

Tooth Loss in an Aging Population as it Relates to Systemic Health

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Background

- Tooth loss is a vital indicator of oral health status and oral health-related quality of life, especially in older adults^{1,2}
- A functional dentition consists of 20 or more teeth; Patients with 20 or fewer teeth are at higher risk of being underweight and are less likely to eat fruits and vegetables^{3,4}

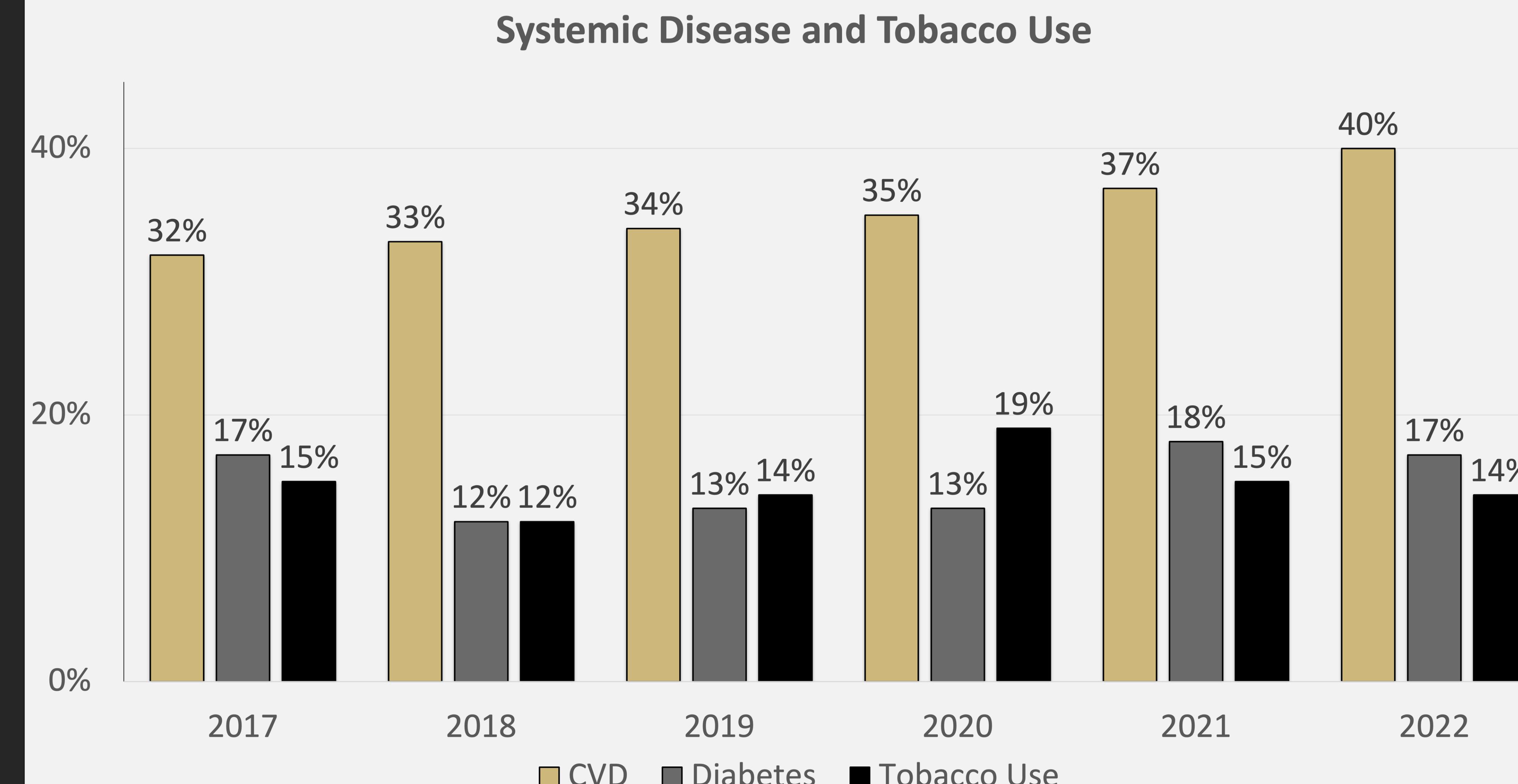
Research Objectives

- This study aims to evaluate the impact of systemic diseases on tooth loss in adults (≥ 55 years of age) visiting a university dental clinic over six years.
- It is hypothesized that patients who report having CVD and diabetes and have ever used tobacco are more likely to present higher tooth loss compared to patients who are non-tobacco users and did not report CVD and diabetes

