High tobacco smoking rates in people with disability: An unaddressed public health issue

Tiana Vourliotis,[1]* Laura Twyman,[1,2] Joshua Trigg,[3] Alicia Kate Fairweather,[3] George Disney,[4] Sharon Lawn,[3] Anne Kavanagh,[4] Billie Bonevski[2,3]

[1]Tobacco Control Unit, Cancer Council NSW, Woolloomooloo, NSW, 2011, Australia
[2]School of Medicine and Public Health, College of Health, Medicine and Wellbeing, University of Newcastle, University Drive, Callaghan, NSW, 2308, Australia
[3]College of Medicine and Public Health, Flinders University, Bedford Park, South Australia, 5042, Australia
[4]Disability and Health Unit | Melbourne School of Population and Global Health, The University of Melbourne, Victoria, 3010, Australia

Submitted: 20 June 2023; Revision requested: 28 September 2023; Accepted: 13 November 2023

Key words: disability, health inequity, tobacco, smoking cessation, policy

Smoking prevalence

Tobacco smoking is the leading preventable cause of death and disease in Australia.[1] In Australia, tobacco use has declined due to population health interventions, such as smoke-free environments legislation and increasing product taxes. However, the decrease is not consistent across the whole of society; there remains significantly higher smoking prevalence among people experiencing social, economic or cultural disadvantage (hereafter, 'priority populations').[2] One group with high smoking rates is people with disability who have an Australian daily smoking prevalence of 24.5% for individuals aged 15–64 (compared to 12.6% for those without disability).[3] Article 1 of the United Nations Convention on the Rights of Persons with Disability describes people with disability as those 'with long-term physical, mental, intellectual, or sensory impairments, which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others'.[4]

Smoking rates are consistently higher among people with disability, and these patterns hold across six disability sub-groups (intellectual, physical, psychosocial, sensory, acquired brain injury and other) than among people without disability.[5] Across 21 European countries, people with disability had consistently higher smoking rates than their non-disabled peers.[6] Tobacco-related health burden is inequitably higher among people with disability, who are at increased risk of cardiovascular disease, respiratory illness and cancer.[3,7]

Barriers and facilitators to smoking cessation

The socioeconomic determinants of health and tobacco use are inextricably linked, both in terms of prevalence and cessation. People with disability are more likely than the general population to experience risk factors for tobacco use including lower socioeconomic status, higher unemployment, and higher receipt of income support.[3,8]

Financial hardship and low socioeconomic status are also associated with decreased ability to afford nicotine replacement therapy and prescription smoking cessation medications.[9,10] Very few pharmacotherapy product options are available via the Pharmaceutical Benefits Scheme and studies[2] have not explored the impact of the Pharmaceutical Benefits Scheme on affordability of nicotine dependence treatment for people with disability.

Tobacco use is disproportionately higher among those with mental illness, where smoking exacerbates financial stress and social harms for this group.[11] People with disability report mental health comorbidities, such as increased psychological distress,[12] which is associated with higher likelihood of tobacco use.

The physical environment, including transportation and physical accessibility, can be barriers for people with disability in accessing quit smoking programs and pharmacies or other premises providing pharmacological support.[10,13]

While it is possible for people with sensory disability to use the National Relay Service to access telephone support via Quitline, there is scarce evidence regarding the feasibility or uptake of such approaches.[9]

Health professionals, facilitators of mainstream smoking cessation programs and disability service provider staff feel ill-equipped to manage conversations with people with disability about smoking, largely due to limited training.[13–15] Furthermore, physicians often report that they do not prioritise smoking cessation relative to other health conditions experienced by people with disability.[16] Integrating smoking cessation support as part of the routine delivery of care within the health system will deliver more equitable access to cessation support than the current approach which is reliant on confident and engaged professionals.[17]

Smoking by support workers and family members can inadvertently undermine quit attempts by people with disability, given the additional challenge of asking the person they rely on for their care to

*Correspondence to: Vourliotis T, 153 Dowling St, Woolloomooloo, NSW, 2011, Australia.
e-mail: Tiana.Vourliotis@nswcc.org.au.

