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Supplementary materials

eTable 1. Read codes for periodontal disease exposure.

Gingivitis

Code	Description
2552	O/E - gingivitis
2556	O/E - bleeding gums
J031z00	Chronic gingivitis NOS
1928	Bleeding gums
J030.00	Acute gingivitis
J031.11	Gingivitis
J031.00	Chronic gingivitis
J031300	Hyperplastic gingivitis
J031200	Desquamative gingivitis
J031100	Ulcerative gingivitis
J03..11	Gingivitis/gingival disease
J031000	Simple marginal gingivitis
J03z.00	Gingival and periodontal disease NOS

Periodontitis

Code	Description
J033200	Paradontal abscess
J034400	Alveolar pyorrhoea
J033300	Periodontal abscess
J03..12	Periodontal disease
J033.00	Acute periodontitis
2553	O/E - pyorrhoea
J051200	Loss of teeth due to local periodontal disease
J034200	Chronic periodontitis simplex
J033z00	Acute periodontitis NOS
J034.00	Chronic periodontitis
J035.00	Periodontosis
J034z00	Chronic periodontitis NOS

eTable 2. Baseline characteristics of the incident cohort

	Incident cohort	
	Exposed n (%)	Unexposed n (%)
All	(n=31,968)	(n=126,278)
Sex (Male)	13715 (42.90)	54062 (42.81)
Age at index date	48.77 (18.77)	48.59 (18.67)
Age categories		
18 - 24 years	3788 (11.85)	15081 (11.94)
25 - 34 years	4921 (15.39)	19604 (15.52)
35 - 44 years	5381 (16.83)	21272 (16.85)
45 - 54 years	5411 (16.93)	21518 (17.04)
55 - 64 years	5124 (16.03)	20212 (16.01)
65 - 74 years	4028 (12.60)	15908 (12.60)
75 & overs	3315 (10.37)	12683 (10.04)
BMI	26.60 (5.73)	26.62 (5.62)
BMI Categories		
Under/Normal weight (18.5-25)	11755 (36.77)	45183 (35.78)
Overweight (25-30)	8573 (26.82)	34623 (27.42)
Obese (>30)	6192 (19.37)	23359 (18.50)
Missing	5448 (17.04)	23113 (18.30)
Townsend quintiles		
1 (Least deprived)	5813 (18.18)	21910 (17.35)
2	5346 (16.72)	19600 (15.52)
3	6118 (19.14)	22190 (17.57)
4	6079 (19.02)	21452 (16.99)
5 (Most deprived)	4810 (15.05)	15776 (12.49)
Missing	3802 (11.89)	25350 (20.07)
Smoking categories		
Non-smoker	14514 (45.40)	57617 (45.63)
Smoker	9452 (29.57)	37338 (29.57)
Ex-smoker	6494 (20.31)	25445 (20.15)
Missing	1508 (4.72)	5878 (4.65)
Ethnicity		
Caucasian	11976 (37.46)	49505 (39.20)
Mixed race	229 (0.72)	764 (0.61)
Other	101 (0.32)	358 (0.28)
Black	509 (1.59)	1415 (1.12)
South Asian	1510 (4.72)	2154 (1.71)
Missing	17643 (55.19)	72082 (57.08)

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eTable 3. Risk of chronic diseases at baseline in the incident only sensitivity analysis cohort

	All cardiovascular disease		Heart failure		Ischaemic heart disease		Stroke/transient-ischaemic attack		Peripheral vascular disease	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Total number of patients	31,968	126,278	31,968	126,278	31,968	126,278	31,968	126,278	31,968	126,278
Number of patients with condition at baseline, n(%)	3,700 (11.57)	11,032 (8.74)	524 (1.64)	1,541 (1.22)	2,352 (7.36)	7,022 (5.56)	1,260 (3.94)	3,660 (2.90)	478 (1.50)	1,388 (1.10)
OR (95% CI)*	1.37 (1.31-1.42)		1.35 (1.22-1.49)		1.35 (1.29-1.42)		1.37 (1.29-1.47)		1.37 (1.23-1.52)	
P value	p<0.01		p<0.01		p<0.01		p<0.01		p<0.01	
aOR (95% CI)**	1.42 (1.36-1.49)		1.30 (1.18-1.45)		1.35 (1.28-1.42)		1.36 (1.27-1.46)		1.31 (1.18-1.46)	
P value	p<0.01		p<0.01		p<0.01		p<0.01		p<0.01	

