

## **Supplementary material**

**Supplementary Table 1.** International Classification of Diseases (ICD) codes used to define exposure and outcomes in the study

**Supplementary Table 2.** Frequency of overweight and obesity diagnosis codes

**Supplementary Table 3.** International Classification of Diseases (ICD) codes used in the comorbidity index

**Supplementary Table 4.** The 25 most common primary ICD diagnosis codes for patients with secondary overweight/obesity diagnosis codes

**Supplementary Table 5.** Descriptive data, incidence rates, and adjusted hazard ratios of cardiovascular disease among patients with overweight/obesity and the general population cohort, overall and by subgroup, within 10 years of follow-up

**Supplementary Table 6.** Absolute CVD risks by duration of follow-up after overweight/obesity diagnosis, 1977–2018

**Supplementary Table 7.** Associations between overweight/obesity and cardiovascular disease, by time period and duration of follow-up

**Supplementary Table 8.** Incidence rates and adjusted hazard ratios for incident cardiovascular disease among patients with obesity, Denmark 1977–2018 within 10 years of follow up

**Supplementary Table 1.** International Classification of Diseases (ICD) codes used in the study

	<b>Diagnosis codes (ICD-8)</b>	<b>Diagnosis codes (ICD-10)</b>
<b>Overweight or obesity</b>	277	E66
<b>Complications of pregnancy, childbirth, and the puerperium</b>	630–676	O and Z3 including sublevels
<b>Comorbidities</b>		
Type 2 diabetes	250	E11, G632, H36.0, N083
COPD or asthma	491, 492, 493	J41, J42, J43, J44, J45, J46
Alcoholism-related disorders	980, 291, 303.09	E244, E529A, F101, F102, F103, F104, F105, F106, F107, F108, F109, G312, G621, G721, I426, K292, K292, K70, K852, K860, T500A, Z502, Z714, Z721
<b>Heart disease</b>		
Myocardial Infarction	410	I21–I23
Angina pectoris	411, 413	I20, I251, I259
Stroke	431–434	I61, I63, I64
Ischemic stroke	433–434	I63
Hemorrhagic stroke	431	I61
hPeripheral artery disease	44020, 44030, 44390, 44500, 44509, 44590, 44599	I70.2, I739, I77, E10.5, E11.5, E12.5, E13.5, E14.5
Transient ischemic attack	435	G459
Heart failure	427.09–427.11, 427.19, 428.99, 782.49	I50, I11.0, I13.0, I13.2, I420, I426, I427, I428, I429
Coronary revascularization procedure		
Percutaneous coronary intervention	30350, 30354, 30240	KFNG, KFNF
Coronary artery bypass grafting	30009, 30019, 30029, 30039, 30049, 30059, 30069, 30079, 30089, 30099, 30109, 30119, 30120, 30129, 30139, 30149, 30159, 30169, 30179, 30189, 30199, 30200	KFNA–E, KFNH20
Cardiac arrhythmias		
Atrial fibrillation or flutter	427.20–427.23, 427.93, 427.94	I48
Bradyarrhythmia	450, 451	I440, I441, I442, I443, I495
Ventricular tachycardia	427.97, 427.91	I470, I472, I490
Cardiac arrest	427.27, 427.97	I46
Heart valve disease		
Mitral regurgitation or stenosis	394	I05, I34, I390, I511A
Aortic regurgitation or stenosis	395	I06, I35, I391
Aortic dissection	441	I71
<b>Cardiovascular death, including</b>		

<b>sudden death</b>	390 to 458, 795	I0–29, I42–I9, R96–R99
Fatal myocardial infarction	410	I20–I25 or I50
Fatal stroke	431–434	I60–I69 or G45
Fatal peripheral vascular disease		I70.2 or E10.5 or E11.5 or E12.5 or E13.5 or E14.5
Sudden death	795	R96–R99

Admission diagnosis codes were retrieved from the Danish National Patient Registry, diagnosis codes for causes of death were retrieved from the Danish Registry of Causes of Death

**Supplementary Table 2.** Frequency of overweight and obesity diagnosis codes

<b>Diagnosis code</b>	<b>Diagnosis</b>	<b>Frequency</b>	<b>Percentage</b>
ICD-8: 27799	Obesity	37,368	19.1
ICD-10: DE66	Overweight and obesity		
DE660	Obesity due to excess calories	29,867	15.3
DE660A	Overweight, BMI 25–29.9	21,349	10.9
DE660B	Obesity, BMI 30–34.9	27,961	14.3
DE660C	Obesity, BMI 35–39.9	12,797	6.6
DE660D	Obesity, BMI >40 (used in 2003–2010)	1,605	0.8
DE660E	Obesity, BMI 40–44.9	4,228	2.2
DE660F	Obesity, BMI 45–49.9	1,405	0.7
DE660G	Obesity, BMI 50–54.9	577	0.3
DE660H	Obesity, BMI $\geq$ 55	275	0.1
DE661	Drug-induced obesity	108	0.1
DE662	Extreme obesity with alveolar hypoventilation	1,363	0.7
DE662A	Pickwickian syndrome	42	0.0
DE668	Other obesity	1,940	1.0
E669	Obesity, not specified elsewhere	54,336	27.8