Aust NZ J Public Health. 2024; Online; https://doi.org/10.1016/j.anzjph.2023.100110

stop smoking, potentially damaging the personal or working relationship.[14] Trust, acceptability and perceived effectiveness of health services are also important considerations for improving equity in smoking cessation.

Conversely, non-smoking support workers and family can facilitate and advocate for cessation through influencing the health attitudes, knowledge and behaviours of the people with disability they support.[15,18] Interpersonal relationships play an important role as a source of practical and emotional support for people with disability in preventing uptake and promoting smoking cessation.[18]

Supporting smoking cessation

Support to quit smoking that is co-designed with people with disability is critical, given the diverse barriers people with disability face to quit.[3,13] Mainstream programs and quit support services are not typically designed to meet the needs of people with disability, are not proven efficacious,[9] and may be indirectly discriminatory. Furthermore, quit smoking support is often not adequately delivered by disability support providers.[14] Generic smoking cessation support and disregard for people with disability's accessibility requirements may contribute to increased disparities in smoking cessation.[9]

A conspicuous gap exists for co-designed smoking cessation programs and their evaluation to determine effectiveness and impact, using randomised trial and longitudinal designs.[2] Of the limited existing programs available for people with disability, few have been rigorously evaluated beyond the pilot or feasibility stage,[2] delivering only short-term cessation support over intervention lengths ranging from four to seven weeks.[18–20] As even occasional smoking is associated with adverse health impacts, continued research is needed to ensure that programs support sustained smoking cessation.

Evidence to date suggests the following principles should be considered in developing smoking cessation programs for people with disability.[13,18–20]

- Using authentic co-design approaches.
- Co-designing multiple program components to meet needs of people with different types of disability.
- Aligning materials with accessibility principles (e.g., Easy English).
- Using behavioural counselling to manage nicotine dependence.
- Providing free or subsidised nicotine replacement therapy.
- Consider including support workers and/or family to support cessation.
- Delivering smoking cessation programs in group settings.

For cessation support to be effective for people with disability and reflect a health equity lens, it is imperative to create cessation supports that align with the experiences and preferences of people with various types of disability, and consider the determinants of smoking and the related health, economic and social impacts for people with disability.[21] Such cessation supports should complement population-based tobacco-control efforts and target priority populations experiencing tobacco-related disparities.[13,21,22]

Australia's policy environment

Australian health and disability strategy and policy reveals an urgent need to prioritise tobacco control and cessation for people with disability.[2]

In a review by two of the current authors,[2] four of thirteen tobacco control strategic plans identified people with disability as a priority population.[23–26] Conversely, two of fourteen disability strategic plans presented tobacco control as a key focus.[27,28] More recently, the National Tobacco Strategy 2022–2030 included people with disability as a group experiencing higher smoking prevalence than the general population. 'Achieving Equity', a key component of the new Draft Australian Cancer Plan, also identified people with disability as a priority population.

However, the review failed to identify tobacco control within the strategies and policies connected to Australia's National Disability Insurance Scheme.[2] Notably, the Australian Disability Strategy 2021–2031 also did not mention tobacco.

Public health policy and strategy that consider the determinants of health can advance health outcomes of priority populations, in which multisector approaches are needed to inform policy planning, implementation and monitoring to redress underlying inequities.[29] This could be achieved through the intersection of the community service sector and the services people with disability access (e.g., the National Disability Insurance Scheme). Health systems changes, including smoking-related data collection, would inform improvements in delivery and quality of tobacco cessation information and services.

Choice and tobacco use

Individual choice and autonomy are inherent to person-centred models of support for people with disability. These concepts form part of an important response to historical models of care that disenfranchised people with disability. For example, the use of cigarettes as a reward to manage the behaviour of people with intellectual or developmental disability in healthcare contexts (e.g., inpatient mental health units), which led to high levels of smoking and heavy nicotine dependence.[30] Framing smoking as an individual choice de-emphasises the role of the tobacco industry, who have long used individual responsibility as a tool to undermine tobacco control efforts,[31] an argument which also minimises the influence of nicotine addiction and withdrawal.[32]

It is crucial that people with disability experience a supportive environment to quit, given the historical models of care that contributed to tobacco-related disparities of people with disability and tobacco industry interference as a commercial determinant of health. This may constitute availability of varied accessible cessation supports, including in in-patient units and residential settings, where a group of people with disability may live, such as group homes. We acknowledge this would be best supported by organisations positioned to empower people with disability to make informed choices about their own health (e.g., disability advocacy organisations).