	Vascular dementia		All cardiometabolic disease		Type 2 diabetes mellitus		Hypertension		All autoimmune conditions	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Total number of patients, n	31,968	126,278	31,968	126,278	31,968	126,278	31,968	126,278	31,968	126,278
Number of patients with condition at baseline, n(%)	89 (0.28)	204 (0.16)	7,488 (23.42)	26,602 (21.07)	2,126 (6.65)	6,773 (5.36)	6,597 (20.64)	23,995 (19.00)	2,833 (8.86)	8,948 (7.09)
OR (95% CI)*	1.73 (1.34-2.21)		1.15 (1.11-1.18)		1.26 (1.20-1.32)		1.11 (1.08-1.14)		1.28 (1.22-1.33)	
P value	p<0.01		p<0.01		p<0.01		p<0.01		p<0.01	
aOR (95% CI)**	1.64 (1.27-2.12)		1.14 (1.10-1.19)		1.15 (1.09-1.22)		1.10 (1.06-1.15)		1.26 (1.21-1.32)	
P value	p<0.01		p<0.01		p<0.01		p<0.01		p<0.01	

	Type 1 diabetes mellitus		Rheumatoid arthritis		Systemic lupus erythematosus		Sjogren		Vitiligo	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Total number of patients, n	31,968	126,278	31,968	126,278	31,968	126,278	31,968	126,278	31,968	126,278

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Number of patients with condition at baseline, n(%)	304 (0.95)	836 (0.66)	403 (1.26)	1,044 (0.83)	104 (0.33)	189 (0.15)	58 (0.18)	119 (0.09)	130 (0.41)	355 (0.28)
OR (95% CI)*	1.44 (1.26-1.64)		1.53 (1.36-1.72)		2.18 (1.71-2.77)		1.93 (1.41-2.64)		1.45 (1.18-1.77)	
P value	p<0.01		p<0.01		p<0.01		p<0.01		p<0.01	
aOR (95% CI)**	1.40 (1.23-1.61)		1.48 (1.32-1.67)		2.14 (1.68-2.73)		1.79 (1.30-2.47)		1.31 (1.07-1.61)	
P value	p<0.01		p<0.01		p<0.01		p<0.01		p=0.01	

	Psoriasis		Pernicious anaemia		Inflammatory bowel disease		Coeliac		Autoimmune thyroiditis	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Total number of patients, n	31,968	126,278	31,968	126,278	31,968	126,278	31,968	126,278	31,968	126,278
Number of patients with condition at baseline, n(%)	1,362 (4.26)	4,558 (3.61)	134 (0.42)	457 (0.36)	317 (0.99)	1,031 (0.82)	119 (0.37)	336 (0.27)	104 (0.33)	408 (0.32)
OR (95% CI)*	1.19 (1.12-1.26)		1.16 (0.96-1.41)		1.22 (1.07-1.38)		1.40 (1.14-1.73)		1.01 (0.81-1.25)	
P value	p<0.01		p=0.13		p<0.01		p<0.01		p=0.95	
aOR (95% CI)**	1.19 (1.12-1.27)		1.10 (0.90-1.34)		1.21 (1.07-1.38)		1.41 (1.14-1.74)		0.98 (0.79-1.22)	
P value	p<0.01		p=0.35		p<0.01		p<0.01		p=0.84	

	Scleroderma		All mental health conditions		Depression		Anxiety		Severe mental illness	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Total number of patients, n	31,968	126,278	31,968	126,278	31,968	126,278	31,968	126,278	31,968	126,278
Number of patients with condition at baseline, n(%)	23 (0.07)	59 (0.05)	10,036 (31.39)	27,197 (21.54)	7,187 (22.48)	19,341 (15.32)	4,894 (15.31)	12,153 (9.62)	703 (2.20)	1,651 (1.31)
OR (95% CI)*	1.54 (0.95-2.49)		1.67 (1.62-1.71)		1.60 (1.56-1.65)		1.70 (1.64-1.76)		1.70 (1.55-1.86)	
P value	p=0.08		p<0.01		p<0.01		p<0.01		p<0.01	

