

Supplementary Table S1. Crude and adjusted hazard ratios of consultation for diseases occurring in persons with incident_doctor-diagnosed knee or hip osteoarthritis (OA) compared to non-OA persons.

	<u>All</u>			<u>No OA</u>			<u>Knee OA</u>			Crude HR (95% CI)	Adjusted* HR (95% CI)	<u>Hip OA</u>			Crude HR (95% CI)	Adjusted* HR (95% CI)
	Person time, years	People with outcome	People without outcome	Person time, years	People with outcome	People without outcome	Person time, years	People with outcom e	People without outcome			Person time, years	Peopl e with outco me	People without outcome		
Depression (N analyzed = 500,341 / 497,065*)	3,526,002	48,046	495,277	3,373,749	45,374	454,967	109,178	1,911	28,787	1.28 (1.23, 1.34)	1.16 (1.10, 1.21)	43,074	761	11,523	1.30 (1.21, 1.39)	1.14 (1.06, 1.23)
Alzheimer Disease (N analyzed = 546,109 / 542,570*)	4,018,884	6,824	589,734	3,835,808	6,276	539,833	131,604	361	35,762	1.51 (1.36, 1.68)	0.88 (0.79, 0.99)	51,472	187	14,139	2.01 (1.73, 2.32)	0.94 (0.81, 1.09)
Other dementia (N analyzed = 548,211/ 544,645*)	4,041,047	1,068	597,931	3,856,429	991	547,220	132,648	50	36,303	1.36 (1.02, 1.82)	0.92 (0.69, 1.23)	51,971	27	14,408	1.88 (1.28, 2.76)	1.06 (0.72, 1.55)
Hypertension (N analyzed = 433,725 / 431,395*)	2,851,933	107,819	352,955	2,763,768	102,090	331,635	64,998	3,991	15,644	1.67 (1.62, 1.72)	1.19 (1.15, 1.23)	23,168	1,738	5,675	2.04 (1.94, 2.14)	1.29 (1.23, 1.36)
Ischemic heart diseases (N analyzed = 504,193 / 501,285*)	3,663,964	31,929	515,664	3,509,060	29,785	474,408	112,469	1,454	29,907	1.59 (1.50, 1.67)	1.07 (1.02, 1.13)	42,435	690	11,349	1.99 (1.85, 2.15)	1.16 (1.07, 1.25)
Heart failure (N analyzed = 529,403 / 526,336*)	3,876,766	30,373	546,517	3,706,919	27,758	501,645	122,600	1,707	32,407	1.86 (1.77, 1.95)	1.15 (1.09, 1.21)	47,246	908	12,465	2.57 (2.40, 2.74)	1.24 (1.16, 1.33)
Cerebrovascular disease (N analyzed = 524,262 / 521,075*)	3,818,607	29,980	541,102	3,650,967	27,791	496,471	121,270	1,476	32,199	1.59 (1.51, 1.68)	1.03 (0.97, 1.08)	46,371	713	12,432	2.01 (1.87, 2.17)	1.07 (1.00, 1.16)
Diabetes mellitus (N analyzed = 509,737 / 506,747*)	3,679,814	30,715	523,317	3,521,584	28,766	480,971	113,567	1,428	30,275	1.50 (1.42, 1.58)	1.19 (1.13, 1.26)	44,663	521	12,071	1.39 (1.27, 1.51)	1.03 (0.95, 1.13)
Lung cancer (TBL) (N analyzed = 547,376 / 543,819*)	4,033,225	5,320	592,740	3,849,095	4,998	542,376	132,374	196	36,104	1.08 (0.94, 1.25)	0.75 (0.65, 0.87)	51,756	126	14,260	1.75 (1.46, 2.10)	1.07 (0.89, 1.28)
Colorectal cancer (N analyzed = 545,408 / 541,877*)	4,014,083	5,202	590,489	3,831,590	4,866	540,542	131,255	228	35,788	1.30 (1.14, 1.49)	0.90 (0.79, 1.04)	51,238	108	14,159	1.59 (1.31, 1.92)	0.92 (0.76, 1.12)
Breast cancer (women only) (N analyzed = 275,842 / 273,700*)	2,014,749	7,507	581,605	1,912,660	7,003	532,864	73,877	357	34,927	1.34 (1.20, 1.49)	1.12 (1.01, 1.24)	28,212	147	13,814	1.44 (1.22, 1.70)	1.15 (1.00, 1.34)
Prostate cancer (men only)	1,862,026	8,801	580,506	1,792,085	8,219	531,799	50,176	395	34,971	1.65 (1.49, 1.83)	1.13 (1.02, 1.26)	19,765	187	13,736	1.98 (1.72, 2.30)	1.17 (1.01, 1.36)

