

SUPPLEMENTAL MATERIAL

Figure I: Participant selection from the EPIC-Norfolk study.

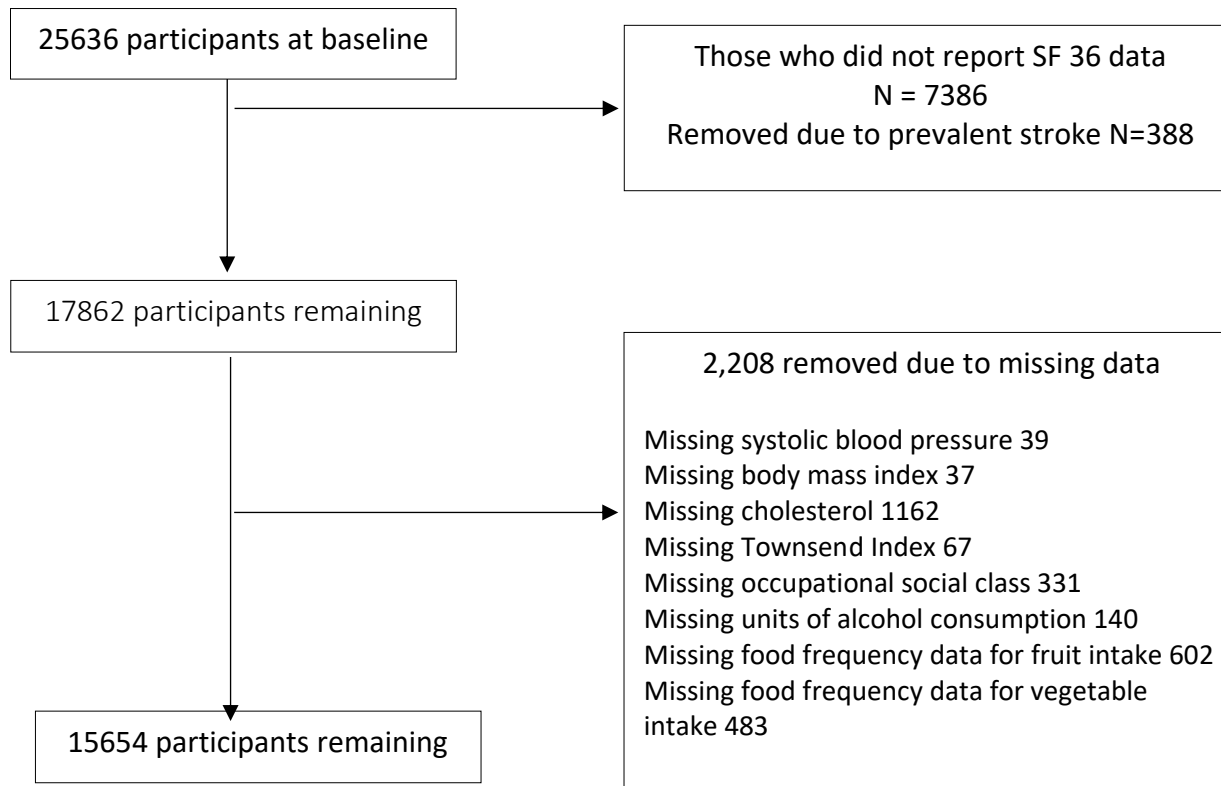


Table I: Baseline characteristics comparison between the included and excluded sample in the EPIC Norfolk study.

