

Supplementary Materials

1 Supplementary Tables

Table S1. Billing codes for periodontal treatment according to the German uniform assessment standard for dental services (BEMA) [26].

BEMA	Description
P200	Systematic treatment of periodontal diseases (supra- and subgingival debridement), closed procedure per treated single-rooted tooth.
P201	Systematic treatment of periodontal diseases (supra- and subgingival debridement), closed procedure per treated multi-rooted tooth.
P202	Systematic treatment of periodontal disease (surgical therapy), open procedure per treated single-rooted tooth.
P203	Systematic treatment of periodontal diseases (surgical therapy), open procedure per treated multi-rooted tooth.
108	Grinding in of the natural dentition for masticatory plane compensation and relief, per session.
111	Follow-up treatment as part of the systemic treatment of periodontal diseases, per session.

Table S2. Distribution of covariates after log transformation of costs and reweighting the data incl. standardized differences, differentiated by those exposed and unexposed to periodontal treatment.

		Periodontal treatment		Standardized differences
		Exposed group	Unexposed group	
Sex, n (%)	Men	62.5	60.7	-0.0375
	Women	37.5	39.3	
Age, mean (SD)		63 (48)	65 (13)	-0.0436
Nielsen region, n (%)	Bavaria	13.7	13.8	0.028
	Baden-Württemberg	12.5	11.9	
	Centre	15.6	16.3	
	North (West)	13.2	13.1	
	North Rhine-Westphalia	36.4	36.4	
	East (North)	6.1	5.9	
	East (South)	2.7	2.6	
Dental visit pre, n (%)	Yes	72.0	70.4	0.0352
	No	28.0	29.6	
Charlson comorbidity index, mean (SD)		2.0 (9.1)	2.0 (2.0)	-0.0057
Physician group visits pre, mean (SD)		5.0 (14.0)	5.0 (3.0)	0.0103
Total healthcare costs pre (log), mean (SD)		6.8 (7.2)	6.8 (1.8)	-0.0047

SD: standard deviation. Pre: one year before index quarter. Total healthcare costs pre: sum of inpatient, outpatient, drug costs, costs of remedies/medical aids. Percentage values are rounded to the first decimal place.

Table S3. Average treatment effect (ratio of geometric means) in patients newly diagnosed with CHD, all models.

	Simple regression	Inverse probability weighting	Regression adjustment (Poisson)	Doubly robust method
	ATE (95% CI)	ATE (95% CI)	ATE (95% CI)	ATE (95% CI)
Total healthcare costs	0.87 (0.80, 0.95)	0.96 (0.93, 1.00)	0.99 (0.91, 1.08)	0.98 (0.90, 1.06)
Inpatient costs	0.72 (0.57, 0.92)	0.79 (0.71, 0.87)	0.82 (0.62, 1.07)	0.79 (0.61, 1.04)
Outpatient costs	0.98 (0.93, 1.04)	1.06 (1.03, 1.08)	1.07 (1.01, 1.13)	1.07 (1.01, 1.13)
Drug Costs	0.80 (0.73, 0.87)	0.93 (0.90, 0.97)	0.96 (0.88, 1.05)	0.95 (0.87, 1.04)

ATE: average treatment effect. CI: confidence interval. Total healthcare costs: sum of inpatient costs, outpatient costs, and drug costs.

2 Supplementary Reference

26. Kassenzahnärztliche Bundesvereinigung (KZBV); Spitzenverband Bund der Krankenkassen (GKV-Spitzenverband). *Einheitlicher Bewertungsmaßstab für zahnärztliche Leistungen gemäß § 87 Abs. 2 und 2h SGB V (BEMA): Anlage A zum Bundesmantelvertrag - Zahnärzte (BMV-Z)*; Germany: Cologne, Berlin, 2019.