(N analyzed = 255,587 / 254,268*)																
Hip fracture (N analyzed = 540,591 / 537,247*)	3,978,226	13,280	576,740	3,799,384	12,300	528,291	129,484	691	34,972	1.64 (1.52, 1.77)	0.95 (0.88, 1.03)	49,359	289	13,477	1.80 (1.60, 2.02)	0.83 (0.74, 0.94)
Forearm fracture (N analyzed = 529,328 / 525,982*)	3,855,400	15,558	561,357	3,683,812	14,597	514,731	123,475	677	33,421	1.40 (1.30, 1.52)	1.07 (0.99, 1.16)	48,112	284	13,205	1.51 (1.34, 1.70)	1.04 (0.92, 1.17)
Ankle fracture (N analyzed = 539,281 / 536,797*)	3,952,309	6,638	582,053	3,773,030	6,297	532,984	128,874	237	35,155	1.16 (1.01, 1.32)	0.99 (0.87, 1.13)	50,405	104	13,914	1.30 (1.07, 1.57)	1.05 (0.86, 1.28)
Back pain (neck and low back) (N analyzed = 447,611 / 444,757*)	2,985,802	86,477	392,380	2,880,948	81,251	366,360	77,951	3,727	19,307	1.64 (1.58, 1.69)	1.41 (1.36, 1.45)	26,904	1,499	6,713	1.91 (1.81, 2.01)	1.60 (1.52, 1.68)
Osteoporosis (N analyzed = 531,853 / 528,473*)	3,858,906	22,209	556,376	3,691,883	20,322	511,531	121,061	1,240	32,412	1.81 (1.71, 1.92)	1.15 (1.09, 1.22)	45,962	647	12,433	2.49 (2.30, 2.69)	1.39 (1.29, 1.51)
Chronic lower respiratory diseases (COPD, bronchitis, emphysema) (N analyzed = 542,451 / 538,961*)	3,984,165	6,675	585,522	3,803,910	6,219	536,232	129,669	321	35,340	1.49 (1.33, 1.67)	1.11 (0.99, 1.24)	50,587	135	13,950	1.61 (1.36, 1.91)	1.06 (0.89, 1.26)

N: number of people, HR, hazard ratio; CI, confidence interval; TBL, tracheal, bronchus, and lung

*Adjusted for sex, age, alcohol-related disorders, marital status, if born in Sweden, residential area, income, education in years, and comorbidities.

Supplementary Table S2. Crude and adjusted hazard ratios of consultation for diseases occurring in persons with prevalent doctor-diagnosed knee or hip osteoarthritis (OA) compared to non-OA persons.