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aOR (95% CI)**	1.45 (0.89-2.37)	1.71 (1.66-1.76)	1.63 (1.58-1.68)	1.71 (1.65-1.78)	1.68 (1.53-1.84)
P value	p=0.14	p<0.01	p<0.01	p<0.01	p<0.01

* Unadjusted odds ratio, OR: odds ratio, aOR: adjusted odds ratio

** Adjusted odds ratio: adjusted for age, sex, body mass index, Townsend deprivation index, smoking status and ethnicity at baseline

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eTable 4. Risk of subsequent development of chronic diseases in the incident only sensitivity analysis

	All cardiovascular disease		Heart failure		Ischaemic heart disease		Stroke/transient-ischaemic attack		Peripheral vascular disease	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Number of patients	28,268	115,246	31,444	124,737	29,616	119,256	30,708	122,618	31,490	124,890
Number of outcomes, n(%)	1,473 (5.21)	5,196 (4.51)	409 (1.30)	1,455 (1.17)	715 (2.41)	2,303 (1.93)	745 (2.43)	2,604 (2.12)	272 (0.86)	784 (0.63)
Person-years	171,643	668,935	193,503	734,319	180,791	698,131	188,372	718,635	193,366	734,953
IR (per 1000 person-years)	8.58	7.77	2.11	1.98	3.95	3.3	3.95	3.62	1.41	1.07
Follow-up, Median(IQR)	5.37 (2.41-8.99)	4.99 (2.19-8.68)	5.46 (2.47-9.12)	5.09 (2.24-8.80)	5.41 (2.43-9.04)	5.05 (2.22-8.75)	5.44 (2.47-9.08)	5.06 (2.23-8.76)	5.45 (2.46-9.11)	5.08 (2.24-8.80)
HR (95% CI)*	1.10 (1.04-1.17)		1.06 (0.95-1.19)		1.20 (1.10-1.30)		1.09 (1.00-1.18)		1.32 (1.15-1.51)	
P value	p<0.01		p=0.27		p<0.01		p=0.04		p<0.01	
aHR (95% CI)**	1.17 (1.10-1.24)		1.07 (0.96-1.20)		1.23 (1.13-1.34)		1.12 (1.03-1.22)		1.32 (1.15-1.52)	
P value	p<0.01		p=0.23		p<0.01		p<0.01		p<0.01	

	Vascular dementia		All cardiometabolic disease		Type 2 diabetes mellitus		Hypertension		All autoimmune conditions	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Number of patients	31,879	126,074	24,480	99,676	29,842	119,505	25,371	102,283	29,135	117,330
Number of outcomes, n(%)	148 (0.46)	474 (0.38)	2,310 (9.44)	8,363 (8.39)	1,355 (4.54)	3,913 (3.27)	1,881 (7.41)	7,192 (7.03)	964 (3.31)	2,700 (2.30)
Person-years	196,449	743,531	142,524	554,252	179,645	693,204	148,885	572,392	152,881	627,091
IR (per 1000 person-years)	0.75	0.64	16.21	15.09	7.54	5.64	12.63	12.56	6.31	4.31
Follow-up, Median(IQR)	5.47 (2.48-9.13)	5.10 (2.25-8.81)	5.02 (2.21-8.68)	4.68 (2.02-8.32)	5.27 (2.35-8.96)	4.98 (2.18-8.68)	5.09 (2.25-8.72)	4.73 (2.04-8.38)	4.24 (1.75-7.95)	4.41 (1.85-8.05)
HR (95% CI)*	1.17 (0.98-1.41)		1.07 (1.03-1.12)		1.34 (1.26-1.42)		1.01 (0.96-1.06)		1.47 (1.37-1.59)	

