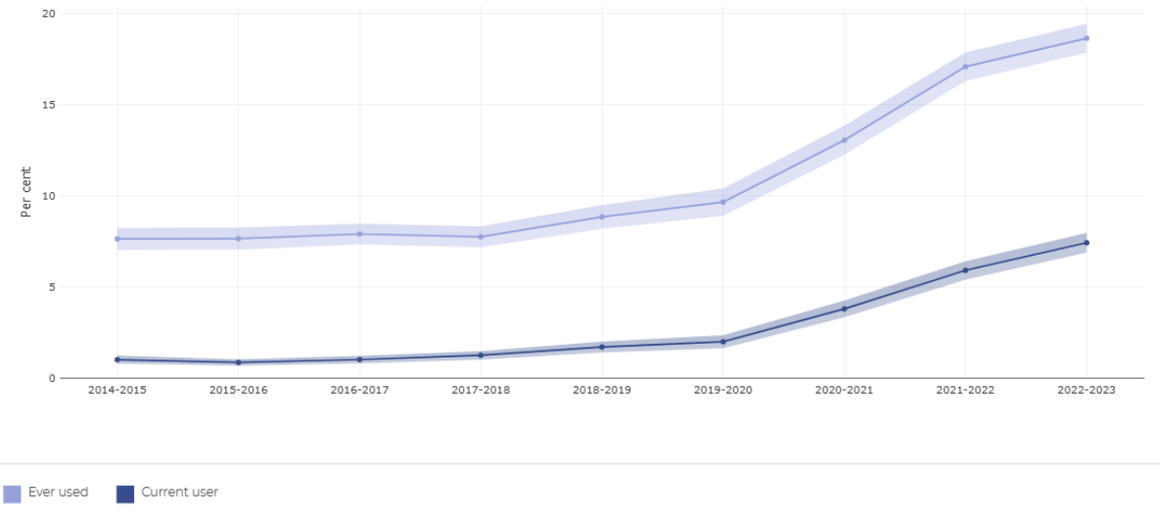
https://www.healthstats.nsw.gov.au/r/118400

E-cigarette use (vaping)

by Electronic cigarette use for Total



Source:
NSW Population Health Survey (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health.

Measure: Per cent

Compare: Electronic cigarette use, Sm...

Electronic cigarette use	Smoking status	Period	Per cent	LL 95% CI	UL 95% CI
Ever used	Total	2022-2023	18.6	17.8	19.4
		2021-2022	17.1	16.3	17.9
		2020-2021	13.0	12.2	13.8
		2019-2020	9.6	8.9	10.4
		2018-2019	8.8	8.2	9.5
		2017-2018	7.7	7.2	8.3
		2016-2017	7.9	7.3	8.5
		2015-2016	7.6	7.0	8.2
		2014-2015	7.6	7.0	8.2
Current user		2022-2023	7.4	6.9	8.0
		2021-2022	5.9	5.4	6.4
		2020-2021	3.8	3.3	4.3
		2019-2020	2.0	1.6	2.3
		2018-2019	1.7	1.4	2.0
		2017-2018	1.3	1.0	1.5
		2016-2017	1.0	0.8	1.2
		2015-2016	0.9	0.7	1.0
		2014-2015	1.0	0.8	1.2

Source:
NSW Population Health Survey (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health.

Commentary: What can we learn from this data?

In NSW in 2023, 19% of people aged 16 years and over had used an e-cigarette (at least once) and 8.5% currently (daily or occasionally) use e-cigarettes. There has been a significant increase in use since 2020, when 9.7% of people aged 16 years and over had ever used an e-cigarette, and 2.1% of people aged 16 years and over were currently using e-cigarettes.

In NSW across the combined years 2022-2023, people aged 16-24 years:

- had the highest rate of current e-cigarette use (19%) of any age group. This was a significant increase since the combined years 2019-2020, when the rate of current use in this age group was 4.5%.
- had the highest rate of ever having used e-cigarettes (45%) of any age group. This was a significant increase since the combined years 2019-2020, when the rate of ever using e-cigarettes in this age group was 21%.