	<u>All</u>		<u>No OA</u>		<u>Knee OA</u>				<u>Hip OA</u>			
	Person time, years	People with outcome	Person time, years	People with outcome	Person time, years	People with outcome	Crude HR (95% CI)	Adjusted* HR (95% CI)	Person time, years	People with outcome	Crude HR (95% CI)	Adjusted* HR (95% CI)
Depression (N analyzed = 476,503 / 473,183*)	3,323,278	44,717	3,190,952	42,401	90,946	1,536	1.27 (1.21, 1.34)	1.09 (1.04, 1.15)	41,380	780	1.43 (1.33, 1.53)	1.13 (1.05, 1.21)
Alzheimer Disease (N analyzed = 520,065 / 516,479*)	3,780,253	6,748	3,627,177	6,006	105,288	451	2.62 (2.38, 2.88)	1.07 (0.97, 1.18)	47,788	291	3.75 (3.34, 4.22)	1.07 (0.95, 1.20)
Other dementia (N analyzed = 522,348 / 518,725*)	3,802,836	1,049	3,647,154	955	106,900	57	2.05 (1.57, 2.68)	1.06 (0.81, 1.39)	48,782	37	2.93 (2.11, 4.07)	1.09 (0.78, 1.53)
Hypertension (N analyzed = 411,789 / 409,470*)	2,709,076	97,882	2,632,978	93,282	54,731	3,145	1.62 (1.57, 1.68)	1.00 (0.97, 1.04)	21,367	1,455	1.93 (1.83, 2.03)	0.89 (0.85, 0.94)
Ischemic heart diseases (N analyzed = 478,632 / 475,724*)	3,448,242	29,957	3,324,415	27,562	86,610	1,538	2.13 (2.02, 2.24)	1.09 (1.03, 1.15)	37,216	857	2.75 (2.57, 2.95)	1.05 (0.98, 1.12)
Heart failure (N analyzed = 502,148 / 499,101*)	3,642,500	29,633	3,506,512	26,155	94,520	2,120	3.01 (2.88, 3.14)	1.26 (1.20, 1.31)	41,468	1,358	4.39 (4.16, 4.63)	1.24 (1.18, 1.31)
Cerebrovascular disease (N analyzed = 498,028 / 494,809*)	3,590,763	28,735	3,453,865	26,100	95,329	1,615	2.24 (2.13, 2.36)	1.06 (1.00, 1.11)	41,569	1,020	3.25 (3.05, 3.46)	1.11 (1.04, 1.19)
Diabetes mellitus (N analyzed = 484,586 / 481,555*)	3,464,307	28,197	3,333,744	26,523	89,516	1,144	1.61 (1.52, 1.71)	1.11 (1.04, 1.17)	41,046	530	1.63 (1.50, 1.78)	0.96 (0.88, 1.04)
Lung cancer (TBL) (N analyzed = 521,512 / 517,901*)	3,795,408	5,332	3,640,154	4,920	106,624	243	1.69 (1.49, 1.93)	0.94 (0.82, 1.07)	48,629	169	2.59 (2.22, 3.02)	1.11 (0.95, 1.30)
Colorectal cancer (N analyzed = 519,566 / 515,981*)	3,777,649	5,018	3,623,930	4,650	105,684	235	1.74 (1.53, 1.98)	0.96 (0.84, 1.10)	48,035	133	2.17 (1.83, 2.58)	0.92 (0.77, 1.09)
Breast cancer (women only) (N analyzed = 260,395 / 258,197*)	1,875,474	6,966	1,795,403	6,520	54,301	314	1.59 (1.42, 1.78)	1.21 (1.08, 1.36)	25,770	132	1.41 (1.19, 1.67)	0.96 (0.81, 1.15)
Prostate cancer (men only) (N analyzed = 245,694 / 244,379)	1,774,697	8,214	1,710,481	7,663	45,259	367	1.82 (1.64, 2.02)	1.13 (1.02, 1.26)	18,957	184	2.19 (1.89, 2.53)	0.96 (0.83, 1.11)
Hip fracture (N analyzed = 514,105 / 510,739*)	3,741,791	12,734	3,593,593	11,549	102,285	841	2.56 (2.39, 2.74)	0.94 (0.88, 1.01)	45,913	344	2.33 (2.09, 2.60)	0.58 (0.52, 0.65)
Forearm fracture (N analyzed = 504,144 / 500,754*)	3,630,236	14,510	3,485,983	13,587	99,211	627	1.62 (1.49, 1.75)	1.12 (1.03, 1.21)	45,042	296	1.68 (1.50, 1.89)	0.97 (0.86, 1.09)
Ankle fracture (N analyzed = 513,887 / 510,342*)	3,720,571	6,211	3,568,900	5,873	104,049	234	1.36 (1.19, 1.55)	1.08 (0.94, 1.23)	47,622	104	1.32 (1.08, 1.60)	0.95 (0.78, 1.16)
Back pain (neck and low back) (N analyzed = 426,527 / 423,644*)	2,832,209	77,946	2,736,657	74,123	67,257	2,684	1.48 (1.43, 1.54)	1.23 (1.19, 1.28)	28,295	1,139	1.50 (1.42, 1.59)	1.15 (1.08, 1.22)
Osteoporosis (N analyzed = 506,345 / 502,914*)	3,635,966	19,903	3,494,854	18,393	97,774	993	1.94 (1.82, 2.07)	1.02 (0.96, 1.09)	43,337	517	2.29 (2.09, 2.49)	0.93 (0.85, 1.01)
Chronic lower respiratory diseases (COPD, bronchitis, emphysema) (N analyzed = 516,730 / 513,192*)	3,750,004	6,214	3,598,092	5,806	104,439	264	1.57 (1.39, 1.78)	0.96 (0.85, 1.09)	47,473	144	1.89 (1.60, 2.23)	0.94 (0.79, 1.11)