Implications and necessary steps

Given comparable recommendations for optimising healthcare for people with disability made in the context of COVID-19,[33] we suggest the following system changes to end tobacco-related disparities between people with and without disability.

- Policymakers, healthcare providers and disability services respond to tobacco-related health needs of people with disability drawing on the lived experience of people with disability.
- Smoking cessation support is provided within the services people with disability and their family access that is designed to address their unique needs through routine provision of brief advice and referral to pharmacological support. For example, primary healthcare working jointly with smoking cessation services.
- Accredited training is delivered for healthcare providers and support workers to equip them with expertise to provide brief advice to their participants with disability through engaging healthcare professional bodies.
- Consistent planning for disability and tobacco strategies both nationally and across the states and territories to ensure smoking cessation supports are made a priority for people with disability.
- Smoking status data are collected across existing disability and drug datasets, for example, the National Drug Strategy Household Survey, Survey of Disability, Ageing and Caring, and state smoking and health surveys.

The authors recommend action within a multi-sectoral approach, including disability advocacy groups, government, academia, non-government disability-focussed and health organisations to improve smoking-related health outcomes.[2] A comprehensive approach including smoking cessation services, co-designed programs, and targeted policy initiatives is imperative. Despite the paucity of evidence informing smoking cessation support for people with disability, the authors remain optimistic that effective approaches for meaningful reductions in smoking prevalence for people with disability are achievable.

Funding

None.

Ethics approval

None.

Conflicts of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Author ORCIDs

Joshua Trigg https://orcid.org/0000-0002-8173-5791
Alicia Kate Fairweather https://orcid.org/0000-0001-9352-9648
Sharon Lawn https://orcid.org/0000-0002-5464-8887