	Included N (%) total	Excluded N (%) total
Total N (%)	15654	9711
Age (Years) mean (SD)	59.07 (9.14)	59.43 (9.59)
Sex		
Male N (%)	6906 (44.12)	4699 (47.09)
Female N (%)	8748 (55.88)	5280 (52.91)
Body Mass Index (kg/m ²)		
< 18.5	74 (0.47)	50 (0.5)
18.5 – 24.9	6390 (40.82)	3554 (35.6)
25.0 – 30.0	7041 (44.98)	4557 (45.7)
Over 30.0	2149 (13.73)	1761 (17.6)
Systolic BP (mmHg) mean (SD)	134.99 (18.13)	136.11 (18.57)
Serum cholesterol (mmol/l) mean (SD)	6.17 (1.16)	6.20 (1.19)
Diabetes Mellitus (self reported)	312 (1.99)	275 (2.75)
Use of antidepressant drugs	740 (4.73)	679 (6.80)
Myocardial Infarction (self reported)	441 (2.82)	366 (3.67)
Cancer (self reported)	855 (5.46)	555 (5.56)
COPD (self reported)	1389 (8.87)	976 (9.78)
Fruit intake g/day median (IQR*)	216.32 (192.90)	202.80 (197.42)
Vegetable intake g/day median (IQR*)	225.44 (145.41)	220.73 (148.59)
Alcohol consumption (g/day) median (IQR)*	4.00 (9.00)	3.00 (9.00)
Smoking Status(self reported)		
Current	1647 (10.52)	1556 (15.59)
Former	6537 (41.76)	4223 (42.32)
Never	7470 (47.72)	4200 (42.09)
Physical Activity(self reported)		
Inactive	4305 (27.50)	3557 (35.64)
Moderately Inactive	4608 (29.44)	4200 (27.47)

Moderately Active	3740 (23.89)	2035 (20.39)
Active	3001 (19.17)	1645 (16.48)
Townsend score median (IQR)	-2.65 (2.5)	-2.54 (2.23)
Townsend Score quintiles		
I (-7- -3.81)	3192 (20.39)	1789 (17.92)
II (-3.82 - -2.96)	3094 (19.76)	1880 (18.84)
III (-2.97 - -2.15)	3129 (19.99)	1975 (19.79)
IV (-2.16 - -0.79)	3117 (19.91)	1932 (19.36)
V (-0.80-7.0)	3122 (19.94)	2301 (23.06)
Social Class		
Professional	1175 (7.51)	578 (5.79)
Managerial	5975 (38.17)	3181 (31.88)
Skilled non-manual	2660 (16.99)	1478 (14.81)
Skilled manual	3406 (21.76)	2365 (23.70)
Semi-skilled manual	1953 (12.48)	1407 (14.10)
Non-skilled	485 (3.10)	400 (4.01)
Educational Attainment		
Degree or Higher	2160 (13.80)	4131 (41.40)
A-Level	6483 (41.41)	931 (9.33)
O-Level	1691 (10.80)	3771 (37.79)
No Qualification	5320 (33.98)	1128 (11.30)
Vitamin use	6919 (44.20)	3880 (38.88)
SF36 Physical function * median (IQR)	85.00 (25.00)	80.50 (35.00)
SF36 Role physical* median (IQR)	100.00 (50.00)	100.00 (75.00)
SF36 Bodily pain * median (IQR)	84.00 (38.00)	74.00 (48.00)
SF36 General health * median (IQR)	72.00 (22.00)	72.00 (30.00)
SF36 Social functioning* median (IQR)	100.00 (25.00)	100.00 (25.00)
SF36 Role emotional * median (IQR)	100.00 (0.00)	100.00 (33.00)
SF36 Mental health* median (IQR)	80.00 (20.00)	80.00 (20.00)

SF36 Physical component summary score median (IQR)	50.70 (12.20)	48.95 (15.80)
SF36 Mental health component summary score median (IQR)	55.08 (10.00)	54.59 (11.71)
Stroke events		

The data presented as mean and (SD) for normally distributed continuous variables, median and interquartile range (IQR) for non-normally distributed variables, and number (N) and percentage (%) for categorical variables.

Table II: Correlation between SF-36 Vitality and SF-36 domains.