N: number of people, HR, hazard ratio; CI, confidence interval; TBL, tracheal, bronchus, and lung

*Adjusted for sex, age, alcohol related disorders, marital status, if born in Sweden, residential area, income, education in years, and comorbidities.

Supplementary Table S3. Sensitivity analysis – impact of classifying osteoarthritis (OA) cases if at least two OA diagnoses on crude and adjusted hazard ratios of consultation for diseases occurring in persons with incident doctor-diagnosed knee or hip OA compared to non-OA persons.

	All		No OA		Knee OA		Hip OA					
	Person time, years	People with outcome	Person time, years	People with outcome	Person time, years	People with outcome	Crude HR (95% CI)	Adjusted* HR (95% CI)	Person time, years	People with outcome	Crude HR (95% CI)	Adjusted* HR (95% CI)
Depression (N analyzed = 500,341 / 497,065*)	3,526,002	48,046	3,444,252	46,614	54,785	987	1.31 (1.23, 1.40)	1.16 (1.09, 1.24)	26,965	445	1.20 (1.09, 1.32)	1.07 (0.98, 1.18)
Alzheimer Disease (N analyzed = 546,109 / 542,570*)	4,018,884	6,824	3,919,560	6,503	67,147	201	1.60 (1.39, 1.84)	0.86 (0.75, 0.99)	32,177	120	2.01 (1.67, 2.40)	0.97 (0.81, 1.16)
Other dementia (N analyzed = 548,211 / 544,645*)	4,041,047	1,068	3,940,869	1,022	67,696	29	1.52 (1.05, 2.21)	0.95 (0.65, 1.39)	32,482	17	1.87 (1.15, 3.02)	1.07 (0.66, 1.72)
Hypertension (N analyzed = 433,725 / 431,395*)	2,851,933	107,819	2,808,948	104,883	29,128	1,933	1.78 (1.70, 1.87)	1.19 (1.14, 1.25)	13,857	1,003	1.94 (1.82, 2.07)	1.23 (1.15, 1.31)
Ischemic heart diseases (N analyzed = 504,193 / 501,285*)	3,663,964	31,929	3,580,982	30,702	56,311	788	1.70 (1.58, 1.83)	1.07 (1.00, 1.15)	26,671	439	2.00 (1.82, 2.20)	1.17 (1.06, 1.29)
Heart failure (N analyzed = 529,403 / 526,336*)	3,876,766	30,373	3,785,550	28,832	61,697	987	2.09 (1.96, 2.23)	1.18 (1.11, 1.26)	29,519	554	2.45 (2.25, 2.67)	1.24 (1.14, 1.35)
Cerebrovascular disease (N analyzed = 524,262 / 521,075*)	3,818,607	29,980	3,728,146	28,723	61,285	819	1.72 (1.60, 1.84)	1.03 (0.96, 1.11)	29,176	438	1.93 (1.76, 2.12)	1.04 (0.95, 1.15)
Diabetes mellitus (N analyzed = 509,737 / 506,747*)	3,679,814	30,715	3,595,186	29,660	56,674	735	1.52 (1.41, 1.63)	1.15 (1.07, 1.24)	27,954	320	1.34 (1.20, 1.50)	1.00 (0.90, 1.12)
