

**Supplementary Table S1** International Classification of Disease 10 (ICD-10) codes

Comorbidity or medical history	Existing diagnoses between 1 January 2007 and 31 December 2011
AF management care	I48
AF symptoms	
Tachycardia	R000
Chest pain	R072, R073, R074
Palpitations	R002
Strokes	
Ischaemic stroke	I63, I66, I67
Stroke, unspecified	I64
Haemorrhagic stroke	I60–I62, I69
Transient ischaemic attack	G45
Systemic embolism	I74.2–I74.9
Haemorrhages	
Intracranial bleeding	S064–S066
Gastric/duodenal ulcer	K25–K28 (subcodes 0–2 and 4–6 only)
Any severe bleeding	I850, I983, K625, K922
Ischaemic heart disease	I20–I25
Heart failure	I50, I110, I130, I132, I131, I139
Including dyspnoea	R060
Cardiac dysrhythmia	I47, I490–I493
Abnormal cardiac conduction	I44, I45, I494, I495, Z450, Z950
Valvular disease	I05–I091, I33–I39, Q22, Q23
Mitral stenosis	I342, I050, I052, Q232
Hypertension	I10–I15
Diabetes mellitus	E10–E14
Vascular diseases	
Myocardial infarction	I21, I252
Peripheral arterial disease	I70–I73
Occlusions	I65, I77
Obesity	E65–E66
Abnormal renal function	N17–N19 (+N28) codes for renal insufficiency, transplantation (Z940, T861) and dialysis (Z49, Z992), E102, I12, I13
Liver disease	K70–K77, procedures for liver transplantation or resection
Dyslipidaemia	E78
Thyroid disease	E00–E07
Anaemia	D50–D64
Platelet or coagulation defect	D65–D69
Lung disease	J40–J70, J961
Including emphysema and chronic obstructive pulmonary disease	J43, J44
Alcohol-related diagnoses	E244, F10, G312, G621, G721, I426, K292, K70, K860, O354, P043, Q860, T51, Y90, Y91, Z502, Z714
Dementia	F00–F03
Accidental falls	W00–W19, R26
Cancer within preceding 5 years	Entire C-series
Inflammatory diseases	M05–M14, M45, M46, K50–K52, K81, K85
Digestive conditions	Entire K-series
Rheumatology	Entire M-series
Ophthalmology	Entire H-series
Pulmonology	Entire J-series

AF, atrial fibrillation.

**Supplementary Table S2** Interactions and multivariable analysis of risk factors for death

<b>Interaction</b>	<b>Statistical test</b>	<b>p Value</b>
Age × cancer	834	<0.0001
Age × renal failure	311	<0.0001
Sex × anaemia	212	<0.0001
Age × alcohol-related diagnoses	122	<0.0001
Age × lung disease	22	<0.0001

<b>All deaths</b>	<b>OR (95% CI)</b>	<b>OR (95% CI) (including interactions)</b>
Age ≥75 years (vs <65 years)	2.57 (2.47 to 2.68)	3.84 (3.57–4.0)
Renal failure*	1.85 (1.81–1.89)	1.84 (1.80–1.88)
Cancer	1.81 (1.78–1.85)	–
Cancer × age <65 years		5.35 (4.94–5.79)
Cancer × age 65–74 years	–	2.88 (2.73–3.05)
Cancer × age ≥75 years	–	1.54 (1.50–1.57)
Lung disease*	1.58 (1.55–1.62)	1.57 (1.54–1.60)
Age 65–74 years (vs <65 years)	1.37 (1.31–1.44)	1.64 (1.54–1.75)
Neurological disease*	1.34 (1.3–1.37)	1.33 (1.29–1.37)
Alcohol-related diagnoses	1.32 (1.27–1.37)	1.30 (1.26–1.35)
Anaemia*	1.29 (1.26–1.32)	1.28 (1.25–1.31)
Heart failure*	1.26 (1.23–1.28)	1.26 (1.23–1.29)
Women (vs men)	1.04 (1.02–1.06)	1.02 (1.00–1.04)
Vascular diseases*	1.03 (1.0–1.06)	1.04 (1.01–1.06)
Thyroid disease*	0.90 (0.87–0.92)	0.90 (0.87–0.92)
Hypertension*	0.81 (0.79–0.83)	0.81 (0.79–0.83)

\*Reference is absent disease or condition.  
CI, confidence interval; OR, odds ratio.

