

Off-label medication uses discussed: None.

Please add "yes" or "no" to each table cell. If "yes," please turn cell background color to yellow.

	Tobacco Industry	Non-Pharma Nicotine Product Industry	Pharma Industry
The work being presented has received funding or other means of support from any of the following sources:	no	no	no
Any of the authors have received funding (including consultancy) from any of the following sources in the past 5 years:	no	no	yes

Oral Nicotine Pouches and Public Health: Emerging Evidence and Trends from an Updated Scoping Review

Nargiz Travis, MScPH¹, Jamie Hartmann-Boyce, PhD², Claire Ma, PhD³, David T. Levy, PhD¹

¹Lombardi Comprehensive Cancer Center, Georgetown Medical University, Washington, DC; ²Department of Health Promotion and Policy, University of Massachusetts, Amherst, MA; ³Department of Health Management and Policy, School of Public Health, University of Michigan, Ann Arbor, MI

Introduction

- Oral nicotine pouches (ONPs), mainly produced by major combustible tobacco manufacturers, have become widely available in the US and other countries.
- Their public health impact depends on the extent to which they replace or supplement the use of other, more harmful tobacco products, or contribute to the initiation of ONPs among tobacco-naïve populations.
- This scoping review provides an update of the previously published review by Travis et al. (2025)¹ on the potential public health impact of ONPs.

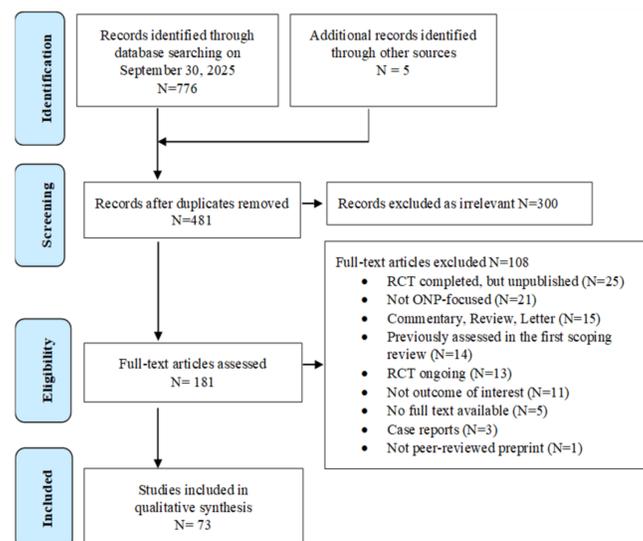
Methods

- The search for empirical studies examining outcome domains (Figure 1) was conducted in PubMed (MEDLINE), Web of Science, Embase, CENTRAL, clinicaltrials.gov, and the WHO ICTRP databases through September 30, 2025.
- We adhered to the guidelines for the Preferred Reporting Items for Scoping Reviews (PRISMA-ScR).

Figure 1. Outcome domains included in the review.



Figure 2. PRISMA Flow diagram of the study selection process.



Source: <http://www.prisma-statement.org/>

Results

- Seventy-three new studies were included; 12 funded by tobacco industry.
- US ONP sales have more than tripled between 2021 and 2024.
- Current ONP use prevalence among US youth has doubled between 2021 and 2024, reaching up to 2.6%.
- Current use among US adults was generally low in 2022-2023 (0.4%-0.8%), with higher use among ages 18-44, and current tobacco users.
- ONPs generally contain higher levels of freebase nicotine than other oral nicotine/tobacco products, with nicotine delivery increasing proportionally with nicotine strength.
- Nicotine uptake from higher strength ONPs ($\geq 6\text{mg}$) typically exceeds that from cigarettes in adult smokers, while ONPs consistently score lower in positive subjective ratings than cigarettes.
- ONP use for up to 6 months has been shown to substantially reduce smoking in daily smokers, generally resulting in dual use rather than cigarette cessation.
- ONPs are considerably less toxic than cigarettes, but their long-term human health impacts remain understudied.

Conclusion

- Based in part on the evidence from industry-funded studies, ONPs are less toxic than cigarettes and may deliver comparable nicotine to smokers, providing a potentially less harmful alternative to combustible products.
- Newer studies confirm that ONP constituents beyond nicotine appear to induce inflammatory responses, oxidative stress, and cytotoxicity in short-term assays.
- Co-use of ONPs with other tobacco/nicotine products remains high, and thus far, the effect of ONPs on smoking cessation remains unclear.
- High-strength ONPs raise public health concerns and may increase nicotine dependence.
- Longitudinal studies on transitions between ONPs and other tobacco/nicotine products are needed to understand the substitutional and supplementary effects of ONPs.
- Industry marketing strategies increasingly emphasize potentially youth-appealing claims, with social media as a key promotional channel.

References

¹Travis N, Warner KE, Goniewicz ML, Oh H, Ranganathan R, Meza R, Hartmann-Boyce J, Levy DT. *The Potential Impact of Oral Nicotine Pouches on Public Health: A Scoping Review*. *Nicotine Tob Res*. 2025 Mar 24;27(4):598-610. doi: [10.1093/ntr/ntae131](https://doi.org/10.1093/ntr/ntae131).

Corresponding Author

Nargiz Travis, MScPH

E-mail: nt526@georgetown.edu