

Oral Health and Diabetes among New York State Adults: Creating Awareness for Better Management



Introduction

Diabetes is a chronic disease in which blood sugar (glucose) levels are above normal. Over 38 million adults in the U.S. have diabetes (Type 1 and 2), including an estimated 1.8 million in New York State (NYS).¹ Poorly managed diabetes can lead to complications such as heart disease, stroke, kidney disease, vision loss, nerve damage, and tooth loss.²

About 4 in 10 U.S. adults have periodontitis, a chronic inflammatory disease that weakens the supporting structures of the teeth and can lead to tooth loss.³ Diabetes coupled with periodontitis creates a two-way relationship, such that each condition can make the other worse. People with diabetes have higher levels of glucose in their saliva, which increases the risk for and severity of periodontitis and tooth loss.⁴ Periodontitis can cause insulin resistance and lead to increased blood glucose levels, making diabetes more difficult to manage.⁵

Diabetes and periodontitis can be successfully managed with professional medical and dental care and treatment. For individuals with both conditions, routine management of blood sugar levels, daily maintenance of oral hygiene, and routine medical and dental care help with blood sugar control and can prevent tooth loss and diabetes-related complications.⁶⁻⁷ Collaboration between medical and dental providers to address health issues related to diabetes and oral health offers an opportunity to improve the overall health of New Yorkers.

Using NYS Behavioral Risk Factor Surveillance System (BRFSS) data, this report examines the burden of oral health problems and health care utilization among individuals with diabetes compared to those without diabetes.

Diabetes in New York State

About 11.3% (over 1 in 10) NYS adults reported having diagnosed diabetes (Type 1 and Type 2) as of 2022 (Table 1).

Diagnosed diabetes is more prevalent among certain age, race/ethnicity, and annual household income groups (Table 1), including:

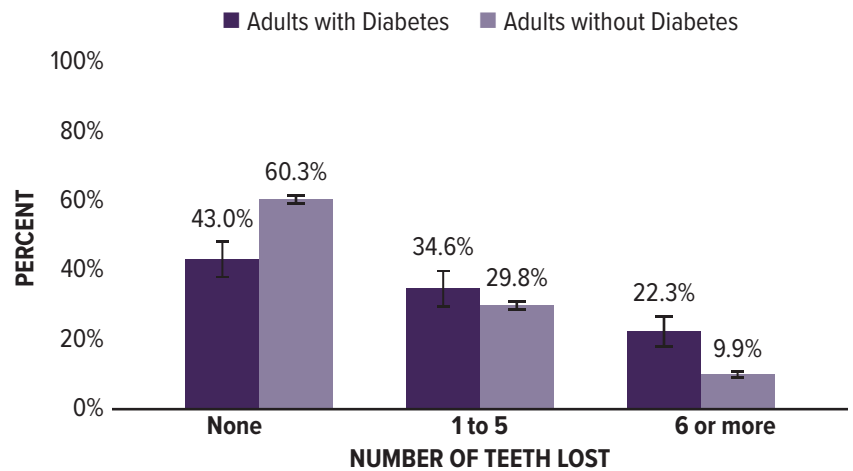
- About 14.2% of NYS adults aged 45-64 and 22.8% of NYS adults aged 65 and older have diagnosed diabetes, compared with 3.4% of NYS adults aged 18-44 years.
- Diabetes is prevalent across all race/ethnic groups, ranging from 9.2% to 17.5%. Diabetes is most prevalent among those who identify as Black, non-Hispanic (14.4%), Hispanic (13.3%), and all other races combined, non-Hispanic (17.5%).
- NYS adults with an annual household income less than \$25,000 (17.3%) and between \$25,000 and \$49,999 (13.9%) have a higher prevalence of diabetes, compared to those with higher annual household incomes.

Tooth Loss by Diabetes Status

Compared to NYS adults without diabetes, NYS adults with diabetes are:

- Less likely to have all of their teeth (43.0% vs. 60.3%; **Figure 1**).
- More than twice as likely to be missing 6 or more teeth (22.3% vs. 9.9%; **Figure 1**).

FIGURE 1. Age-adjusted Percentage of Permanent Tooth Loss by Diabetes Status, NYS BRFSS, 2022

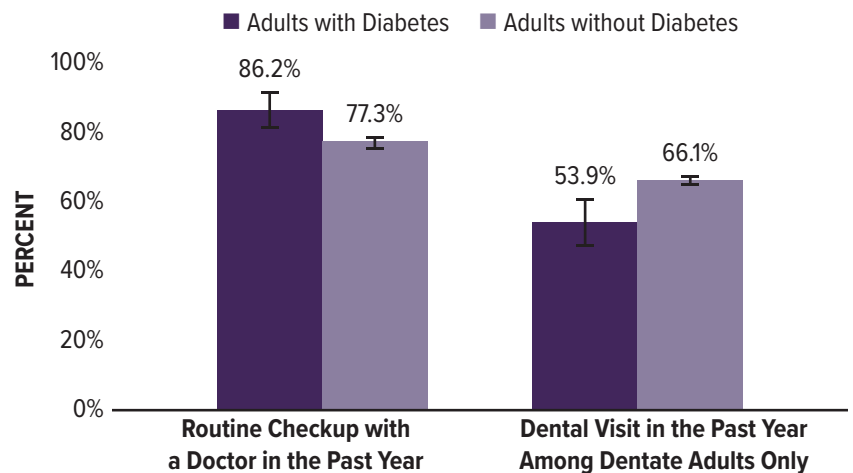


Note: Error bars represent 95% confidence intervals.

