Table S2 Comparison of participants with and without reassessment at the second examination

Characteristic	Reassessed (n = 493)	Not reassessed (n = 289)	P
Age, years	72.08 ± 4.93	74.32 ± 6.45	<0.001
Men, n (%)	211 (42.8)	104 (36.0)	0.072
Body mass index, kg/m²	23.00 ± 2.86	23.04 ± 3.30	0.870
Appendicular skeletal muscle mass, kg	16.43 ± 3.83	15.44 ± 3.57	<0.001
Grip strength, kg	30.15 ± 8.48	27.15 ± 8.01	<0.001
Maximum gait speed, m/s	2.15 ± 0.42	1.95 ± 0.47	<0.001
Frailty index	0.123 ± 0.063	0.159 ± 0.084	<0.001
Oral-type genera index	-0.00 ± 1.01	0.00 ± 0.98	0.959
Shannon index	5.91 ± 0.61	5.95 ± 0.56	0.368
Proton pump inhibitor use, n (%)	19 (3.9)	21 (7.3)	0.054
Number of chronic diseases	1.31 ± 1.27	1.30 ± 1.19	0.853

Continuous variables are mean ± SD and categorical variables are n (%). P is from the Welch t test or the chi-squared test.
Of the 782 participants, 493 (63.0%) attended the second examination and 289 did not. Reasons for non-attendance were not recorded individually.
The oral-type genera index, the exposure of interest, did not differ between the two groups.
ASM appendicular skeletal muscle mass.

Table S3 Sensitivity of the index to the omission of each constituent genus

Index version	Estimate (95% CI)	P	Change from the full index	n
All seven genera	-0.0671 (-0.1047 to -0.0294)	<0.001		775
Omitting Streptococcus	-0.0650 (-0.1027 to -0.0274)	<0.001	+0.0021	775
Omitting Veillonella	-0.0661 (-0.1037 to -0.0285)	<0.001	+0.0010	775
Omitting Fusobacterium	-0.0635 (-0.1013 to -0.0257)	0.001	+0.0036	775
Omitting Granulicatella	-0.0674 (-0.1051 to -0.0297)	<0.001	-0.0003	775
Omitting Actinomyces	-0.0668 (-0.1044 to -0.0293)	<0.001	+0.0003	775
Omitting Rothia	-0.0707 (-0.1082 to -0.0332)	<0.001	-0.0036	775
Omitting Haemophilus	-0.0629 (-0.1005 to -0.0253)	0.001	+0.0042	775

Estimates are the difference in standardised appendicular skeletal muscle mass per 1 SD of the index, from the Model 5 specification of Table 3.
The index was recomputed seven times, each time omitting one constituent genus and restandardising.
The largest change in the estimate was 0.0042 SD, so the association is not driven by any single genus.
CI confidence interval.

Table S4 Circulating inflammatory and oxidative markers and the oral-type genera index

Marker	Estimate (95% CI)	P	q	n
Interleukin-6, pg/mL	+0.053 (-0.018 to +0.124)	0.142	0.331	780
High-sensitivity C-reactive protein, mg/dL	+0.044 (-0.029 to +0.116)	0.235	0.396	763
Complement C3, mg/dL	+0.013 (-0.057 to +0.084)	0.715	0.715	782
Complement C4, mg/dL	-0.034 (-0.104 to +0.036)	0.340	0.396	782
Immunoglobulin A, mg/dL	+0.062 (-0.008 to +0.133)	0.083	0.331	782
Immunoglobulin G, mg/dL	+0.035 (-0.036 to +0.106)	0.338	0.396	782
8-hydroxy-2-deoxyguanosine, ng/mL	-0.061 (-0.138 to +0.016)	0.120	0.331	593

Estimates are the difference in the standardised marker per 1 SD of the index, adjusted for age, sex and survey year. q is the Benjamini-Hochberg adjusted P value across the seven markers.

Adjustment for interleukin-6 or for high-sensitivity C-reactive protein left the association between the index and appendicular skeletal muscle mass unchanged.

CI confidence interval.

Table S6 Sex-stratified estimates for the oral-type genera index

Outcome	Men: estimate (95% CI)	P	n	Women: estimate (95% CI)	P	n	P for interaction
ASM, kg	-0.129 (-0.224 to -0.035)	0.007	314	-0.077 (-0.157 to +0.003)	0.059	461	0.144
ASM/height², kg/m²	-0.096 (-0.171 to -0.020)	0.013	314	-0.036 (-0.104 to +0.032)	0.299	461	0.255
ASM/BMI	-0.122 (-0.216 to -0.028)	0.011	314	-0.062 (-0.135 to +0.011)	0.097	461	0.237
Grip strength, kg	-0.040 (-0.141 to +0.062)	0.442	314	-0.072 (-0.160 to +0.015)	0.105	461	0.904
Knee extension strength, kg	-0.092 (-0.195 to +0.010)	0.077	314	-0.054 (-0.144 to +0.037)	0.244	461	0.307
Maximum gait speed, m/s	-0.044 (-0.142 to +0.053)	0.373	311	-0.127 (-0.206 to -0.048)	0.002	461	0.345
Annual change in ASM, %/year	-0.097 (-0.260 to +0.066)	0.243	211	-0.187 (-0.333 to -0.040)	0.013	282	0.977

Estimates are the difference in the standardised outcome per 1 SD of the index, from the Model 5 specification of Table 3 within each sex.
The final row gives the longitudinal outcome, adjusted for age, survey year and baseline appendicular skeletal muscle mass.
P for interaction is from the index by sex product term in the pooled model. No interaction approached significance.
ASM appendicular skeletal muscle mass, CI confidence interval.

Table S5 Oral findings and the oral-type genera index in the dental subsample

Oral measure	n with data	Spearman r	P	n examined in the baseline year
Masticatory ability	160	-0.022	0.782	75
Tongue pressure, kPa	49	-0.095	0.515	0
Oral bacterial count, $\times 10^6$	70	-0.065	0.592	3
EAT-10 swallowing score	53	+0.243	0.079	0
Tongue coating, %	53	+0.137	0.327	0
Oral moisture	89	+0.010	0.928	11
Community Periodontal Index	160	-0.089	0.263	75
Deepest periodontal pocket, mm	35	-0.207	0.233	0

Values are Spearman correlations between the index and each oral measure.

A dental examination was performed in 160 of the 782 participants, and in only 75 of these during the baseline survey year; the remainder were examined two to four years later.

These analyses are exploratory and underpowered. They are not used for confounding adjustment and they neither support nor exclude an oral origin for the index genera.