In NSW across the combined years 2022-2023, among Aboriginal people:

- 15% were currently using e-cigarettes. This was an increase from 2.0% in the combined years 2019-2020.
- 31% had ever used e-cigarettes. This was an increase from 13% in the combined years 2019-2020.

Current use of e-cigarettes across the combined years of 2022-2023 was higher for people who currently smoke (18%) compared with people who formerly smoked (12%) or those who had never smoked tobacco (1.8%). Similarly, rates of ever having used e-cigarettes in the combined years of 2022-2023 were higher for people who currently smoke (46%) compared with people who formerly smoked (27%) or those who had never smoked tobacco (6.1%).

There has been a significant increase in the rate of e-cigarette use over recent years across all categories of tobacco smoking status. Over the three-year period between combined years 2019-2020 and 2022-2023:

- the rate of current e-cigarette use increased from 5.8% to 18% among people who currently smoke tobacco; from 2.8% to 12% among people who formerly smoked tobacco; and from 0.4% to 1.8% among non-smokers of tobacco.
- the rate of ever having used e-cigarettes increased from 31% to 46% among people who currently smoke tobacco; from 13% to 27% among people who formerly smoked tobacco; and from 1.8% to 6.1% among non-smokers of tobacco.

E-cigarettes (or vapes) are battery operated devices that heat a liquid (also known as e-liquid) to produce a vapour that users inhale. All e-cigarette users are exposed to chemicals and toxins that have the potential to cause harm NHMRC, 2022). Most vapes contain nicotine, even if it is not written on the label.

Liquids in e-cigarettes have also been found to contain chemicals such as formaldehyde, heavy metals, solvents, and volatile compounds (NHMRC, 2022; Ko et al, 2022). Devices surrendered by young people in NSW secondary schools have been found to contain chemicals proven to cause harm to health, including ethylene glycol, acetoin and benzaldehyde, all of which are banned from therapeutic vapes due to their known toxic effects (Jenkins et al, 2023).

Health harms associated with vaping include throat irritation, coughing, dizziness, headaches, nausea, seizures, and serious lung injury.Rechargeable vapes can also explode, causing serious burns and trauma (Banks et al, 2022; Centers for Disease Control and Prevention, 2020; Chan et al, 2021; US Department of Health and Human Services , 2016).

For more information, please refer to Every vape is a hit to your health and Tobacco and e-cigarette retailing laws in NSW.

Other indicators available on HealthStats NSW related to this topic include:

- e-cigarette smoking status
- Current smoking in adults
- Daily smoking in adults
- Smoking status categories

Notes: What are the technical details of this data?

Sources

NSW Population Health Survey (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health.

Description of NSW Population Health Survey

For additional details see https://www.health.nsw.gov.au/surveys/adult/Pages/default.aspx.

Definition

Electronic cigarettes (also known as e-cigarettes, e-cigs or vapes) are battery operated devices that heat a liquid to produce a vapour that users inhale. Additional information about electronic cigarettes can be found here.

The question used to define the indicator was: Which of the following best describes how often you use electronic cigarettes: I've never used electronic cigarettes, I've tried electronic cigarettes a few times but never used them regularly, I don't use electronic cigarettes now but I used to, I use electronic cigarettes occasionally, or I use electronic cigarettes daily?
Source: https://www.health.nsw.gov.au/surveys/adult/Documents/questionnaire-2023.pdf

Current users are people who answered as using electronic cigarettes occasionally or daily.

Inclusions & Exclusions

Adults are defined as persons aged 16 years and over in the NSW Population Health Survey.
In 2023, there were 11,271 respondents to this question. Details of respondents over time for this indicator are available here.