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	Type 1 diabetes mellitus		Rheumatoid arthritis		Systemic lupus erythematosus		Sjogren		Vitiligo	
P value	p=0.09		p<0.01		p<0.01		p=0.83		p<0.01	
aHR (95% CI)**	1.20 (1.00-1.45)		1.07 (1.02-1.12)		1.30 (1.22-1.38)		1.01 (0.96-1.06)		1.48 (1.37-1.59)	
P value	p=0.06		p<0.01		p<0.01		p=0.77		p<0.01	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Number of patients	31,664	125,442	31,565	125,234	31,864	126,089	31,910	126,159	31,838	125,923
Number of outcomes, n(%)	63 (0.20)	120 (0.10)	146 (0.46)	409 (0.33)	45 (0.14)	72 (0.06)	44 (0.14)	63 (0.05)	63 (0.20)	138 (0.11)
Person-years	194,829	739,746	193,993	737,315	196,108	743,639	196,422	744,022	195,815	742,249
IR (per 1000 person-years)	0.32	0.16	0.75	0.55	0.23	0.1	0.22	0.08	0.32	0.19
Follow-up, Median(IQR)	5.46 (2.47-9.13)	5.10 (2.25-8.82)	5.45 (2.47-9.11)	5.09 (2.25-8.80)	5.46 (2.47-9.13)	5.10 (2.25-8.81)	5.47 (2.47-9.13)	5.10 (2.25-8.81)	5.46 (2.47-9.12)	5.10 (2.25-8.81)
HR (95% CI)*	2.01 (1.48-2.72)		1.35 (1.12-1.64)		2.37 (1.64-3.45)		2.64 (1.79-3.87)		1.74 (1.29-2.34)	
P value	p<0.01		p<0.01		p<0.01		p<0.01		p<0.01	
aHR (95% CI)**	1.84 (1.35-2.51)		1.37 (1.13-1.66)		2.45 (1.68-3.57)		2.57 (1.74-3.80)		1.59 (1.18-2.16)	
P value	p<0.01		p<0.01		p<0.01		p<0.01		p<0.01	

	Psoriasis		Pernicious anaemia		Inflammatory bowel disease		Coeliac		Autoimmune thyroiditis	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Number of patients	30,606	121,720	31,834	125,821	31,651	125,247	31,849	125,942	31,864	125,870
Number of outcomes, n(%)	443 (1.45)	1,294 (1.06)	89 (0.28)	243 (0.19)	105 (0.33)	321 (0.26)	56 (0.18)	173 (0.14)	50 (0.16)	144 (0.11)
Person-years	186,612	712,529	195,847	741,633	194,586	737,712	195,911	742,372	196,034	741,787
IR (per 1000 person-years)	2.37	1.82	0.45	0.33	0.54	0.44	0.29	0.23	0.26	0.19
Follow-up, Median(IQR)	5.40 (2.43-9.03)	5.04 (2.22-8.75)	5.46 (2.48-9.12)	5.10 (2.25-8.81)	5.45 (2.47-9.12)	5.10 (2.25-8.81)	5.46 (2.47-9.12)	5.10 (2.25-8.81)	5.46 (2.47-9.12)	5.10 (2.25-8.81)

HR (95% CI)*	1.31 (1.17-1.46)		1.39 (1.09-1.77)		1.24 (1.00-1.55)		1.23 (0.91-1.66)		1.32 (0.95-1.82)	
P value	p<0.01		p<0.01		p=0.05		p=0.18		p=0.09	
aHR (95% CI)**	1.31 (1.18-1.46)		1.41 (1.10-1.80)		1.23 (0.98-1.53)		1.26 (0.93-1.70)		1.29 (0.93-1.78)	
P value	p<0.01		p<0.01		p=0.07		p=0.14		p=0.12	
	Scleroderma		**All mental health conditions**		**Depression**		**Anxiety**		**Severe mental illness**	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Number of patients	31,945	126,219	21,932	99,081	24,781	106,937	27,074	114,125	31,265	124,627
Number of outcomes, n(%)	5 (0.02)	16 (0.01)	2,450 (11.17)	7,513 (7.58)	1,955 (7.89)	5,746 (5.37)	1,586 (5.86)	4,127 (3.62)	202 (0.65)	418 (0.34)
Person-years	196,725	744,579	124,610	551,747	144,563	605,666	158,613	653,590	192,266	734,597
IR (per 1000 person-years)	0.03	0.02	19.66	13.62	13.52	9.49	10	6.31	1.05	0.57
Follow-up, Median(IQR)	5.47 (2.48-9.13)	5.10 (2.25-8.82)	4.83 (2.13-8.47)	4.69 (2.03-8.35)	5.00 (2.22-8.70)	4.80 (2.09-8.49)	5.08 (2.27-8.73)	4.90 (2.14-8.57)	5.45 (2.47-9.12)	5.10 (2.25-8.81)
HR (95% CI)*	1.19 (0.43-3.24)		1.45 (1.38-1.51)		1.43 (1.36-1.51)		1.58 (1.50-1.68)		1.85 (1.57-2.19)	
P value	p=0.74		p<0.01		p<0.01		p<0.01		p<0.01	
aHR (95% CI)**	1.20 (0.43-3.32)		1.47 (1.40-1.53)		1.45 (1.37-1.52)		1.58 (1.49-1.68)		1.86 (1.57-2.20)	
P value	p=0.72		p<0.01		p<0.01		p<0.01		p<0.01	