**Supplementary Table S3** Characteristics of atrial fibrillation patients hospitalised for heart failure in France in 2012

	Patients discharged alive (n=87 339)	Patients who died during hospitalisation (n=8316)
Age range, N (%)		
<65 years	7755 (9)	254 (3)
65–74 years	12 774 (15)	655 (8)
≥75 years	66 810 (76)	7407 (89)
Women, N (%)	44 343 (51)	4300 (52)
Comorbidities*, N (%)		
Alcohol-related diagnosis	5069 (6)	431 (5)
Anaemia	23 449 (27)	2887 (35)
Cancer	12 483 (14)	1496 (18)
Diabetes mellitus	25 006 (29)	2375 (29)
Dyslipidaemia	27 040 (31)	2256 (27)
Hypertension	65 874 (75)	6288 (76)
Inflammatory disease	8733 (10)	1003 (12)
Liver failure	4333 (5)	692 (8)
Lung disease	22 935 (26)	2688 (32)
Neurological disease	7307 (8)	1073 (13)
Renal failure	26 947 (31)	3886 (47)
Thyroid disease	13 264 (15)	1363 (16)
Cardiovascular history, N (%)		
Stroke		
Ischaemic	5129 (6)	498 (6)
Haemorrhagic	791 (1)	94 (1)
Unspecified	1421 (2)	150 (2)
Major haemorrhage†		
Intracranial	394 (0)	50 (1)
Gastrointestinal	1021 (1)	135 (2)
Other	791 (1)	94 (1)
Systemic embolism	2920 (3)	351 (4)
Transient ischaemic attack	2449 (3)	277 (3)
Vascular disease		
Myocardial infarction	9705 (11)	1110 (13)
Peripheral artery disease	10 147 (12)	1163 (14)
Occlusions	4532 (5)	493 (6)
Other ischaemic heart disease	26 187 (30)	2849 (34)
Symptoms of AF	7090 (8)	588 (7)
Heart failure	39 152 (45)	4916 (59)
Cardiac dysrhythmia	7907 (9)	919 (11)
Abnormal cardiac conduction	19 619 (22)	2248 (27)
Valvular disease/surgery	23 447 (27)	2575 (31)
Mitral stenosis	1511 (2)	166 (2)
Fall, N (%)	8793 (10)	1218 (15)

\*From the International Classification of Disease 10 (ICD-10) codes (see supplementary table S1).

†Bleeding leading to hospitalisation.

AF, atrial fibrillation.

**Supplementary Table S4** Characteristics of atrial fibrillation patients hospitalised for ischaemic stroke in France in 2012