**Supplementary Table 3.** International Classification of Diseases (ICD) codes used in the comorbidity index

Category	Disease group	Diagnosis codes (ICD-8)	Diagnosis codes (ICD-10)
Circulatory system	Hypertension	401–404, 410.09, 411.09, 412.09, 413.09, 414.09, 435.09, 437.00–437.09, 438.09	I10– I15, I679
	Dyslipidemia	279.00	E78
	Ischemic heart disease	410–414	I20–I25
	Atrial fibrillation	427.20–427.23, 427.93, 427.94	I48
	Heart failure	427.09–427.11, 427.19, 428.99, 782.49	I50, I11.0, I13.0, I13.2, I420, I426, I427, I428, I429
	Peripheral artery occlusive disease and aorta aneurysms	440–445	I70–I74, I77
	Stroke	431–434	I60–I64, I69
Endocrine system	Diabetes mellitus	249.00, 249.06, 249.07, 249.09, 249.01–249.05, 249.08, 250	E10–E14, G632, H360, N083
	Thyroid disorder	240–246	E00–E05, E061–E069, E07
	Gout	274	E79, M10
Pulmonary system and allergy	Chronic pulmonary disease	490–493	J41, J42, J43, J44, J451, J458, J459
	Allergy	360, 493	H101, H104, J30, J450, J46
Gastrointestinal system	Ulcer/chronic gastritis	530.91, 530.98, 531–534	K221, K25–K28, K293–K295
	Chronic liver disease	070.00, 070.02, 070.04, 070.06, 070.08, 571, 573.00, 456.00–	B16–B19, K70–K74, K766, I85

		456.09	
	Inflammatory bowel disease	563	K50–K51
	Diverticular disease of intestine	562	K57
Urogenital system	Chronic kidney disease	249.02, 250.02, 753.10–753.19, 582, 583, 584, 590.09, 593.20, 792	N03, N04, N07, N11, N18–N19
	Prostate disorders	600, 602	N40
Musculoskeletal system	Connective tissue disorders	725, 710–718	M05–M06, M08–M09, M30–M36
	Osteoporosis	800–813, 820–824	M80–M82 (S02, S07, S12, S22, S32, S42, S52, S72, S82)
	Painful condition	728	R52
Hematological system	HIV/AIDS	079.83	B20–B24
	Anemias	280–285	D50–D53, D55–D59, D60–D61, D63–D64
Cancers	Cancer	140–207	C00–C43, C45–C97
Neurological system	Vision problems	370, 374, 375, 376, 379	H40, H25, H54
	Hearing problems	388, 389	H90–H91, H931
	Migraine	346	G43
	Epilepsy	345	G40, G41 (G44–G47?)
	Parkinson's disease	342	G20–G22
	Multiple sclerosis	340	G35
	Neuropathies	350–358	G50–G64
Mental health conditions	Mood, stress-related, or anxiety disorders	296 (excluding 296.89), 298.09, 298.19, 300.49, 300.19, 300 (excluding	F32–F34, F40–F48

	300.49), 305, 307.99	
Psychological distress	?	(F43?)
Alcohol problems	291, 303, 98009	E244, E529A, F101–F109, G312, G621, G721, I426, K292, K292, K70, K852, K860, T500A, Z502, Z714, Z721
Substance use	291, 294.39, 304, 571.09, 571.10	E244, E529A, F10– F16, F18–F19, G312, G621, G721, I426, K292, K70, K852, K860, T500A, Z502, Z714, Z721
Anorexia/bulimia	306.50, 306.58, 306.59	F50
Bipolar affective disorder	296.19, 296.39, 298.19	F30–F31, F340, F380
Schizophrenia or schizoaffective disorder	295 (excluding 295.79), 296.89, 297.x9, 298.29– 99, 299.04, 299.05, 299.09	F20, F25
Dementia	290, 293.09, 293.19	F00–F03, F051, G30

---

**Supplementary Table 4.** The 25 most common primary ICD discharge diagnosis codes for patients with secondary overweight/obesity diagnosis codes

