DIABETES

Year	Name of Study	Publication	Author(s)	Institution(s)	Conclusions
2022	Association Between Preventive Dental Care and Healthcare Cost for Enrollees With Diabetes or Coronary Artery Disease: 5-Year Experience	*Compend Contin Educ Dent. 2022 Mar;43(3):130-139*	Borah BJ, Brotman SG, Dholakia R, Dvoroznak S, Jansen MT, Murphy EA, Naessens JM	Mayo Clinic; University of Maryland School of Dentistry; Life and Specialty Ventures; Arkansas BlueCross BlueShield	Preventive dental care is strongly associated with significant savings for diabetes and CAD patients, and such savings were highest for diabetes + CAD patients, followed by patients with only CAD and only diabetes. Adherence with preventive dental care was associated with significant average yearly cost savings, ranging progressively higher for patients with only diabetes ($515 to $574), only CAD ($548 to $675), and CAD + diabetes ($866 to $1,718). Most of these savings originated in costs associated with inpatient admissions, which were between 25% and 36% for all disease classifications for all years.
2022	Update on the Bidirectional Link Between Diabetes and Periodontitis	*Adv Exp Med Biol. 2022;1373:231-240*	Salhi L, Reners M	University of Liège (Belgium)	The control of hyperglycemia in the prevention of periodontitis and the control of periodontitis systemic inflammation in the prevention of diabetes, should be take into account in the treatment planning of both diseases.
2021	Oral Health in America: Advances and Challenges. NIDCR Report 2021.	*Oral Health in America - April 2022 Bulletin | National Institute of Dental and Craniofacial Research (nih.gov)*	National Institute of Dental and Craniofacial Research (NIDCR)	National Institute of Dental and Craniofacial Research (NIDCR)	Moderate to Severe Periodontitis is more prevalent in persons with Diabetes (49% than persons without (33%). [p.3A-4, Table 1] U.S. insurers have taken the initiative to implement cost-saving dental benefits for patients with chronic diseases, such as type 2 diabetes, coronary artery disease, and cardiovascular disease. When patients received nonsurgical periodontal treatment versus no treatment, there was a significant decrease in their C-reactive protein and leukocyte levels, which are blood serum markers for inflammation. [p. 3A-17] See Fact sheet for pages in sections 3A and 3B for review related to the impact of oral health on treatment for cancer, diabetes, heart disease, stroke, emphysema, dementia, Parkinson's Disease and hospital acquired pneumonia.
2020	Improved oral hygiene is associated with decreased risk of new-onset diabetes: a nationwide population-based cohort study	*Diabetologia. 2020 May;63(5):924-933*	Chang Y, Lee JS, Lee KJ, Woo HG, Song TJ	Ewha Womans University College of Medicine; Asan Medical Center; Eunpyeong St. Mary's Hospital	The presence of periodontal disease and an increased number of missing teeth may be augmenting factors for the occurrence of new-onset diabetes. Specifically, having periodontal disease is associated with a 9% increased risk of developing diabetes; for people missing 15 or more teeth, this risk increases to 21%. Improving oral hygiene may be associated with a decreased risk of occurrence of new-onset diabetes.
2019	Periodontal Disease: A Risk Factor for Diabetes and Cardiovascular Disease	*Int. J. Mol. Sci. 2019, 20(6), 1414*	Liccardo D, Cannavo A, Spagnuolo G, Ferrara N, Cittadini A, Rengo C, Rengo G	Federico II University of Naples; Temple University; Moscow State Medical University; Istituti Clinici Scientifici-ICS Maugeri S.p.A.; University of Siena	it is very plausible that preventing periodontitis has an impact on the onset or progression of CVD and diabetes. Several studies have suggested the existence of a bi-directional link between periodontal health and these pathologies. Periodontitis acts within the same chronic inflammatory model seen in cardiovascular disease (CVD), people with diabetes are more susceptible to infections than people without this syndrome, and cardiac disorders are worsened by periodontitis.