Lung cancer (TBL) (N analyzed = 547,376 / 543,819*)	4,033,225	5,320	3,933,355	5,130	67,531	108	1.15 (0.95, 1.40)	0.75 (0.62, 0.91)	32,340	82	1.81 (1.45, 2.26)	1.12 (0.90, 1.40)
Colorectal cancer (N analyzed = 545,408 / 541,877*)	4,014,083	5,202	3,915,146	5,008	66,945	129	1.42 (1.19, 1.70)	0.93 (0.78, 1.11)	31,992	65	1.51 (1.18, 1.92)	0.88 (0.69, 1.13)
Breast cancer (women only) (N analyzed = 275,842 / 273,700*)	2,014,749	7,507	1,958,904	7,229	38,253	195	1.40 (1.21, 1.61)	1.15 (0.99, 1.33)	17,591	83	1.29 (1.04, 1.60)	1.00 (0.81, 1.25)
Prostate cancer (men only) (N analyzed = 255,587 / 254,268*)	1,862,026	8,801	1,825,008	8,472	24,678	216	1.80 (1.57, 2.06)	1.13 (0.99, 1.30)	12,340	113	1.88 (1.56, 2.27)	1.11 (0.92, 1.34)
Hip fracture (N analyzed = 540,591 / 537,247*)	3,978,226	13,280	3,881,089	12,724	65,969	393	1.80 (1.62, 1.99)	0.97 (0.87, 1.07)	31,168	163	1.58 (1.35, 1.84)	0.75 (0.64, 0.87)
Forearm fracture (N analyzed = 529,328 / 525,982*)	3,855,400	15,558	3,762,615	15,033	62,781	344	1.39 (1.24, 1.54)	1.02 (0.92, 1.14)	30,004	181	1.53 (1.32, 1.77)	1.07 (0.92, 1.23)
Ankle fracture (N analyzed = 539,281 / 536,797*)	3,952,309	6,638	3,855,076	6,458	65,749	120	1.15 (0.96, 1.37)	0.96 (0.80, 1.15)	31,484	60	1.19 (0.93, 1.54)	0.97 (0.75, 1.26)
Back pain (neck and low back) (N analyzed = 447,611 / 444,757*)	2,985,802	86,477	2,931,014	83,742	37,714	1,917	1.70 (1.63, 1.78)	1.42 (1.36, 1.49)	17,075	818	1.61 (1.50, 1.72)	1.36 (1.27, 1.46)
Osteoporosis (N analyzed = 531,853 / 528,473*)	3,858,906	22,209	3,768,861	21,153	61,285	688	1.93 (1.78, 2.08)	1.15 (1.06, 1.24)	28,761	368	2.20 (1.98, 2.44)	1.24 (1.12, 1.37)
Chronic lower respiratory diseases (COPD, bronchitis, emphysema) (N analyzed = 542,451 / 538,961*)	3,984,165	6,675	3,886,581	6,424	65,969	175	1.57 (1.35, 1.83)	1.11 (0.95, 1.29)	31,616	76	1.43 (1.14, 1.79)	0.96 (0.77, 1.21)

N: number of people, HR, hazard ratio; CI, confidence interval; TBL, tracheal, bronchus, and lung

*Adjusted for sex, age, alcohol related disorders, marital status, if born in Sweden, residential area, income, education in years, and comorbidities.