Health Care Utilization by Diabetes Status

Compared with NYS adults without diabetes, NYS adults with diabetes are less likely to have had a dental visit in the last year (53.9% vs. 66.1%), despite being more likely to have a routine checkup with a doctor (86.2% vs. 77.3%, respectively) (**Figure 2**).

FIGURE 2. Age-adjusted Percentage of Health Care Utilization by Diabetes Status, NYS BRFSS, 2022



Note: Error bars represent 95% confidence intervals.

Conclusions

Almost 1 in 4 NYS adults with diabetes are permanently missing 6 or more teeth, compared with nearly 1 in 10 NYS adults without diabetes. There is a much higher burden of tooth loss among those with diabetes and a need for more preventive medical and dental care.

Nearly 1 in 2 NYS adults with diabetes did not go to a dental visit in the past year and thus did not access critical preventive dental care. While NYS adults with diabetes were less likely to have a dental visit in the past year compared with NYS adults without diabetes, they were more likely to have a routine checkup with a health care provider in the past year. These data findings present an opportunity for health care providers to take action to address this issue.

Prevention of periodontal disease and tooth loss contributes to the control of diabetes, and controlled diabetes contributes to maintaining good oral health. Collaboration between primary care and oral health providers is crucial to managing the overall health of adults with diabetes. Medical and dental providers are encouraged to monitor and address the oral health needs of patients with diabetes to prevent tooth loss and improve diabetes management and overall health.

Recommendations

Dental and Primary Care Providers

See the Centers for Disease Control and Prevention (CDC), “[How to Promote Oral Health for People with Diabetes](#)” for more information):

- Know the risks of oral diseases for diabetes patients.
- Encourage patients to watch for oral health problems.
- Ask patients about their oral health at each visit.
- Help patients see the connection between diabetes management and oral health.
- Refer patients to diabetes self-management education and support (DSMES) services.
- Develop collaborations to support coordinated care, develop bidirectional communication pathways, and facilitate patient referrals.

Patients

See the National Institute of Dental and Craniofacial Research, (NIDCR) “[Diabetes Dental Tips](#)” for more information:

- Control your blood glucose.
- Brush your teeth twice a day and floss regularly.
- Visit a dentist for routine checkups. Be sure to tell the dentist that you have diabetes and give the dentist a list of any medications you take.
- Tell the dentist if your dentures (false teeth) do not fit right, or if your gums are sore.
- Quit smoking. Smoking makes gum disease worse. A health care provider or dentist can help you quit.

Health Care Insurance:

- Consider expanding coverage to include the following preventive care:
 - Screening for evidence of periodontal disease in primary care practices.
 - Advanced periodontal treatments/surgeries for diabetic patients to prevent further systemic complications from diabetes.
- Include preventive oral health care for adults as an essential health benefit under the Affordable Care Act (ACA).

State and Local Health Departments Can Work Together to:

- Enhance data collection and sharing systems between state and local agencies to monitor trends in diabetes and oral health outcomes.
- Raise public awareness about the connection between diabetes and oral health, emphasizing the importance of regular dental visits and blood sugar control.
- Collaborate with community organizations and health systems to extend outreach and support for preventive services.
- Allocate funding to support preventive care, screenings, and patient education initiatives at the local and state level.

Additional Resources

For Providers:

- [Clinical Guidance for Diabetes](#): Educates providers about the latest diabetes standards of care and describes how they can encourage patients to take the steps needed to manage their diabetes effectively.

For Patients:

- [Diabetes, Gum Disease, and Other Dental Problems](#): Provides information about how diabetes affects the mouth, how to know if you have mouth problems from diabetes, and how to keep your mouth healthy.
- [Oral Health](#): Describes how to keep your mouth healthy and how to get the most out of your dental visits.

Reports, Guidance Documents, and Additional Information:

- [New York State Department of Health-Generated Behavioral Risk Factor Surveillance System Reports](#) (NYS BRFSS) from 1995 through the present. Each report provides key findings about a specific topic, graphs and tables, references and contact information.

Methods

The BRFSS is an annual statewide telephone survey of adults developed by the CDC and administered by the NYS Department of Health. The BRFSS is designed to provide information on behaviors, risk factors, and utilization of preventive services related to the leading causes of chronic and infectious diseases, disability, injury, and death among the noninstitutionalized, civilian population aged 18 and older.