Diagnosis code			N	%
1	N92	Excessive, frequent and irregular menstruation	9,677	5.8
2	Z03	Medical observation and evaluation for suspected diseases and conditions	9,317	5.6
3	E11	Type 2 diabetes mellitus	8,484	5.1
4	K80	Cholelithiasis	5,802	3.5
5	R10	Abdominal and pelvic pain	4,817	2.9
6	500	Hypertrophy of tonsils and adenoids	4,643	2.8
7	Z35	Supervision of high-risk pregnancy	4,566	2.7
8	N81	Female genital prolapse	3,656	2.18
9	N39	Other disorders of urinary system	3,395	2.0
10	D25	Leiomyoma of uterus	2,587	1.6
11	M17	Primary gonarthrosis	2,462	1.5
12	N95	Menopausal and other perimenopausal disorders	2,383	1.4
13	N84	Polyps in the female genital tract	2,261	1.4
14	I83	Varicose veins in the lower extremities	2,179	1.3
15	N97	Female infertility	2,178	1.3
16	401	Essential benign hypertension	1,949	1.2
17	K40	Inguinal hernia	1,804	1.1
18	N83	Noninflammatory disorders of the ovary, fallopian tube and broad ligament	1,800	1.1
19	G47	Sleep disorders	1,764	1.1
20	K42	Umbilical hernia	1,712	1.0
21	Z01	Other special examinations and investigations of people without complaints or reported diagnosis	1,708	1.0
22	410	Acute myocardial infarction	1,582	1.0
23	Z71	People encountering health services for other counseling and medical advice, not classified elsewhere	1,418	0.9
24	713	Osteo-arthritis and associated conditions	1,380	0.8
25	Z09	Follow-up examination after treatment for conditions other than malignant neoplasms	1,262	0.8



**Supplementary Table 5.** Descriptive data, incidence rates, and adjusted hazard ratios of cardiovascular disease among patients with overweight/obesity and the general population cohort, overall and by subgroup, within 10 years of follow-up

	Overweight/obesity		Comparison cohort		
	N (%)	Incidence rate per 1,000 person-years (95% confidence interval)	N (%)	Incidence rate per 1,000 person-years (95% confidence interval)	Adjusted* hazard ratio (95% confidence interval)
<b>Total</b>	195,221 (100.0)	25.1 (24.8–25.4)	1,952,210 (100.0)	10.07 (10.0–10.1)	2.5 (2.4–2.5)
<b>Sex</b>					
Female	140,820 (72.1)	19.6 (19.3–19.9)	1,408,200 (72.1)	8.5 (8.5–8.6)	1.9 (1.8–1.9)
Male	54,401 (27.9)	40.7 (40.0–41.4)	544,010 (27.9)	14.0 (13.8–14.1)	2.5 (2.4–2.5)
<b>Median age (interquartile range)</b>	40.0 (30.4, 55.9)		40.0 (30.4, 55.9)		
<b>Age at diagnosis of overweight/obesity</b>					
18–29 years	23,219 (11.9)	3.0 (2.7–3.3)	232,218 (11.9)	0.7 (0.6–0.7)	3.4 (3.0–3.8)
30–49 years	77,668 (39.8)	11.8 (11.5–12.1)	777,433 (39.8)	3.3 (3.3–3.4)	2.8 (2.7–2.9)
50–69 years	71,769 (36.8)	37.6 (37.0–38.2)	717,132 (36.7)	13.6 (13.5–13.7)	2.3 (2.3–2.4)
70+ years	22,565 (11.6)	82.6 (80.9–84.5)	225,427 (11.5)	38.3 (38.0–38.6)	1.9 (1.9–2.0)
<b>No. of comorbidities</b>					
0	126,461 (64.8)	22.0 (21.7–22.3)	1,579,237 (80.9)	7.5 (7.5–7.6)	2.3 (2.3–2.3)
1	36,352 (18.6)	26.1 (25.4–26.8)	251,819 (12.9)	16.8 (16.3–17.2)	1.5 (1.5–1.6)
2	17,564 (9.0)	32.5 (31.4–33.6)	73,282 (3.8)	26.0 (24.6–27.6)	1.6 (1.4–1.8)
3	8,025 (4.1)	42.6 (40.7–44.6)	28,113 (1.4)	34.6 (30.7–38.9)	1.7 (1.2–2.3)
≥4	6,819 (3.5)	53.5 (50.9–56.1)	19,759 (1.0)	44.9 (39.3–51.1)	1.3 (0.9–1.9)
<b>Type of diagnosis</b>					
Primary diagnosis	37,131 (19.0)	14.3 (13.9–14.8)	0 (0.0)	NA	NA
Secondary diagnosis	158,090 (81.0)	28.2 (27.9–28.6)	0 (0.0)	NA	NA
<b>Type of first hospital visit</b>					
Inpatient	85,002 (43.5)	36.3 (35.8–36.8)	0 (0.0)	NA	NA
Outpatient	110,219 (56.5)	NA	0 (0.0)	NA	NA
<b>Diabetes</b>					

