

Under-reporting of Tobacco Smoking in the National Drug Strategy Household Survey in Australia

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Introduction: This study examined if there was a change in self-reported lifetime prevalence of tobacco smoking by birth cohort from 2001 to 2022, using data from Australia's largest nationally representative national survey on substance use. This analysis is relevant given the increasing stigmatisation of tobacco smoking over the past two decades.

Methods: Data from eight waves of the National Drug Strategy Household Survey (2001-2022) were analysed across three birth cohorts: 1955–1964 ($n = 13,704$; 55% female), 1965–1974 ($n = 13,976$; 59% female), and 1975–1984 ($n = 11,299$; 57% female). To assess potential under-reporting, we tested whether there would be a statistically significant decrease in self-reported lifetime prevalence of tobacco smoking within the same birth cohort over time. Sampling weights were applied to ensure population representativeness.

Results: Self-reported lifetime tobacco smoking declined significantly across all three cohorts between 2001 and 2022. Specifically, prevalence decreased from 80.84% in 2001 to 69.41% in 2022 (-11.43% , $p < .01$) in the 1955-1964 cohort, 81.03% to 72.06% (-8.97% , $p < .01$) in the 1965-1974 cohort, from 75.46% to 68.62% (-6.84% , $p < .01$) in the 1975-1984 cohort. In contrast, self-reported lifetime use of other substances like ecstasy significantly increased across all cohorts, and cocaine use significantly increased in the two younger cohorts.

Conclusions: These findings suggest strong evidence of tobacco smoking under-reporting in this national survey, potentially reflecting increasing social stigma associated with smoking. This pattern was unlikely to be explained by recall bias, as decreasing trends of reporting were only evident in tobacco smoking, but not for other substances such as cocaine and ecstasy.

Implications for Practice or Policy: Future efforts to estimate population-level tobacco smoking prevalence should incorporate data triangulation using multiple data sources, such as both surveys and wastewater data to improve accuracy.

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