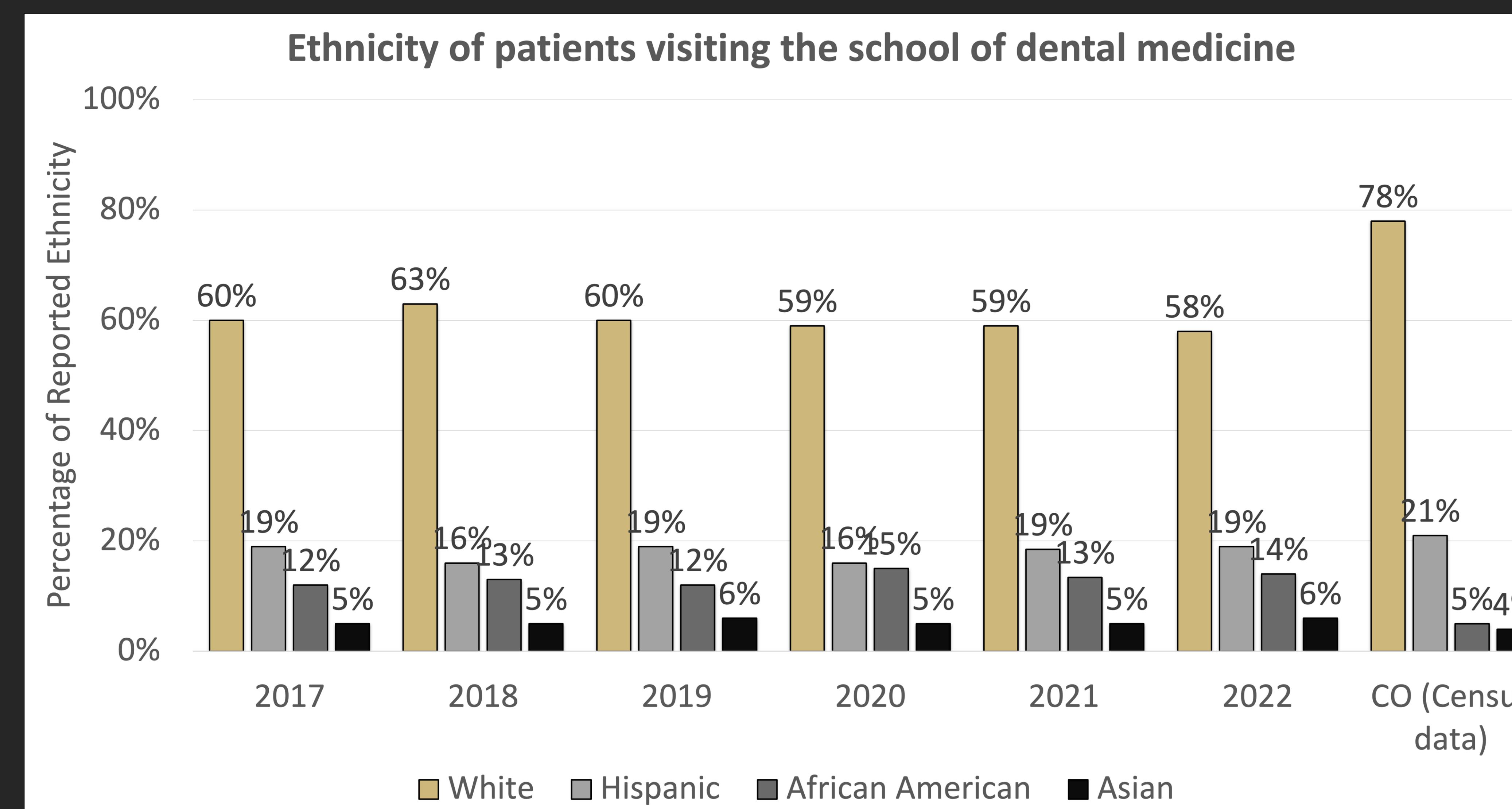
Methods

- Electronic health records of adults visiting the University of Colorado School of Dental Medicine clinics over six years, 2017-2022, were reviewed for age (55+), gender, race/ethnicity, self-reported medical histories of cardiovascular disease (CVD), diabetes, and social history of tobacco use.
- Univariate regression analysis was performed to test the association between the outcome variable of tooth loss and CVD, diabetes, and tobacco use.