2017	Benefits of non-surgical periodontal treatment in patients with type 2 diabetes mellitus and chronic periodontitis: A randomized controlled trial	*J Clin Periodontol. 2018 Mar;45(3):345-353*	Mauri-Obradors E, Merlos A, Estrugo-Devesa A, Jané-Salas E, López-López J, Viñas M	University of Barcelona	Diabetic patients who received advanced oral treatment and other oral health interventions were able to maintain better blood sugar levels than those who received basic dental care. Non-surgical periodontal treatment resulted in a better glycemic status of type 2 diabetes patients and demonstrated the importance of oral health in their general health.
2013	Medical Dental Integration Study			United Healthcare Optum	Individuals with certain chronic conditions who received appropriate dental care, including preventive services and the treatment of gum disease, had net medical and dental claims that were on average $1,038 lower per year than claims for chronically ill people who did not receive that type of oral care. Among diabetics, the average annual net medical and dentals claims were $1,279 lower per person for individuals who received treatment for gum disease compared to people who did not.
2013	Effect of Periodontal Treatment on Glycemic Control of Patients with Diabetes: A Systematic Review and Meta-Analysis	*Journal of Diabetes Investigation, 4*(5)	Corbella, S., Francetti, L., Traschieri, S., et al.	Università degli Studi di Milano, IRCCS Istituto Ortopedico Galeazzi, Milan, Italy	Non-surgical periodontal treatment improves metabolic control in patients with both periodontitis and diabetes.
2012	Diabetes and Oral Disease: Implications for Health Professionals	*Annals of the New York Academy of Sciences, 1255*, 1-15	Albert, D., Ward, A., Allweiss, P., et al.	New York Academy of Sciences	~8% of US population has diabetes and 30% of people with diabetes are undiagnosed. The dental office can help identify undiagnosed diabetes. A greater role for the oral health care team in the management of the care of patients with diabetes mellitus is both warranted and appropriate. Dental and medical professionals will be required to collaborate to create teams dedicated to the management of people with diabetes given the co-morbidities associated with diabetes.
2011	Identification of Unrecognized Diabetes and Pre-diabetes in a Dental Setting	*Journal of Dental Research, 90*(7), 855-860	Lalla, E., Kunzel, C., Burkett, S., Cheng, B., & Lamster, I.	Columbia University Mailman School Of Public Health; Columbia University College of Dental Medicine	DM is a risk factor for PD and can complicate periodontal treatment outcomes. Periodontal disease may be a predictor of incident diabetes and is an early complication of diabetes. Pre-existing periodontitis predicts poor cardiovascular and renal outcomes in patients with established diabetes.
2011	A Randomized, Controlled Trial on the Effect of Non-surgical Periodontal Therapy in Patients with Type 2 Diabetes	*Journal of Clinical Periodontology, 38*(2), 142-147	Koromantzos, P., Makrilakis, K., Dereka, X., Katsilambros, N., Vrotsos, I., & Madianos, P.	University of Athens School of Dentistry, Greece	Non-surgical treatment of periodontal disease in patients with type 2 diabetes has a favorable effect on their glycemic and periodontal status. Periodontal treatment contributes to improved glycaemic control in type 2 diabetes patients.

2010	Periodontal Status and A1c Change: Longitudinal Results from the Study of Health in Pomerania (SHIP)	*Diabetes Care, 33*(5), 1037-1043	Demmer, R., Desvarieux, M., Holtfreter, B., et al.		Participants with severe baseline periodontal disease coupled with large declines in longitudinal periodontal health experienced an ~0.13% greater increase in 5-yr A1c relative to participants periodontal healthy at both baseline and follow-up.The data demonstrates a temporal trend in which periodontal disease predicts an accelerated longitudinal change in A1C after control for baseline A1C and among participants deemed to be diabetes free at baseline using a standardized diabetes definition. This result greatly minimizes the possibility that elevated blood glucose levels were present before and therefore contributed to periodontal disease observed at baseline.
2010	Perio Medicine: The Future of Oral Health	*The Journal of Professional Excellence: Dimensions of Dental Hygiene*	Genco, R.		Management of periodontal disease in people who have diabetes will actually reduce not only glycated hemoglobin but also moderate the complication associated with diabetes such as heart disease and diabetic nephropathy. Eventually, management of periodontal disease will become essential in the care of people who have diabetes and CHD just as foot and eye care are today.
2008	Periodontal Disease and Incident Type 2 Diabetes: Results from the First National Health and Nutrition Examination Survey and its Epidemiologic Follow-up Study	*Diabetes Care, 31*(7), 1373-1379	Demmer, R., Desvarieux, M., & Jacobs, D.	Columbia University Mailman School of Public Health	Baseline periodontal disease is an independent predictor of incident diabetes.
2005	Periodontal Disease and Mortality in Type 2 Diabetes	*Diabetes Care, 28*(1), 27-32	Saremi, A., Nelson, R., Tulloch-Reid, M., et al.	National Institute of Diabetes and Digestive and Kidney Disease	Periodontal disease predicted deaths from ischemic heart disease (IHD) (P trend = 0.04) and diabetic nephropathy (P trend < 0.01).Subjects with severe periodontal disease have 3.2 times risk (95% CI 1.1-9.3) of cardiorenal mortality (IHD and diabetic nephropathy combined).Periodontal disease is a strong predictor of mortality from IHD and diabetic nephropathy in Pima Indians with type 2 diabetes.