Statistical Methods

The indicator shows self-reported data collected through Computer Assisted Telephone Interviewing (CATI). In order to address diminishing coverage of the population by landline telephone numbers (<85% since 2010), a mobile phone number sampling frame was introduced into the 2012 survey. Between 2012 and 2019, the mobile phone number sampling frame made up approximately 30% of the sampling frame. From 2021, the survey is solely using a mobile phone number based sampling frame.

The inclusion of mobile phone numbers has substantially increased the Aboriginal sample and this change in design means that the 2012 NSW Population Health Survey estimates reflect both changes that have occurred in the population over time and changes due to the improved design of the survey. With the change of the sampling frame in 2021 to being completely mobile phone based, there has been a further increase in the Aboriginal sample. Consequently, estimates from 2021 will reflect changes in both the population in this time and changes due to the further improved design of the survey.
Estimates were weighted to adjust for differences in the probability of selection among respondents and were benchmarked to the estimated residential population using the latest available Australian Bureau of Statistics mid-year population estimates.

Dimensions/Variables

The question used to define smoking status was: Which of the following best describes your smoking status: smoke daily, smoke occasionally, do not smoke now but I used to, I have tried it a few times but never smoked regularly, or I have never smoked?

English speaking countries include: Canada, Ireland, New Zealand, South Africa, United Kingdom and United States.
Local Health Districts (LHDs) are health administrative areas constituted under Section 17 of the NSW Health Services Act 1997 which became effective from January 2011 and were initially called Local Health Networks.
Primary Health Networks (PHNs) are health administrative areas which represent primary health care organisations in Australia from July 2014.
Postal Areas (POAs) were grouped according to the Australian Statistical Geographical Standard (ASGS) remoteness categories on the basis of Accessibility/Remoteness Index for Australia (ARIA version) score. Data prior to 2016 are based on the 2011 ARIA version and data for 2016 and onwards are based on the 2016 ARIA version.
Quintiles of socioeconomic status (Index of Relative Socioeconomic Disadvantage) based on the Australian Bureau of Statistics' Socio-Economic Indexes for Areas were allocated based on Postal Area of residence.
Regional health district in NSW is defined on the basis of Local Health District (LHD) geographic areas. Details of classification are available here.

Description of Local Health District

Description of Primary Health Network

Description of Remoteness Measures

Description of Socio-Economic Indexes for Areas (SEIFA)

References

Banks E, Yazidjoglou A,Brown S, Nguyen M, Martin M, Beckwith K, Daluwatta A, Campbell S, Joshy G. Electronic cigarettes and health outcomes: systematic review of global evidence. Report for the Australian Department of Health.

Centers for Disease Control and Prevention, US. About electronic cigarettes (e-cigarettes). https://www.cdc.gov/tobacco/basic_information/e-cigarettes/about-e-cigarettes.html

Chan BS, Kiss A, McIntosh N, et al. E-cigarette or vaping product use associated lung injury in an adolescent. Medical Journal of Australia 2021; 215(7):313-314. e311.

Jenkins C, Powrie F, Kelso C, Morgan J. Chemical Analysis and Flavour Distribution of Electronic Cigarettes in Australian Schools. ChemRxiv. 2023; doi:10.26434/chemrxiv-2023-rimhl

Ko TJ, Kim SA. Effect of Heating on Physicochemical Property of Aerosols during Vaping. Int J Environ Res Public Health. 2022;19(3).

National Centre for Epidemiology and Population Health, Canberra: April 2022. NHMRC. Inhalation toxicity of non-nicotine e-cigarette constituents: risk assessments, scoping review and evidence map. February 2022. https://www.nhmrc.gov.au/sites/default/files/documents/attachments/ecigarettes/Scoping_review_on_the_inhalation_toxicity_of_non-nicotine_e-cigarette_constituents.pdf

US Department of Health and Human Services. E-cigarette use among youth and young adults: A report of the Surgeon General. Maryland: Office of the Surgeon General, 2016. https://www.cdc.gov/tobacco/data_statistics/sgr/e-cigarettes/pdfs/2016_sgr_entire_report_508.pdf