* Unadjusted hazard ratio, IR: incidence rate, HR: hazard ratio, aHR: adjusted hazard ratio
** Adjusted hazard ratio: adjusted for age, sex, body mass index, Townsend deprivation index, smoking status and ethnicity at baseline

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eTable 5. Baseline characteristics of the periodontitis cohort

	Periodontitis only cohort	
	Exposed n (%)	Unexposed n (%)
All	(n=3,384)	(n=12,893)
Sex (Male)	1560 (46.10)	5927 (45.97)
Age at index date	48.10 (17.43)	47.81 (17.25)
Age categories		
18 - 24 years	330 (9.75)	1269 (9.84)
25 - 34 years	502 (14.83)	1952 (15.14)
35 - 44 years	650 (19.21)	2515 (19.51)
45 - 54 years	701 (20.72)	2646 (20.52)
55 - 64 years	560 (16.55)	2148 (16.66)
65 - 74 years	369 (10.90)	1368 (10.61)
75 & overs	272 (8.04)	995 (7.72)
BMI	26.49 (5.62)	26.43 (5.43)
BMI Categories		
Under/Normal weight (18.5-25)	1203 (35.55)	4539 (35.21)
Overweight (25-30)	905 (26.74)	3475 (26.95)
Obese (>30)	571 (16.87)	2122 (16.46)
Missing	705 (20.83)	2757 (21.38)
Townsend quintiles		
1 (Least deprived)	584 (17.26)	2128 (16.51)
2	580 (17.14)	2051 (15.91)
3	614 (18.14)	2187 (16.96)
4	644 (19.03)	2135 (16.56)
5 (Most deprived)	520 (15.37)	1616 (12.53)
Missing	442 (13.06)	2776 (21.53)
Smoking categories		
Non-smoker	1359 (40.16)	5221 (40.49)
Smoker	1124 (33.22)	4274 (33.15)
Ex-smoker	585 (17.29)	2224 (17.25)
Missing	316 (9.34)	1174 (9.11)
Ethnicity		
Caucasian	1271 (37.56)	4906 (38.05)
Mixed race	21 (0.62)	67 (0.52)
Other	5 (0.15)	40 (0.31)
Black	45 (1.33)	132 (1.02)
South Asian	82 (2.42)	170 (1.32)
Missing	1960 (57.92)	7578 (58.78)

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eTable 6. Risk of chronic diseases at baseline in the periodontitis only sensitivity analysis cohort

	All cardiovascular disease		Heart failure		Ischaemic heart disease		Stroke/transient-ischaemic attack		Peripheral vascular disease	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Total number of patients	3,384	12,893	3,384	12,893	3,384	12,893	3,384	12,893	3,384	12,893
Number of patients with condition at baseline, n(%)	355 (10.49)	971 (7.53)	53 (1.57)	120 (0.93)	244 (7.21)	607 (4.71)	112 (3.31)	297 (2.30)	59 (1.74)	141 (1.09)
OR (95% CI)*	1.44 (1.27-1.64)		1.69 (1.22-2.35)		1.57 (1.35-1.83)		1.45 (1.16-1.81)		1.60 (1.18-2.18)	
P value	p<0.01		p<0.01		p<0.01		p<0.01		p<0.01	
aOR (95% CI)**	1.50 (1.30-1.74)		1.71 (1.22-2.41)		1.64 (1.38-1.94)		1.43 (1.14-1.81)		1.57 (1.15-2.15)	
P value	p<0.01		p<0.01		p<0.01		p<0.01		p<0.01	
	Vascular dementia		All cardiometabolic disease		Type 2 diabetes mellitus		Hypertension		All autoimmune conditions	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Total number of patients, n	3,384	12,893	3,384	12,893	3,384	12,893	3,384	12,893	3,384	12,893
Number of patients with condition at baseline, n(%)	4 (0.12)	18 (0.14)	659 (19.47)	2,221 (17.23)	172 (5.08)	529 (4.10)	590 (17.43)	2,006 (15.56)	286 (8.45)	836 (6.48)
OR (95% CI)*	0.85 (0.29-2.50)		1.16 (1.06-1.28)		1.25 (1.05-1.49)		1.15 (1.04-1.27)		1.33 (1.16-1.53)	
P value	p=0.76		p<0.01		p=0.01		p<0.01		p<0.01	
aOR (95% CI)**	0.71 (0.23-2.19)		1.19 (1.06-1.34)		1.25 (1.03-1.51)		1.17 (1.04-1.32)		1.32 (1.15-1.52)	
P value	p=0.55		p<0.01		p=0.02		p<0.01		p<0.01	
	Type 1 diabetes mellitus		Rheumatoid arthritis		Systemic lupus erythematosus		Sjogren		Vitiligo	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Total number of patients, n	3,384	12,893	3,384	12,893	3,384	12,893	3,384	12,893	3,384	12,893