No	166,633 (85.4)	22.2 (21.9–22.5)	1,935,942 (99.2)	9.2 (9.1–9.2)	2.1 (2.1–2.1)
Yes	28,588 (14.6)	42.5 (41.6–43.5)	16,268 (0.8)	35.8 (33.1–38.7)	1.5 (1.1–2.0)
<b>Chronic obstructive pulmonary disease</b>					
No	180,662 (92.5)	23.6 (23.3–23.9)	1,922,488 (98.5)	9.6 (9.5–9.6)	2.0 (2.0–2.1)
Yes	14,559 (7.5)	39.6 (38.8–40.5)	29,722 (1.5)	33.3 (30.4–36.5)	1.6 (1.2–2.2)
<b>Alcoholism-related disorders</b>					
No	192,213 (98.5)	24.9 (24.6–25.2)	1,942,970 (99.5)	10.0 (9.9–10.0)	2.0 (2.0–2.1)
Yes	3,008 (1.5)	40.6 (37.4–44.0)	9,240 (0.5)	28.3 (20.2–38.5)	NA
<b>Kidney disease</b>					
No	276,673 (99.4)	24.9 (24.6–25.2)	2,778,432 (99.9)	2.5 (2.5–2.5)	2.0 (2.0–2.1)
Yes	1,586 (0.6)	62.4 (56.7–68.5)	4,158 (0.1)	NA	NA
<b>Income</b>					
Low	32,948 (16.9)	30.1 (29.4–30.9)	297,154 (15.2)	14.1 (13.8–14.4)	1.7 (1.7–1.8)
Intermediate	65,242 (33.4)	32.1 (31.5–32.6)	483,955 (24.8)	19.1 (18.8–19.3)	1.8 (1.8–1.8)
High	56,435 (28.9)	16.6 (16.2–17.0)	536,089 (27.5)	5.4 (5.3–5.5)	1.9 (1.8–2.0)
Very high	33,656 (17.2)	20.7 (20.1–21.3)	504,163 (25.8)	7.2 (7.0–7.35)	2.5 (2.4–2.6)
Missing	6,940 (3.6)	NA	130,849 (6.7)	NA	NA
<b>Education</b>					
Basic education or primary school	74,889 (38.4)	25.7 (25.3–26.2)	510,507 (26.2)	12.1 (11.9–12.2)	1.9 (1.8–1.9)
Youth education, high school, or similar education	71,315 (36.5)	18.7 (18.3–19.1)	703,507 (36.0)	7.4 (7.3–7.5)	2.0 (1.9–2.0)
Higher education	30,366 (15.6)	9.9 (9.6–10.2)	499,626 (25.6)	5.2 (5.0–5.4)	2.0 (1.9–2.1)
Unknown	18,651 (9.6)	68.6 (67.0–70.2)	238,570 (12.2)	29.51 (29.–29.8)	2.5 (2.4–2.6)

\*Adjusted for type 2 diabetes, chronic obstructive pulmonary disease, alcoholism-related disease, kidney disease, cohabitation status, and educational level.

**Supplementary Table 6.** Absolute CVD risks by duration of follow-up after overweight/obesity diagnosis, 1977–2018

<b>Follow-up period</b>	<b>Overweight/obesity cohort absolute CVD risk, % (95% confidence intervals)</b>	<b>Comparison cohort absolute CVD risk, % (95% confidence interval)</b>
<b>Entire follow-up period</b>	70.6 (69.3–71.8)	55.8 (55.5–56.2)
<b>1–364 days</b>	4.6 (4.5–4.7)	0.9 (0.8–0.9)
<b>1–10 years</b>	17.5 (17.3–17.8)	9.1 (9.1–9.2)
<b>11–20 years</b>	23.6 (23.1–24.0)	15.2 (15.1–15.3)
<b>21–30 years</b>	27.6 (26.6–28.5)	20.5 (20.3–20.6)
<b>31–40 years</b>	28.9 (26.9–30.9)	23.7 (23.3–24.1)

**Supplementary Table 7.** Associations between overweight/obesity and cardiovascular disease, by time period and duration of follow-up

