysis of the impact of alcohol and illicit drugs and also unsafe injecting practices on the Australian population, and forward estimates for potential alcohol and other drug burden for the Australian population from 2020-2025 .

Chapter 1 provides general background of alcohol and illicit drug use in Australia, and policy context in terms of harm minimisation principles. This information is rarely provided in burden of disease (BoD) studies, and is useful for readers without substantial background knowledge of these concepts. The authors then introduce the BoD framework and key concepts, including summary measures such as the disability-adjusted life years (DALY). These summary measures are presented in plain language, allowing readers to understand what they represent within BoD frameworks.

Detailed analysis of the methodology is provided in Appendix A of the report. This analysis incorporated the most recent evidence on causal relationships between diseases/injuries and alcohol and illicit drug use sourced from global BoD 2015, relevant literature reviews and Australian-specific data where available. Twenty-six disease categories were linked to

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alcohol use, and 13 disease categories were linked to illicit drug use. This report estimated that 6.7% of overall burden was attributable to alcohol and illicit drug use in Australia (4.6% for alcohol and 2.3% for illicit drug), similar to the estimated alcohol burden in recent estimates [1]. Of note, in comparison to ABDS 2011, this report included more disease categories attributable to drug use: accidental poisoning, road traffic injuries (driving under the influence of cannabis, amphetamine, cocaine and opioids), and mental health disorders (depressive disorders, schizophrenia and anxiety disorders attributable to cannabis dependence), which results in a 29% increase in total DALYs compared with ABDS 2011 for illicit drug related burden. Total alcohol attributable burden has been estimated about 9% less than ABDS 2011, which was largely due to a downwards revision of relative risk for alcohol use.

Alcohol and illicit drug attributable burden was compared between 2003 and 2011, and projected to 2025. It is important to note that changes in crude DALY rates should be interpreted with care. Decreasing crude DALY rates could correspond to an increasing death and morbidity rate given the aging Australian population. Age standardised rates (ASR) for DALYs may provide a better indication of health burden assuming that population structure remains unchanged, however ASR still do not reflect the total burden experienced by the health system. For example, in this report, ASR for DALYs attributable to alcohol were estimated to have decreased by 10% between 2003 to 2011, however the alcohol attributable death rate (for females) and hospitalisation rates (for females and males) increased from 2001 to 2010 [2]. Such results are not necessarily contradictory, as although we may observe stable per capita alcohol consumption [3], a higher proportion of abstainers (particularly in young people), and decreasing ASR for DALYs, alcohol's burden to the health system would still increase due to the aging population, and heavy alcohol consumption in older people and vulnerable population groups (e.g. as highlighted in the report: Indigenous Australians, remote and low socioeconomic groups).

Overall estimated burden attributable to illicit drugs in 2011 was 6.9% higher than in 2001, with age standardised rates decreasing by 4%. However, for people aged over 35 years, rates of attributable burden were higher in 2011. Age standardised burden for amphetamine use decreased by 53% in 2011 compared with 2001 (largely attributable to traffic injuries), however were expected to increase by 14% in 2025 due to expected increase in suicide and self-inflicted injuries, amphetamine dependence and accidental poisoning. Age standardised burden attributable to cannabis use were estimated to have increased by 50% from 2003 to 2011, and are also expected to increase by another 34% in 2025. Similar as alcohol use, the burden of drug use is higher in remote and low socioeconomic groups.

Overall, the report provides detailed and comprehensive information, and highlights many important issues given the attributable burden that alcohol and other drugs contribute in Australia. Minor improvements could be made to the arrangement of contents and results to make the report easier to follow for non-technical audiences. For example, a glossary could be provided for definitions of burden from linked disease, burden from drug use, and burden from drug dependence. Also units in the reporting rate of DALYs could be made consistent, to make comparisons across result tables easier (i.e. part of the report uses DALYs per 1000 population and other parts use DALYs per 10000).

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