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Number of patients with condition at baseline, n(%)	43 (1.27)	79 (0.61)	37 (1.09)	96 (0.74)	10 (0.30)	20 (0.16)	4 (0.12)	9 (0.07)	13 (0.38)	25 (0.19)
OR (95% CI)*	2.09 (1.44-3.03)		1.47 (1.01-2.16)		1.91 (0.89-4.08)		1.69 (0.52-5.50)		1.98 (1.01-3.88)	
P value	p<0.01		p=0.05		p=0.10		p=0.38		p=0.05	
aOR (95% CI)**	2.07 (1.42-3.02)		1.44 (0.98-2.13)		1.82 (0.84-3.93)		1.45 (0.44-4.79)		1.99 (1.01-3.92)	
P value	p<0.01		p=0.06		p=0.13		p=0.54		p=0.05	

	Psoriasis		Pernicious anaemia		Inflammatory bowel disease		Coeliac		Autoimmune thyroiditis	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Total number of patients, n	3,384	12,893	3,384	12,893	3,384	12,893	3,384	12,893	3,384	12,893
Number of patients with condition at baseline, n(%)	125 (3.69)	437 (3.39)	14 (0.41)	31 (0.24)	36 (1.06)	94 (0.73)	8 (0.24)	32 (0.25)	9 (0.27)	42 (0.33)
OR (95% CI)*	1.09 (0.89-1.34)		1.72 (0.92-3.24)		1.46 (1.00-2.15)		0.95 (0.44-2.07)		0.82 (0.40-1.68)	
P value	p=0.39		p=0.09		p=0.05		p=0.90		p=0.58	
aOR (95% CI)**	1.09 (0.89-1.34)		1.54 (0.81-2.92)		1.45 (0.98-2.14)		0.98 (0.45-2.15)		0.81 (0.39-1.67)	
P value	p=0.40		p=0.19		p=0.06		p=0.97		p=0.57	

	Scleroderma		All mental health conditions		Depression		Anxiety		Severe mental illness	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Total number of patients, n	3,384	12,893	3,384	12,893	3,384	12,893	3,384	12,893	3,384	12,893
Number of patients with condition at baseline, n(%)	7 (0.21)	7 (0.05)	1,021 (30.17)	2,745 (21.29)	704 (20.80)	1,942 (15.06)	531 (15.69)	1,252 (9.71)	70 (2.07)	149 (1.16)
OR (95% CI)*	3.82 (1.34-10.89)		1.60 (1.47-1.74)		1.48 (1.35-1.63)		1.73 (1.55-1.93)		1.81 (1.36-2.41)	
P value	p=0.01		p<0.01		p<0.01		p<0.01		p<0.01	

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aOR (95% CI)**	4.18 (1.45-12.10)	1.63 (1.49-1.78)	1.50 (1.36-1.66)	1.74 (1.55-1.94)	1.83 (1.37-2.44)
P value	p<0.01	p<0.01	p<0.01	p<0.01	p<0.01

* Unadjusted odds ratio, OR: odds ratio, aOR: adjusted odds ratio

** Adjusted odds ratio: adjusted for age, sex, body mass index, Townsend deprivation index, smoking status and ethnicity at baseline

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eTable 7. Risk of subsequent development of chronic diseases in the periodontitis only sensitivity analysis