Follow-up and calendar periods	Cohort	Number of admissions	Incidence rate (95% confidence interval) per 1,000 person-years	Crude hazard ratio (95% confidence interval)	Adjusted* hazard ratio (95% confidence interval)
<b>1977–2018</b>					
Overall (through 2018)	Comparison cohort	267,509	12.81 (12.76–12.86)	1	1
	Overweight/obesity cohort	>43,074	25.72 (25.48–25.96)	2.7 (2.7–2.8)	2.4 (2.3–2.4)
1–364 days of follow-up	Comparison cohort	16,275	8.51 (8.38–8.64)	1	1
	Overweight /obesity cohort	8,820	47.90 (46.90–48.91)	5.9 (5.8–6.1)	5.2 (5.0–5.3)
1–10 years of follow-up	Comparison cohort	123,147	8.92 (8.87–8.97)	1	1
	Overweight /obesity cohort	22,267	18.06 (17.82–18.30)	2.4 (2.3–2.4)	2.0 (2.0–2.1)
11–20 years of follow-up	Comparison cohort	76,300	5.91 (5.86–5.95)	1	1
	Overweight /obesity cohort	8,528	8.91 (8.72–9.10)	2.4 (2.3–2.4)	2.1 (2.1–2.2)
21–30 years of follow-up	Comparison cohort	37,721	5.36 (5.30–5.41)	1	1
	Overweight /obesity cohort	2,689	7.00 (6.74–7.27)	2.3 (2.2–2.4)	2.1 (2.0–2.3)
31–40 years of follow-up	Comparison cohort	13,692	3.99 (3.92–4.06)	1	1
	Overweight /obesity cohort	>754	4.97 (4.62–5.34)	2.0 (1.8–2.1)	1.9 (1.7–2.1)
<b>1977–1987</b>					
Overall (through 2018)	Comparison cohort	107,340	17.60 (17.49–17.71)	1	1
	Overweight /obesity cohort	15,117	37.80 (37.20–38.41)	3.2 (3.1–3.2)	2.8 (2.7–2.8)
1–364 days of follow-up	Comparison cohort	3,107	11.01 (10.62–11.40)	1	1
	Overweight /obesity cohort	1,872	69.87 (66.74–73.10)	6.6 (6.2–7.0)	5.9 (5.5–6.3)
1–10 years of follow-up	Comparison cohort	29,778	11.75 (11.62–11.88)	1	1
	Overweight /obesity cohort	6,812	32.66 (31.89–33.45)	3.3 (3.2–3.4)	2.8 (2.7–2.9)
11–20 years of follow-up	Comparison cohort	32,542	8.05 (7.96–8.14)	1	1
	Overweight /obesity	3,678	14.02 (13.57–14.48)	2.9 (2.7–3.0)	2.5 (2.4–2.6)
21–30 years of follow-up	Comparison cohort	27,900	6.66 (6.58–6.74)	1	1
	Overweight /obesity cohort	1,985	9.30 (8.90–9.72)	2.4 (2.3–2.6)	2.2 (2.1–2.4)
31–40 years of follow-up	Comparison cohort	13,639	4.19 (4.12–4.26)	1	1
	Overweight /obesity cohort	754	5.28 (4.91–5.67)	2.0 (1.8–2.2)	1.9 (1.7–2.1)
<b>1988–1997</b>					

Overall (through 2018)	Comparison cohort	49,160	14.71 (14.58–14.84)	1	1
	Overweight /obesity cohort	>7,673	32.48 (31.76–33.21)	3.3 (3.2–3.4)	2.9 (2.8–3.0)
1–364 days of follow-up	Comparison cohort	1,653	9.24 (8.80–9.70)	1	1
	Overweight /obesity cohort	1,462	88.40 (83.93–93.05)	10.4 (9.7–11.2)	10.1 (9.2–11.0)
1–10 years of follow-up	Comparison cohort	17,160	10.55 (10.40–10.71)	1	1
	Overweight /obesity cohort	3,441	26.59 (25.70–27.49)	3.3 (3.2–3.5)	2.9 (2.8–3.0)
11–20 years of follow-up	Comparison cohort	20,568	7.72 (7.62–7.83)	1	1
	Overweight /obesity cohort	2,073	11.66 (11.16–12.17)	2.4 (2.2–2.5)	2.1 (2.0–2.3)
21–30 years of follow-up	Comparison cohort	9,726	3.84 (3.76–3.91)	1	1
	Overweight /obesity cohort	697	4.64 (4.30–5.00)	2.0 (1.9–2.2)	1.9 (1.7–2.1)
1998–2007					
Overall (through 2018)	Comparison cohort	65,907	10.94 (10.86–11.02)	1	1
	Overweight /obesity cohort	11,850	22.86 (22.45–23.28)	2.5 (2.5–2.6)	2.2 (2.2–2.3)
1–364 days of follow-up	Comparison cohort	3,801	8.16 (7.90–8.42)	1	1
	Overweight /obesity cohort	2,656	60.06 (57.80–62.39)	7.9 (7.5–8.3)	7.2 (6.8–7.6)
1–10 years of follow-up	Comparison cohort	39,076	9.10 (9.01–9.19)	1	1
	Overweight /obesity cohort	6,441	16.89 (16.48–17.31)	2.2 (2.1–2.2)	1.9 (1.8–1.9)
11–20 years of follow-up	Comparison cohort	22,935	4.11 (4.06–4.16)	1	1
	Overweight /obesity cohort	2,746	5.98 (5.76–6.21)	2.0 (1.9–2.0)	1.8 (1.7–1.9)
2008–2018					
Overall (through 2018)	Comparison cohort	45,102	8.32 (8.25–8.40)	1	1
	Overweight /obesity	8,434	16.21 (15.86–16.56)	2.1 (2.1–2.2)	1.8 (1.8–1.9)
1–364 days of follow-up	Comparison cohort	7,714	7.82 (7.65–8.00)	1	1
	Overweight /obesity cohort	2,830	29.30 (28.23–30.40)	3.9 (3.7–4.0)	3.4 (3.2–3.5)
1–10 years of follow-up	Comparison cohort	37,133	6.94 (6.87–7.01)	1	1
	Overweight /obesity cohort	5,573	10.85 (10.57–11.14)	1.7 (1.7–1.8)	1.5 (1.4–1.5)

\*Adjusted for type 2 diabetes, chronic obstructive pulmonary disease, alcoholism-related disease, kidney disease, cohabitation status, and educational level.