	<b>Patients discharged alive (n=17 295)</b>	<b>Patients who died during hospitalisation (n=2614)</b>
Age group, N (%)		
<65 years	2648 (15)	212 (8)
65–74 years	1394 (8)	66 (3)
≥75 years	13 253 (77)	2336 (89)
Women, N (%)	9780 (57)	1612 (62)
Comorbidities*, N (%)		
Alcohol-related diagnosis	795 (5)	109 (4)
Anaemia	2535 (15)	499 (19)
Cancer	2035 (12)	361 (14)
Diabetes mellitus	3788 (22)	601 (23)
Dyslipidaemia	5162 (30)	577 (22)
Hypertension	12 475 (72)	1927 (74)
Inflammatory disease	1310 (8)	202 (8)
Liver failure	400 (2)	66 (3)
Lung disease	2920 (17)	784 (30)
Neurological disease	2139 (12)	412 (16)
Renal failure	2561 (15)	570 (22)
Thyroid disease	1976 (11)	338 (13)
Cardiovascular history, N (%)		
Stroke		
Ischaemic	2057 (12)	310 (12)
Haemorrhagic	290 (2)	46 (2)
Unspecified	467 (3)	76 (3)
Major haemorrhage†		
Intracranial	120 (1)	17 (1)
Gastrointestinal	133 (1)	28 (1)
Other	290 (2)	46 (2)
Systemic embolism	451 (3)	101 (4)
Transient ischaemic attack	849 (5)	104 (4)
Vascular disease		
Myocardial infarction	987 (6)	195 (7)
Peripheral artery disease	1178 (7)	270 (10)
Occlusions	661 (4)	108 (4)
Other ischaemic heart disease	2641 (15)	494 (19)
Symptoms of AF	865 (5)	127 (5)
Heart failure	3306 (19)	739 (28)
Cardiac dysrhythmia	813 (5)	144 (6)
Abnormal cardiac conduction	1986 (11)	374 (14)
Valvular disease/surgery	1557 (9)	309 (12)
Mitral stenosis	103 (1)	20 (1)
Fall, N (%)	1669 (10)	364 (14)

\*From the International Classification of Disease 10 (ICD-10) codes (see supplementary table S1).

†Bleeding leading to hospitalisation.

AF, atrial fibrillation.

**Supplementary Table S5** Characteristics of atrial fibrillation patients hospitalised for intracranial haemorrhage in France in 2012

	<b>Patients discharged alive (n=1450)</b>	<b>Patients who died during hospitalisation (n=335)</b>
Age group, N (%)		
<65 years	185 (13)	25 (7)
65–74 years	86 (6)	7 (2)
≥75 years	1179 (81)	303 (90)
Women, N (%)	603 (42)	138 (41)
Comorbidities*, N (%)		
Alcohol-related diagnosis	120 (8)	24 (7)
Anaemia	302 (21)	89 (27)
Cancer	219 (15)	63 (19)
Diabetes mellitus	325 (22)	84 (25)
Dyslipidaemia	343 (24)	82 (24)
Hypertension	1043 (72)	239 (71)
Inflammatory disease	106 (7)	19 (6)
Liver failure	57 (4)	16 (5)
Lung disease	252 (17)	87 (26)
Neurological disease	250 (17)	57 (17)
Renal failure	283 (20)	87 (26)
Thyroid disease	184 (13)	33 (10)
Cardiovascular history, N (%)		
Stroke		
Ischaemic	99 (7)	30 (9)
Haemorrhagic	80 (6)	14 (4)
Unspecified	29 (2)	10 (3)
Major haemorrhage†		
Intracranial	118 (8)	14 (4)
Gastrointestinal	9 (1)	6 (2)
Other	80 (6)	14 (4)
Systemic embolism	38 (3)	8 (2)
Transient ischaemic attack	54 (4)	11 (3)
Vascular disease		
Myocardial infarction	94 (6)	28 (8)
Peripheral artery disease	112 (8)	40 (12)
Occlusions	59 (4)	16 (5)
Other ischaemic heart disease	277 (19)	72 (21)
Symptoms of AF	86 (6)	29 (9)
Heart failure	388 (27)	119 (36)
Cardiac dysrhythmia	100 (7)	30 (9)
Abnormal cardiac conduction	243 (17)	64 (19)
Valvular disease/surgery	174 (12)	60 (18)
Mitral stenosis	9 (1)	3 (1)
Fall, N (%)	204 (14)	57 (17)

\*From the International Classification of Disease 10 (ICD-10) codes (see supplementary table S1).

†Bleeding leading to hospitalisation.

AF, atrial fibrillation.