	All cardiovascular disease		Heart failure		Ischaemic heart disease		Stroke/transient-ischaemic attack		Peripheral vascular disease	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Number of patients	3,029	11,922	3,331	12,773	3,140	12,286	3,272	12,596	3,325	12,752
Number of outcomes, n(%)	221 (7.30)	646 (5.42)	57 (1.71)	156 (1.22)	106 (3.38)	301 (2.45)	97 (2.96)	311 (2.47)	47 (1.41)	101 (0.79)
Person-years	21,705	80,954	24,737	88,720	22,881	84,397	24,127	86,844	24,625	88,567
IR (per 1000 person-years)	10.18	7.98	2.3	1.76	4.63	3.57	4.02	3.58	1.91	1.14
Follow-up, Median(IQR)	5.92 (2.63-10.83)	5.60 (2.30-10.26)	6.31 (2.81-11.32)	5.83 (2.42-10.46)	6.19 (2.75-11.03)	5.70 (2.36-10.36)	6.23 (2.81-11.15)	5.73 (2.39-10.37)	6.29 (2.77-11.23)	5.83 (2.42-10.48)
HR (95% CI)*	1.27 (1.09-1.48)		1.30 (0.96-1.77)		1.30 (1.04-1.62)		1.12 (0.89-1.41)		1.67 (1.18-2.36)	
P value	p<0.01		p=0.09		p=0.02		p=0.33		p<0.01	
aHR (95% CI)**	1.31 (1.12-1.52)		1.27 (0.94-1.73)		1.35 (1.08-1.69)		1.12 (0.89-1.41)		1.67 (1.18-2.38)	
P value	p<0.01		p=0.12		p<0.01		p=0.34		p<0.01	

	Vascular dementia		All cardiometabolic disease		Type 2 diabetes mellitus		Hypertension		All autoimmune conditions	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Number of patients	3,380	12,875	2,725	10,672	3,212	12,364	2,794	10,887	3,098	12,057
Number of outcomes, n(%)	20 (0.59)	55 (0.43)	303 (11.12)	1,133 (10.62)	173 (5.39)	449 (3.63)	247 (8.84)	982 (9.02)	104 (3.36)	308 (2.55)
Person-years	25,137	89,654	18,750	68,456	23,111	84,508	19,504	70,497	19,592	74,615
IR (per 1000 person-years)	0.8	0.61	16.16	16.55	7.49	5.31	12.66	13.93	5.31	4.13
Follow-up, Median(IQR)	6.31 (2.84-11.32)	5.86 (2.44-10.51)	5.54 (2.38-10.38)	5.16 (2.12-9.61)	6.00 (2.65-10.90)	5.66 (2.34-10.32)	5.67 (2.45-10.54)	5.23 (2.14-9.72)	4.86 (1.93-9.57)	4.89 (1.89-9.45)
HR (95% CI)*	1.27 (0.76-2.12)		0.97 (0.86-1.10)		1.40 (1.18-1.67)		0.90 (0.79-1.04)		1.25 (1.00-1.56)	

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P value	p=0.36	p=0.65	p<0.01	p=0.16	p=0.05
aHR (95% CI)**	1.23 (0.73-2.07)	0.96 (0.85-1.10)	1.43 (1.20-1.71)	0.91 (0.79-1.05)	1.21 (0.96-1.51)
P value	p=0.44	p=0.57	p<0.01	p=0.20	p=0.10

	Type 1 diabetes mellitus		Rheumatoid arthritis		Systemic lupus erythematosus		Sjogren		Vitiligo	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Number of patients	3,341	12,814	3,347	12,797	3,374	12,873	3,380	12,884	3,371	12,868
Number of outcomes, n(%)	8 (0.24)	17 (0.13)	13 (0.39)	51 (0.40)	6 (0.18)	10 (0.08)	6 (0.18)	3 (0.02)	8 (0.24)	9 (0.07)
Person-years	24,868	89,212	24,897	88,889	25,097	89,628	25,152	89,766	25,066	89,569
IR (per 1000 person-years)	0.32	0.19	0.52	0.57	0.24	0.11	0.24	0.03	0.32	0.1
Follow-up, Median(IQR)	6.31 (2.81-11.32)	5.86 (2.44-10.51)	6.31 (2.81-11.32)	5.83 (2.42-10.48)	6.31 (2.84-11.32)	5.86 (2.44-10.51)	6.31 (2.84-11.32)	5.86 (2.44-10.51)	6.31 (2.84-11.32)	5.85 (2.44-10.51)
HR (95% CI)*	1.71 (0.74-3.97)		0.90 (0.49-1.66)		2.13 (0.77-5.86)		7.02 (1.76-28.09)		3.13 (1.21-8.13)	
P value	p=0.21		p=0.74		p=0.14		p<0.01		p=0.02	
aHR (95% CI)**	1.62 (0.70-3.76)		0.96 (0.52-1.77)		2.15 (0.77-6.00)		6.67 (1.66-26.86)		2.90 (1.11-7.61)	
P value	p=0.26		p=0.90		p=0.14		p<0.01		p=0.03	