**Supplementary Table 8.** Incidence rates and adjusted hazard ratios for incident cardiovascular disease among patients with obesity, 1977–2018 within 10 years of follow up

	Obesity cohort		Comparison cohort			
	Number of admissions	Incidence rate per 1,000 person year (95% confidence interval)	Number of admissions	Incidence rate per 1000 person year (95% confidence interval)	Hazard ratio (95% confidence interval)	Adjusted hazard ratio* (95% confidence interval)
<b>Any CVD</b>						
1977–2018	31,087	25.08 (24.80-25.36)	139,422	10.07 (10.01-10.12)	2.9 (2.9-2.9)	2.5 (2.5-2.5)
1977–1987	8,684	41.45 (40.59-42.34)	32,885	12.96 (12.82-13.10)	3.7 (3.6-3.8)	3.2 (3.1-3.3)
1988–1997	4,903	37.70 (36.65-38.77)	18,813	11.56 (11.39-11.73)	4.2 (4.1-4.4)	3.8 (3.6-3.9)
1998–2007	9,097	23.80 (23.31-24.29)	42,877	9.98 (9.88-10.07)	2.8 (2.7-2.8)	2.4 (2.3-2.5)
2008–2018	8,403	16.23 (15.89-16.58)	44,847	8.32 (8.25-8.40)	2.1 (2.1-2.2)	1.8 (1.8-1.9)
<b>Acute myocardial infarction (MI)</b>						
1977–2018	4,562	3.68 (3.57-3.79)	21,886	1.58 (1.56-1.60)	2.8 (2.7-2.9)	2.4 (2.3-2.4)
1977–1987	2,219	10.59 (10.16-11.04)	9,454	3.73 (3.65-3.80)	3.2 (3.1-3.4)	2.8 (2.6-2.9)
1988–1997	779	5.99 (5.58-6.43)	3,693	2.27 (2.20-2.34)	3.4 (3.1-3.7)	3.0 (2.7-3.3)
1998–2007	897	2.35 (2.20-2.51)	4,775	1.11 (1.08-1.14)	2.5 (2.3-2.7)	2.1 (2.0-2.3)
2008–2018	667	1.29 (1.19-1.39)	3,964	0.74 (0.71-0.76)	1.9 (1.7-2.1)	1.6 (1.5-1.8)
<b>Angina pectoris</b>						
1977–2018	6,938	5.60 (5.47-5.73)	26,717	1.93 (1.91-1.95)	3.2 (3.1-3.3)	2.7 (2.7-2.8)
1977–1987	1,053	5.03 (4.73-5.34)	3,257	1.28 (1.24-1.33)	4.7 (4.3-5.0)	4.2 (3.8-4.6)
1988–1997	1,229	9.45 (8.93-9.99)	4,281	2.63 (2.55-2.71)	4.4 (4.1-4.7)	4.0 (3.7-4.4)
1998–2007	2,693	7.04 (6.78-7.32)	10,339	2.41 (2.36-2.45)	3.2 (3.1-3.4)	2.7 (2.6-2.9)
2008–2018	1,963	3.79 (3.63-3.96)	8,840	1.64 (1.61-1.68)	2.4 (2.3-2.6)	2.1 (2.0-2.2)
<b>Atrial fibrillation and flutter</b>						
1977–2018	6,776	5.47 (5.34-5.60)	31,734	2.29 (2.27-2.32)	2.8 (2.7-2.9)	2.6 (2.5-2.6)
1977–1987	1,122	5.36 (5.05-5.68)	4,873	1.92 (1.87-1.98)	3.4 (3.2-3.7)	3.0 (2.8-3.3)
1988–1997	922	7.09 (6.64-7.56)	3,773	2.32 (2.24-2.39)	4.2 (3.8-4.5)	4.0 (3.7-4.4)
1998–2007	2,189	5.73 (5.49-5.97)	10,517	2.45 (2.40-2.49)	2.8 (2.7-3.0)	2.6 (2.5-2.8)

