

# Buprenorphine Associated Dental Problems



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Sublingual buprenorphine is used to treat Opioid Use Disorder and is implicated in deteriorating oral health.

Medications for Opioid Use Disorder (MOUD) improves treatment retention, suppresses illicit opioid use, and decreases overdose mortality.

Buprenorphine, the most common MOUD, is typically taken sublingually multiple times per day for years.

Buprenorphine is a partial opioid receptor agonist that reduces craving without producing strong euphoria.

Naloxone is an opioid receptor antagonist commonly added to buprenorphine formulations to prevent misuse.

A 2022 FDA publication cautioned of dental complications from sublingual buprenorphine use.

## Objective

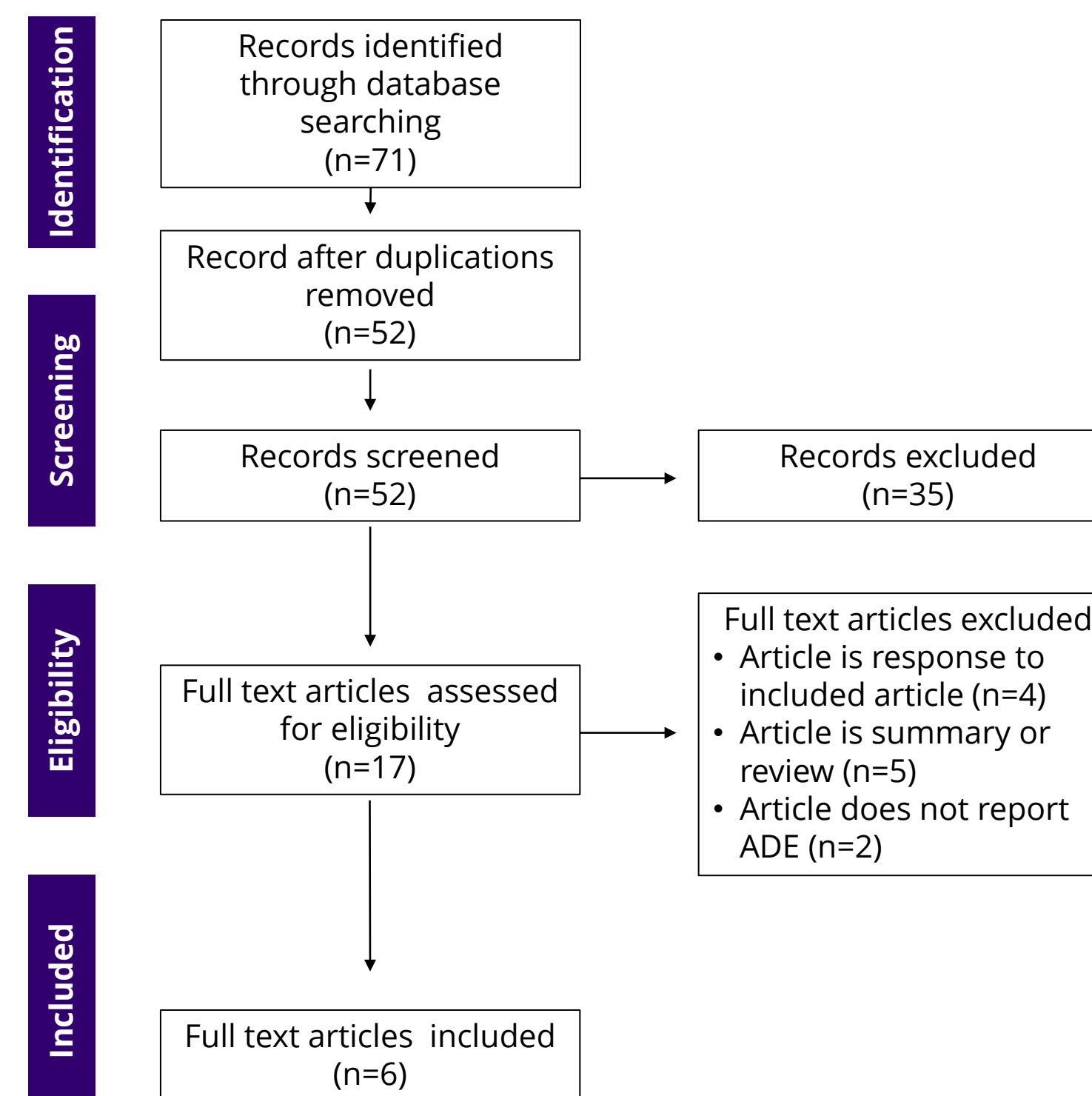
The purpose of this review is to assess the association between adverse dental events (ADE) and sublingual buprenorphine.

## Methods

A systematic literature search was conducted in March 2024.