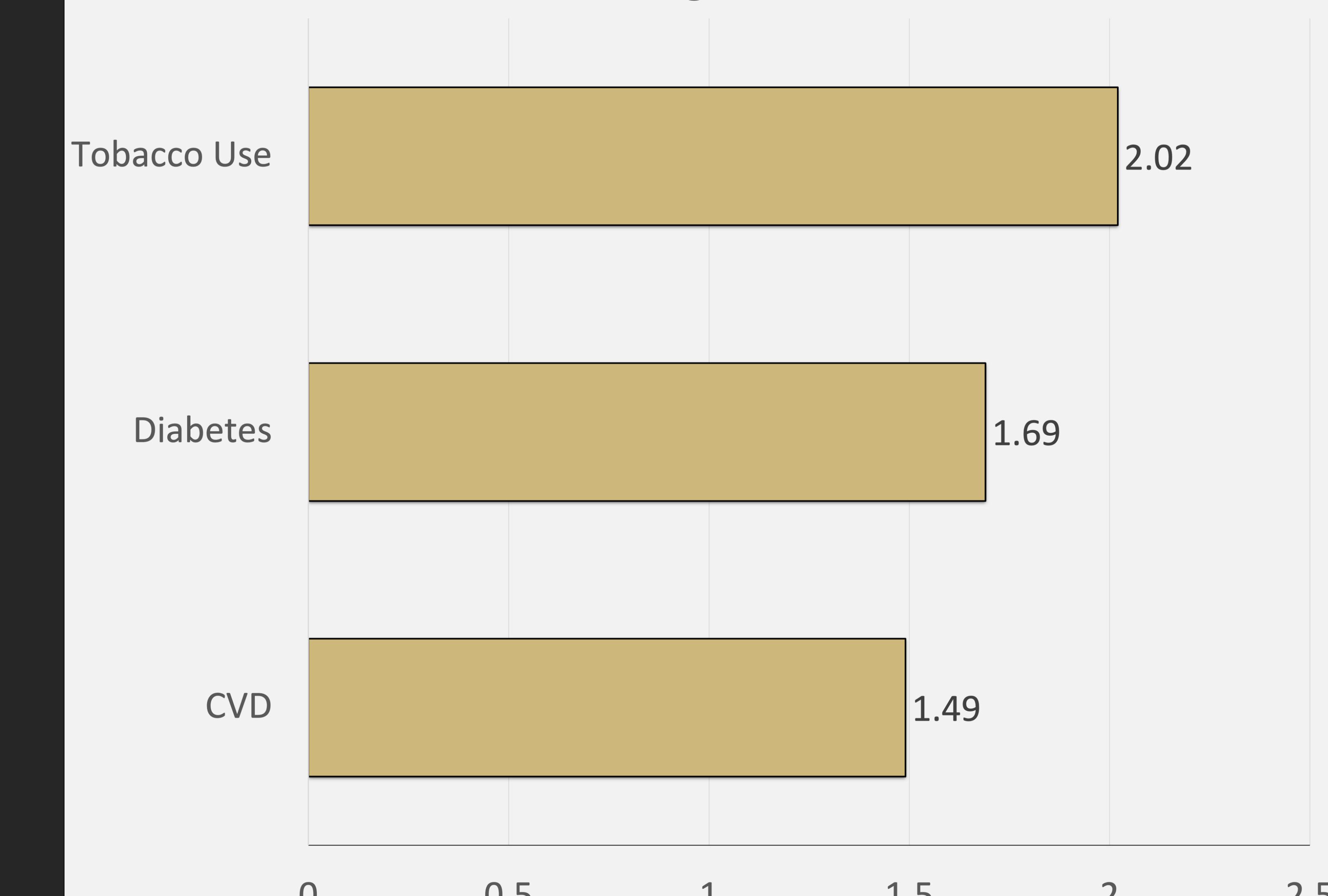
Key Findings and Conclusion



- Of 4338 patients, 36.2% had <20 teeth.
- There were greater odds of tooth loss (<20 teeth) in patients reporting CVD (OR=1.49, $p<0.001$), diabetes (OR=1.69, $p<0.001$), and tobacco use (OR=2.02, $p<0.001$).
- An overall increasing trend in tooth loss (<20 teeth) odds were seen in patients reporting CVD, diabetes, and tobacco use over six years.
- Between 20 and 29% of patients had fewer than 21 teeth each year, with little variation.



Odds Ratio of Having Fewer than 20 Teeth



Conclusions:

- Systemic-oral connections affect the likelihood of tooth loss in an aging population; Interprofessional partnerships may improve dental outcomes.
- Such studies are helpful in increasing the understanding of the providers about populations that bear the burden of diseases and enabling health systems to respond to future challenges.
- Incorporating extensive tobacco cessation dialogues into dental professional curriculums could significantly reduce tooth loss in aging populations.
- Longitudinal research in a non-academic setting is warranted to study the magnitude of these findings.
- The analysis of population health trends can inform policy developments and implementation.

References:

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