2008–2018	2,543	4.91 (4.72-5.11)	12,571	2.33 (2.29-2.37)	2.3 (2.2-2.4)	2.1 (2.0-2.2)
<b>Bradycardia</b>						
1977–2018	1,523	1.23 (1.17-1.29)	6,409	0.46 (0.45-0.47)	3.1 (3.0-3.3)	2.9 (2.7-3.1)
1977–1987	946	4.52 (4.23-4.81)	3,139	1.24 (1.19-1.28)	4.1 (3.8-4.4)	3.8 (3.5-4.1)
1988–1997	173	1.33 (1.14-1.54)	663	0.41 (0.38-0.44)	4.2 (3.5-5.0)	4.4 (3.6-5.5)
1998–2007	174	0.46 (0.39-0.53)	1,218	0.28 (0.27-0.30)	1.9 (1.6-2.2)	1.6 (1.3-2.0)
2008–2018	230	0.44 (0.39-0.51)	1,389	0.26 (0.24-0.27)	1.9 (1.6-2.2)	1.7 (1.4-2.0)
<b>Cardiac arrest</b>						
1977–2018	556	0.45 (0.41-0.49)	2,574	0.19 (0.18-0.19)	2.7 (2.4-2.9)	2.1 (1.9-2.3)
1977–1987	51	0.24 (0.18-0.32)	236	0.09 (0.08-0.11)	3.4 (2.4-4.6)	2.9 (2.0-4.3)
1988–1997	69	0.53 (0.41-0.67)	192	0.12 (0.10-0.14)	6.0 (4.4-8.2)	4.5 (3.1-6.5)
1998–2007	188	0.49 (0.42-0.57)	900	0.21 (0.20-0.22)	2.7 (2.3-3.2)	2.2 (1.8-2.7)
2008–2018	248	0.48 (0.42-0.54)	1,246	0.23 (0.22-0.24)	2.2 (1.9-2.6)	1.7 (1.4-2.0)
<b>Ventricular tachycardia</b>						
1977–2018	205	0.17 (0.14-0.19)	1,149	0.08 (0.08-0.09)	2.1 (1.8-2.4)	2.0 (1.7-2.3)
1977–1987	28	0.13 (0.09-0.19)	108	0.04 (0.03-0.05)	3.2 (2.1-5.0)	3.1 (1.9-5.1)
1988–1997	32	0.25 (0.17-0.35)	136	0.08 (0.07-0.10)	3.6 (2.4-5.4)	3.5 (2.2-5.6)
1998–2007	71	0.19 (0.15-0.23)	432	0.10 (0.09-0.11)	2.0 (1.5-2.6)	2.0 (1.5-2.6)
2008–2018	74	0.14 (0.11-0.18)	473	0.09 (0.08-0.10)	1.7 (1.3-2.1)	1.5 (1.1-1.9)
<b>Ischemic stroke</b>						
1977–2018	720	0.58 (0.54-0.62)	4,889	0.35 (0.34-0.36)	1.9 (1.8-2.1)	1.6 (1.4-1.7)
1977–1987	212	1.01 (0.88-1.16)	947	0.37 (0.35-0.40)	3.1 (2.7-3.6)	2.5 (2.1-3.0)
1988–1997	82	0.63 (0.50-0.78)	524	0.32 (0.29-0.35)	2.6 (2.0-3.3)	2.1 (1.5-2.8)
1998–2007	198	0.52 (0.45-0.60)	1,505	0.35 (0.33-0.37)	1.8 (1.5-2.1)	1.6 (1.3-1.9)
2008–2018	228	0.44 (0.39-0.50)	1,913	0.36 (0.34-0.37)	1.4 (1.2-1.6)	1.2 (1.0-1.4)
<b>Hemorrhagic stroke</b>						
1977–2018	155	0.13 (0.11-0.15)	1,286	0.09 (0.09-0.10)	1.5 (1.3-1.8)	1.4 (1.1-1.7)
1977–1987	69	0.33 (0.26-0.42)	391	0.15 (0.14-0.17)	2.4 (1.8-3.1)	2.2 (1.6-3.0)
1988–1997	28	0.22 (0.14-0.31)	183	0.11 (0.10-0.13)	2.2 (1.5-3.4)	1.8 (1.1-3.0)
1998–2007	27	0.07 (0.05-0.10)	331	0.08 (0.07-0.09)	1.0 (0.7-1.5)	0.9 (0.6-1.4)
2008–2018	31	0.06 (0.04-0.08)	381	0.07 (0.06-0.08)	0.9 (0.6-1.4)	0.9 (0.6-1.3)
<b>Transient ischemic attack</b>						