Databases accessed: PubMed, Embase, Web of Science core collection, and Google Scholar

Search terms used: sublingual, buprenorphine, naloxone, dental



### Articles Included

Author	Year	Study type
Suzuki	2012	Case report
Suzuki	2013	Case series
Etminan	2022	Retrospective Cohort
de Campaigno	2017	Case Control
Barus	2023	Case Control
Woods	2024	Case Control

## Results

### Descriptive Studies

*Suzuki (2012)* case report – patient developed 4 endodontically involved teeth from extensive caries after 18 months of treatment with sublingual buprenorphine

*Suzuki (2013)* case series – patients using sublingual buprenorphine reported a mean of 5.2 dental caries, 3.6 fillings, 2.4 cracked teeth, 0.9 crowns, 0.8 root canal therapies, and 0.7 extractions over a mean of 45.7 months

### Analytical studies

*Etminan (2022)* retrospective cohort

ADE incidence of 21.6 per 1000 person years for sublingual buprenorphine/naloxone

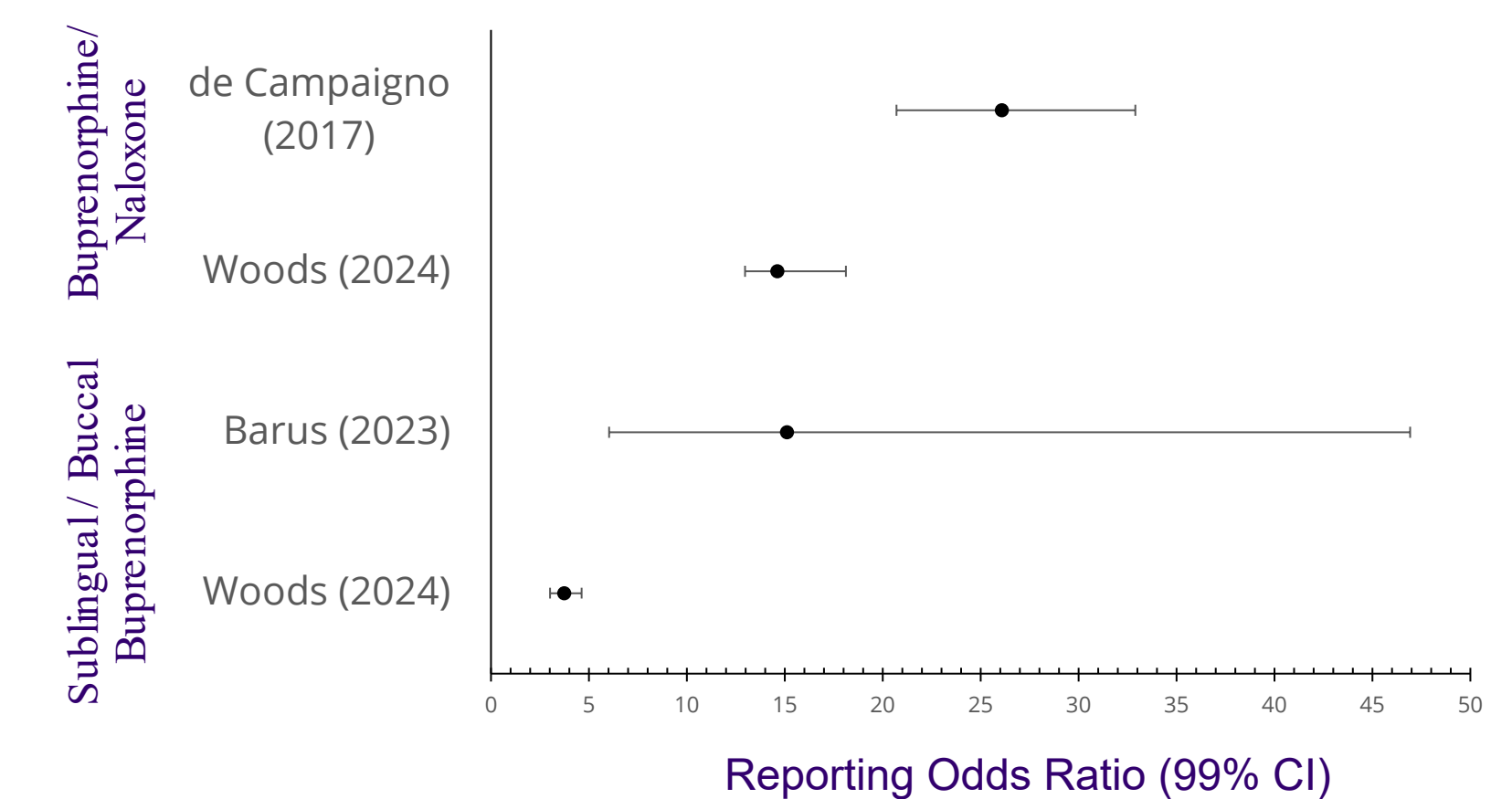
Adjusted hazard ratio of 1.42 (1.17-1.73; 95% CI) for sublingual buprenorphine/naloxone vs transdermal buprenorphine

Adjusted hazard ratio of 1.67 (1.41-1.98; 95% CI) for sublingual buprenorphine/naloxone vs oral naltrexone

Study	ROR (99% CI)	ADE	Total Events
Sublingual / Buccal vs other formulations of Buprenorphine			
Woods (2024)	3.73 (3.01-4.62)	394	13,161
Barus (2023)	15.10 (6.02-37.85)	20	2,862
Buprenorphine/Naloxone vs all other drugs			
Woods (2024)	14.61 (12.97-16.47)	487	18,335
de Campaigno (2017)	26.07 (20.7 - 32.9)	127	12,129

Adverse Dental Events Reporting Odds Ratio from case control studies

### Reporting Odds Ratio Comparison



## Conclusion

The studies included in this review support a correlation between sublingual buprenorphine use and ADE.

The data is limited by its reliance on reported instances of ADE which likely underrepresents.

Risks from combination with Naloxone need further investigation.

Until further data is published vigilant monitoring of patients using buprenorphine is recommended.

## References

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