	Psoriasis		Pernicious anaemia		Inflammatory bowel disease		Coeliac		Autoimmune thyroiditis	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Number of patients	3,259	12,456	3,370	12,862	3,348	12,799	3,376	12,861	3,375	12,851
Number of outcomes, n(%)	49 (1.50)	165 (1.32)	13 (0.39)	25 (0.19)	13 (0.39)	34 (0.27)	5 (0.15)	20 (0.16)	1 (0.03)	12 (0.09)
Person-years	23,982	85,868	25,033	89,510	24,901	89,000	25,106	89,487	25,127	89,498
IR (per 1000 person-years)	2.04	1.92	0.52	0.28	0.52	0.38	0.2	0.22	0.04	0.13
Follow-up, Median(IQR)	6.25 (2.77-11.10)	5.76 (2.39-10.37)	6.31 (2.84-11.25)	5.84 (2.44-10.50)	6.31 (2.81-11.32)	5.85 (2.43-10.50)	6.31 (2.82-11.32)	5.85 (2.44-10.50)	6.31 (2.84-11.32)	5.86 (2.44-10.51)
HR (95% CI)*	1.06 (0.77-1.46)		1.85 (0.95-3.62)		1.35 (0.71-2.57)		0.90 (0.34-2.39)		0.30 (0.04-2.29)	

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	Scleroderma		All mental health conditions		Depression		Anxiety		Severe mental illness	
P value	p=0.71		p=0.07		p=0.35		p=0.83		p=0.24	
aHR (95% CI)**	1.05 (0.76-1.44)		1.89 (0.96-3.74)		1.35 (0.71-2.57)		0.85 (0.32-2.28)		0.29 (0.04-2.23)	
P value	p=0.78		p=0.07		p=0.36		p=0.75		p=0.23	
	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed	Exposed	Unexposed
Number of patients	3,377	12,886	2,363	10,148	2,680	10,951	2,853	11,641	3,314	12,744
Number of outcomes, n(%)	2 (0.06)	3 (0.02)	287 (12.15)	875 (8.62)	224 (8.36)	671 (6.13)	189 (6.62)	521 (4.48)	15 (0.45)	46 (0.36)
Person-years	25,152	89,739	16,121	65,906	18,839	72,978	19,995	77,498	24,744	88,828
IR (per 1000 person-years)	0.08	0.03	17.8	13.28	11.89	9.19	9.45	6.72	0.61	0.52
Follow-up, Median(IQR)	6.31 (2.84-11.32)	5.86 (2.44-10.51)	5.59 (2.33-10.37)	5.24 (2.09-9.85)	5.76 (2.54-10.52)	5.47 (2.21-10.09)	5.77 (2.54-10.63)	5.50 (2.24-10.04)	6.34 (2.86-11.32)	5.86 (2.44-10.51)
HR (95% CI)*	2.40 (0.40-14.36)		1.35 (1.18-1.54)		1.30 (1.12-1.52)		1.41 (1.19-1.66)		1.18 (0.66-2.12)	
P value	p=0.34		p<0.01		p<0.01		p<0.01		p=0.57	
aHR (95% CI)**	2.26 (0.37-13.70)		1.33 (1.16-1.52)		1.29 (1.11-1.50)		1.37 (1.16-1.62)		1.24 (0.69-2.23)	
P value	p=0.37		p<0.01		p<0.01		p<0.01		p=0.47	

* Unadjusted hazard ratio, IR: incidence rate, HR: hazard ratio, aHR: adjusted hazard ratio
** Adjusted hazard ratio: adjusted for age, sex, body mass index, Townsend deprivation index, smoking status and ethnicity at baseline