

Background

- Tobacco causes **>7 million deaths** annually, making accurate prevalence estimates essential.
- The NDSHS reported a decline in daily smoking from 11.0% (2019) to 8.3% (2022/23).
- Survey-based estimates do not always align with administrative data (e.g., tax receipts or sales records).
- Self-reported data may underestimate substance use due to **under-reporting, bias, or non-response**.
- Prior studies have found **under-reporting** in self-reported **alcohol** and **meta/amphetamine** use in population surveys.
- International studies show tobacco under-reporting** in Switzerland, Korea, India, Brazil, and Italy, often linked to stigma and social desirability.
- Australia's strong tobacco control **policies and public campaigns** have increased social disapproval of smoking (85% in 2019), which may influence reporting behaviour.
- This study tests whether **declines** in self-reported lifetime tobacco use reflect **under-reporting, comparing** against **ecstasy** and **cocaine**.

Aims

- Examine whether self-reported lifetime tobacco use **declined** within birth cohorts (2001–2022).
- Determine whether declines reflect **under-reporting** rather than real decreases.
- Compare patterns for tobacco with ecstasy and cocaine to test if under-reporting is substance-specific.

Methods

Data source: Eight waves of NDSHS data (2001–2022).

Variables: Lifetime use (yes/no) of tobacco, ecstasy, and cocaine.

Age Cohorts

1955–1964 (n = 13,704; 55% female)

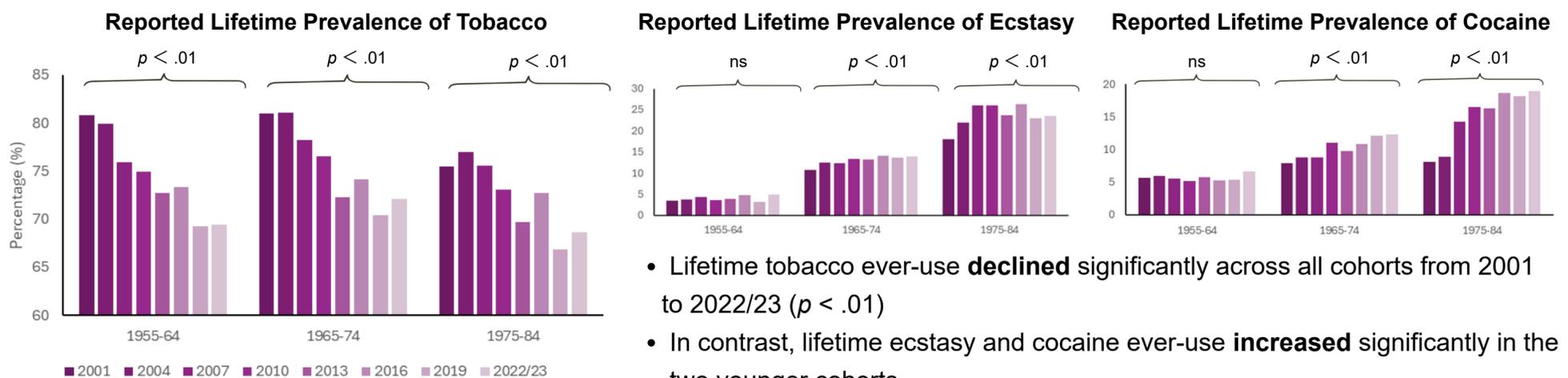
1965–1974 (n = 13,976; 59% female)

1975–1984 (n = 11,299; 57% female)

Data Analysis

- Weighted for population representativeness.
- Compared lifetime prevalence within each cohort between 2001 and 2022 using two-proportion z-tests.

Findings



Discussion

- Within-cohort declines in lifetime tobacco use are **inconsistent with the fixed nature of lifetime behaviours**.
- Patterns suggest **reporting inaccuracy**, not true behavioural change.
- Recall bias unlikely** as other substances (ecstasy, cocaine) showed **increasing** trends.
- Differential mortality insufficient** to explain the decline, since **tobacco-related deaths fell** over time.
- Findings align with prior research showing **socially stigmatised behaviours are under-reported**.
- Under-reporting may persist despite self-administered surveys, indicating effects of internalised stigma or perceived societal judgement.
- Highlights the need for **data triangulation** (e.g., healthcare records, wastewater analysis) to validate self-report estimates.

Limitations

- Homeless** or **institutionalised** populations not in NDSHS sample.
- Estimates solely on self-report data, subject to **measurement error**.
- NDSHS cross-sectional survey design limits **individual-level inference**.

Future Directions

- Data triangulation to combine **survey, administrative, and environmental data** to reduce bias in prevalence estimates.
- Incorporate **stigma and social desirability measures** to assess impact on self-report accuracy.