We analyzed 2022 BRFSS data (N=17,752) looking at two groups: NYS adults with diabetes (N=2,183) and NYS adults without diabetes (N=15,569). We examined self-reported tooth loss and health care utilization in the past year by diabetes status, adjusting for age. We also examined the variations in the prevalence of diabetes by individual characteristics (age, sex, race/ethnicity, and annual household income). All percentages are weighted to represent the underlying population.

The BRFSS survey questions, including those related to diabetes status, tooth loss, and health care utilization, are based on self-report, thus responses may be potentially impacted by recall bias. The outcomes of interest (tooth loss and health care utilization) both involve and depend on many factors. This report specifically examines the association between one factor (diabetes status) and these outcomes and adjusts for one other related factor (age). This report does not indicate nor suggest any causal relationships between any of these factors.

Table 1. NYS Adults with Diagnosed Diabetes, 2022 Behavioral Risk Factor Surveillance System (N=17,752)

	Respondents	Estimated Number Affected	Prevalence	95% CI	p-Value*
ALL NYS ADULTS	17,752	1,779,200	11.3%	10.6-12.0	
AGE					<.0001
18-44	5,745	236,700	3.4%	2.7-4.1	
45-64	5,731	678,200	14.2%	12.0-15.6	
65+	5,780	808,900	22.8%	20.9-24.7	
SEX					0.12
Female	9,449	883,500	10.8%	9.8-11.8	
Male	8,303	895,700	11.9%	10.9-12.8	
RACE/ETHNICITY					<.0001
Asian or Pacific Islander, non-Hispanic	977	180,400	11.1%	8.2-14.1	
Black, non-Hispanic	1,842	295,800	14.4%	12.4-16.4	
White, non-Hispanic	11,113	727,600	9.2%	8.5-9.9	
All other races combined, non-Hispanic [†]	384	95,400	17.5%	11.2-23.9	
Hispanic	2,621	387,400	13.3%	11.6-15.1	
ANNUAL HOUSEHOLD INCOME					<.0001
<\$25,000	2,266	359,000	17.3%	15.0-19.6	
\$25,000-\$49,999	3,211	387,800	13.9%	12.0-15.8	
\$50,000-\$74,999	2,061	172,800	10.3%	8.5-12.2	
\$75,000 and greater	5,735	367,100	7.7%	6.7-8.7	
Missing	4,479	492,500	11.1%	9.7-12.4	

Note: Estimated number affected rounded to nearest hundred.

*Chi-Square p-value.

[†]All other race groups combined includes non-Hispanic, American Indian or Alaska Native and non-Hispanic, Multiracial.

For more information, please send an e-mail to BCDER@health.ny.gov with IFA #2025-28 in the subject line. To access other Information for Action reports, visit the New York State Department of Health website: health.ny.gov/statistics/prevention/injury_prevention/information_for_action.

References

1. Wong S, Austin R, Millstein S, Kaelin-Kee J, Fitzgibbons K. Prevalence of Diagnosed Diabetes, New York State Adults, by County, BRFSS 2021. Division of Chronic Disease Prevention, Bureau of Chronic Disease Evaluation and Research New York State Department of Health; 2023. Accessed September 11, 2025. health.ny.gov/statistics/prevention/injury_prevention/information_for_action/docs/2023-09_ifa_report.pdf.
2. Centers for Disease Control and Prevention (CDC). Diabetes Complications. Last reviewed May 15, 2024. Accessed August 15, 2025. cdc.gov/diabetes/complications/.
3. Centers for Disease Control and Prevention (CDC). About Periodontal (Gum) Disease. Last reviewed May 15, 2024. Accessed August 15, 2025. cdc.gov/oral-health/about/gum-periodontal-disease.html.
4. Centers for Disease Control and Prevention (CDC). Oral Health and Diabetes. Last reviewed May 15, 2024. Accessed September 2, 2025. cdc.gov/diabetes/diabetes-complications/diabetes-and-oral-health.html.
5. Preshaw PM, Alba AL, Herrera D, et al. Periodontitis and diabetes: a two-way relationship. *Diabetologia*. 2012;55(1):21-31. doi:10.1007/s00125-011-2342-y.
6. Choi SE, Sima C, Pandya A. Impact of Treating Oral Disease on Preventing Vascular Diseases: A Model-Based Cost-effectiveness Analysis of Periodontal Treatment Among Patients With Type 2 Diabetes. *Diabetes Care*. 2020;43(3):563-571. doi:10.2337/dc19-1201.
7. Simpson TC, Clarkson JE, Worthington HV, et al. Treatment of periodontitis for glycaemic control in people with diabetes mellitus. *Cochrane Database Syst Rev*. 2022;4(4):CD004714. Published 2022 Apr 14. doi:10.1002/14651858.CD004714.pub4.



**Department
of Health**