References

1. The Cancer Council. *Tobacco in Australia | Facts and Issues | the health effects of active smoking. Available from:* https://www.tobaccoinaustralia.org.au/chapter-3-health-effects/3-0-background; 2019.
2. Vourliotis T, Twyman L. *Tobacco use by people with disabilities*. Woolloomooloo: Cancer Council NSW; 2021.
3. Australian Institute of Health and Welfare. *People with disability in Australia*. Canberra: Australian Government; 2022. Table RISK53: People aged 15 and over living in households, current daily smoker status by disability status and age group, 2017–18.
4. United Nations. *Convention on the Rights of persons with disabilities and optional protocol*. New York: United Nations; 2008.
5. Disney G, Petrie D, Yang Y, Aitken Z, Gurrin L, Kavanagh A. Smoking inequality trends by disability and income in Australia, 2001 to 2020. *Epidemiology* 2023;**34**(2):302–9.
6. Disney G, Gurrin L, Aitken Z, Emerson E, Milner A, Kavanagh A, et al. Hierarchical models for international comparisons: smoking, disability, and social inequality in 21 European countries. *Epidemiology* 2020;**31**(2):282–9.
7. Iezzoni LI, Rao SR, Agaronnik ND, El-Jawahri A. Cross-sectional analysis of the associations between four common cancers and disability. *J Natl Compr Cancer Netw* 2020;**18**(8):1031–44.
8. *Centre of research excellence in disability and health. Disability and wellbeing monitoring framework: baseline indicator data for Australians aged 18-64 years*. Melbourne: Centre of Research Excellence in Disability and Health; 2022.
9. Borrelli B, Busch AM, Trotter DR. Methods used to quit smoking by people with physical disabilities. *Rehabil Psychol* 2013;**58**(2):117–23.
10. Zimmermann A, Lubman DI, Cox M. Tobacco, caffeine, alcohol and illicit substance use among consumers of a national psychiatric disability support service. *Int J Ment Health Addiction* 2012;**10**(5):722–36.
11. Twyman L, Cowles C, Walsberger SC, Baker AL, Bonevski B. 'They're going to smoke anyway': a qualitative study of community mental health staff and consumer perspectives on the role of social and living environments in tobacco use and cessation. *Front Psychiatr* 2019;**10**:503.
12. Australian Institute of Health and Welfare. *Australia's Health | Health of people with disability*. Australian Government; 2020. Available from: https://www.aihw.gov.au/reports/australias-health/health-of-people-with-disability.
13. An A, McPherson L, Urbanowicz A. Healthy living: a health promotion program for adults with intellectual disability. *Disabil Health J* 2018;**11**(4):606–11.
14. Moorhouse MD, Pomeranz JL, Barnett TE, Yu NS, Curbow BA. Tobacco cessation intervention for people with disabilities: survey of center for independent living directors. *Rehabil Counsel Bull* 2011;**54**(2):118–21.
15. Kerr S, Lawrence M, Middleton AR, Fitzsimmons L, Darbyshire C. Tobacco and alcohol use in people with mild/moderate intellectual disabilities: giving voice to their health promotion needs. *J Appl Res Intellect Disabil* 2017;**30**(4):612–26.
16. Soule EKM, Pomeranz JL, Moorhouse MD, Barnett TE. Multiple tobacco use and increased nicotine dependence among people with disabilities. *Disability and health journal* 2015;**8**(2):258–63.
17. Bonevski B. System-centred tobacco management: from 'whole-person' to 'whole-system' change. *Drug Alcohol Rev* 2014;**33**(1):99–101.
18. Barnhart WR, Whalen Smith CN, Ellsworth D, Coleman E, Lorenz A, Riddle IK, et al. Implementing living independent from tobacco with dyads of people with disabilities and their caregivers: successes and lessons learned. *Intellect Dev Disabil* 2020;**58**(3):241–50.
19. Chester V, Green F, Alexander R. An audit of a smoking cessation programme for people with an intellectual disability resident in a forensic unit. *Adv Ment Health Intellect Disabil* 2011;**5**(1):33–41.
20. Havercamp SM, Barnhart WR, Ellsworth D, Coleman E, Lorenz A, Whalen Smith CN, et al. Evidence for the fidelity and effectiveness of living independent from tobacco for people with disabilities and their caregivers. *Tob Use Insights* 2019;**12**:1–5.
21. Marsh P, Kelly L. Dignity of risk in the community: a review of and reflections on the literature. *Health Risk Soc* 2018;**20**(5–6):297–311.
22. Merten JW, Pomeranz JL, King JL, Moorhouse M, Wynn RD. Barriers to cancer screening for people with disabilities: a literature review. *Disability and Health Journal* 2015;**8**(1):9–16.
23. ACT Government. *ACT drug strategy action plan*. Canberra: Department of Health; 2018.
24. Australian Government. *National drug strategy 2017-2026*. Canberra: Department of Health; 2017.
25. Government of Western Australia. *Western Australian health promotion strategic framework 2017–2021*. Department of Health; 2017.
26. Tasmanian Government. *Tasmanian tobacco control plan 2017-2021*. Hobart: Department of Health and Human Services; 2017.
27. Government of Western Australia. *WA disability health framework 2015-2025*. Perth: Department of Health; 2015.
28. Tasmanian Government. *Accessible island | tasmania's disability framework for action 2018-2021*. Hobart: Communities Sport and Recreation | Department of Premier and Cabinet; 2018.
29. Pollack Porter KM, Rutkow L, McGinty EE. The importance of policy change for addressing public health problems. *Publ Health Rep* 2018;**133**(1_suppl):9s–14s (Washington, DC : 1974).
30. Steinberg ML, Heimlich L, Williams JM. Tobacco use among individuals with intellectual or developmental disabilities: a brief review. *Intellect Dev Disabil* 2009;**47**(3):197–207.
31. Balbach ED, Smith EA, Malone RE. How the health belief model helps the tobacco industry: individuals, choice, and "information". *Tobac Control* 2006;**15**(4):37–43.
32. Benowitz NL. Pharmacology of nicotine: addiction, smoking-induced disease, and therapeutics. *Annu Rev Pharmacol Toxicol* 2009;**49**:57–71.
33. Kavanagh A, Dickinson H, Carey G, Llewellyn G, Emerson E, Disney G, et al. Improving health care for disabled people in COVID-19 and beyond: lessons from Australia and England. *Disability Health Journal* 2021;**14**(2):101050.