1977–2018	1,526	1.23 (1.17-1.29)	11,083	0.80 (0.79-0.82)	1.7 (1.6-1.8)	1.6 (1.5-1.7)
1977–1987	402	1.92 (1.74-2.12)	2,485	0.98 (0.94-1.02)	2.3 (2.0-2.5)	2.0 (1.8-2.3)
1988–1997	180	1.38 (1.19-1.60)	1,441	0.89 (0.84-0.93)	1.9 (1.6-2.2)	1.7 (1.4-2.0)
1998–2007	424	1.11 (1.01-1.22)	3,280	0.76 (0.74-0.79)	1.6 (1.5-1.8)	1.5 (1.3-1.7)
2008–2018	520	1.00 (0.92-1.09)	3,877	0.72 (0.70-0.74)	1.5 (1.4-1.6)	1.40 (1.27-1.54)
<b>Heart failure</b>						
1977–2018	5,215	4.21 (4.09-4.32)	14,033	1.01 (1.00-1.03)	5.3 (5.1-5.5)	3.9 (3.7-4.1)
1977–1987	1,837	8.77 (8.37-9.18)	5,204	2.05 (2.00-2.11)	5.4 (5.1-5.7)	4.0 (3.7-4.3)
1988–1997	1,181	9.08 (8.57-9.61)	2,594	1.59 (1.53-1.66)	8.2 (7.5-8.8)	6.4 (5.8-7.0)
1998–2007	1,381	3.61 (3.42-3.81)	3,370	0.78 (0.76-0.81)	5.6 (5.2-5.9)	4.1 (3.8-4.5)
2008–2018	816	1.58 (1.47-1.69)	2,865	0.53 (0.51-0.55)	3.3 (3.0-3.6)	2.4 (2.2-2.6)
<b>Revascularization procedure</b>						
1977–2018	1,268	1.02 (0.97-1.08)	5,938	0.43 (0.42-0.44)	2.6 (2.4-2.7)	2.4 (2.2-2.5)
1977–1987	624	2.98 (2.75-3.22)	1,737	0.68 (0.65-0.72)	4.3 (3.9-4.7)	3.8 (3.4-4.3)
1988–1997	66	0.51 (0.39-0.65)	259	0.16 (0.14-0.18)	3.5 (2.6-4.6)	3.2 (2.3-4.5)
1998–2007	259	0.68 (0.60-0.77)	1,735	0.40 (0.38-0.42)	2.0 (1.7-2.2)	1.8 (1.6-2.1)
2008–2018	319	0.62 (0.55-0.69)	2,207	0.41 (0.39-0.43)	1.6 (1.5-1.8)	1.5 (1.3-1.7)
<b>Valvular heart disease</b>						
1977–2018	1,193	0.96 (0.91-1.02)	7,899	0.57 (0.56-0.58)	1.9 (1.8-2.0)	1.7 (1.6-1.8)
1977–1987	67	0.32 (0.25-0.41)	505	0.20 (0.18-0.22)	1.9 (1.4-2.5)	1.9 (1.4-2.5)
1988–1997	107	0.82 (0.67-0.99)	666	0.41 (0.38-0.44)	2.5 (2.0-3.0)	2.3 (1.8-3.0)
1998–2007	463	1.21 (1.10-1.33)	3,155	0.73 (0.71-0.76)	1.9 (1.7-2.1)	1.7 (1.5-1.9)
2008–2018	556	1.07 (0.99-1.17)	3,573	0.66 (0.64-0.69)	1.8 (1.6-1.9)	1.5 (1.4-1.7)
<b>Aortic dissection</b>						
1977–2018	450	0.36 (0.33-0.40)	3,825	0.28 (0.27-0.29)	1.5 (1.4-1.7)	1.5 (1.3-1.7)
1977–1987	54	0.26 (0.19-0.34)	549	0.22 (0.20-0.24)	1.5 (1.1-2.0)	1.7 (1.3-2.4)
1988–1997	55	0.42 (0.32-0.55)	408	0.25 (0.23-0.28)	2.4 (1.8-3.2)	2.3 (1.6-3.3)
1998–2007	133	0.35 (0.29-0.41)	1,320	0.31 (0.29-0.32)	1.3 (1.1-1.6)	1.3 (1.0-1.5)
2008–2018	208	0.40 (0.35-0.46)	1,548	0.29 (0.27-0.30)	1.5 (1.3-1.8)	1.5 (1.3-1.8)
<b>Cardiovascular death, including sudden death</b>						
1977–2018	5,608	4.02 (3.92-4.13)	32,032	2.22 (2.19-2.24)	2.0 (2.0-2.1)	1.6 (1.5-1.6)



1977–1987	1,376	5.52 (5.23-5.82)	7,892	2.97 (2.91-3.04)	2.1 (2.0-2.2)	1.7 (1.6-1.8)
1988–1997	932	6.02 (5.64-6.42)	3,894	2.27 (2.20-2.34)	3.5 (3.2-3.8)	2.7 (2.5-3.0)
1998–2007	1,655	3.79 (3.61-3.97)	9,471	2.09 (2.05-2.14)	2.1 (2.0-2.2)	1.6 (1.5-1.7)
2008–2018	1,645	2.97 (2.83-3.12)	10,775	1.94 (1.90-1.97)	1.6 (1.5-1.7)	1.3 (1.2-1.3)
<hr/>						
All-cause mortality						
1977–2018	24,379	17.48 (17.26-17.70)	128,375	8.88 (8.83-8.93)	2.2 (2.2-2.3)	1.7 (1.7-1.7)
1977–1987	8,111	32.52 (31.81-33.23)	43,590	16.43 (16.27-16.58)	2.2 (2.2-2.3)	1.7 (1.7-1.8)
1988–1997	4,740	30.64 (29.77-31.52)	19,276	11.24 (11.09-11.40)	3.5 (3.4-3.7)	2.7 (2.6-2.8)
1998–2007	6,241	14.28 (13.93-14.64)	32,915	7.28 (7.20-7.36)	2.2 (2.2-2.3)	1.7 (1.7-1.8)
2008–2018	5,287	9.55 (9.29-9.81)	32,594	5.86 (5.79-5.92)	1.7 (1.7-1.8)	1.3 (1.3-1.4)

\*Adjusted for type 2 diabetes, chronic obstructive pulmonary disease, alcoholism–related disease, kidney disease, cohabitation status, and minimum education