SF-36 domains	N	Fatigue Quartile				Spearman rank correlation rho(p value)
		Q1 (100-75)	Q2 (75-66)	Q3 (65-51)	Q4 (50-0)	
Physical functioning Median (IQR)	15484	95.00 (87.50-102.50)	90.00 (82.50-97.50)	85.00 (72.50-97.50)	75.0 (55.00-95.00)	0.454(0.000)
Role limitations (physical) Median (IQR)	15427	100(100.00-100.00)	100.00 (100.00-100.00)	100 (75.00-125.00)	50.00 (0.00-100.00)	0.492(0.000)
Bodily pain Median (IQR)	15637	100.00 (92.00-108.00)	84.00 (70.00-98.00)	74.00 (63.00-85.00)	62.00 (45.50-78.50)	0.477(0.000)
General health Median (IQR)	15317	85.00 (77.50-92.50)	77.00 (69.50-84.50)	72.00(62.00-82.00)	57.00 (41.00-74.00)	0.596 (0.000)
Social functioning Median (IQR)	15651	100.00(100.00-100.00)	100.00(100.00-100.00)	100.00(94.00-106.00)	75.00(50.00-100.00)	0.547(0.000)
Emotional Role Median (IQR)	15377	100.00(100.00-100.00)	100.00(100.00-100.00)	100.00(100.00-100.00)	100.00(66.50-133.50)	0.420 (0.000)
Mental health Median (IQR)	15633	92.00(86.00-98.00)	84.00(78.00-90.00)	80.00(72.00-88.00)	64.00(52.00-76.00)	0.633 (0.000)
Physical component summary score Median (IQR)	14925	54.20(51.20-57.20)	52.40(48.40-56.40)	49.50(44.00-55.0)	42.90(33.90-51.90)	0.458 (0.000)
Mental health component summary score Median (IQR)	14925	58.93(56.93-62.93)	56.58(54.08-59.08)	53.85(49.5-57.85)	46.30(38.80-53.80)	0.643(0.000)

Table III: Cox proportional hazard models (with corresponding 95% confidence intervals) for incident stroke stratified by confounders in the EPIC Norfolk study.

Characteristic	Hazard Ratio	SF-36 vitality score quartiles				P value*
		Q1 (100-75)	Q2 (75-66)	Q3 (65-51)	Q4 (50-0)	
Whole population	Model E HR (95 % CI)	1.00	1.04 (0.89-1.22)	1.20 (1.04-1.39)	1.49 (1.29-1.71)	<0.001
	Events/ Population	345/267	267/3007	400/4077	497/4691	1509/15654
Smokers	Model E (95 % CI)	1.00	0.99 (0.80-1.23)	1.23 (1.01-1.48)	1.44 (1.19-1.74)	<0.001
	Events/Population	196/1958	145/1520	243/2171	284/2535	868/8184
Never smoker	Model E (95 % CI)	1.00	1.09 (0.85-1.38)	1.14 (0.91-1.43)	1.57 (1.27-1.94)	<0.001
	Events/Population	149/1921	122/1487	157/1906	213/2156	641/7470
Male	Model E (95 % CI)	1.00	1.08 (0.87-1.35)	1.21 (0.98-1.47)	1.47 (1.20-1.80)	<0.001
	Events/Population	192/1935	145/1380	190/1770	210/1821	737/6906
Female	Model E (95 % CI)	1.00	1.00 (0.78-1.27)	1.20 (0.97-1.48)	1.49 (1.22-1.82)	<0.001
	Events/Population	153/1944	122/1627	210/2307	287/2870	772/8748
TSH normal	Model E (95 % CI)	1.00	1.18 (0.92-1.51)	1.22 (0.97-1.54)	1.61 (1.30-2.00)	<0.001
	Events/Population	133/1835	124/1472	160/2039	223/2341	640/7687
TSH high	Model E (95 % CI)	1.00	1.08 (0.52-2.25)	1.56 (0.81-2.99)	1.95 (1.02-3.73)	0.139
	Events/Population	16/186	15/169	26/211	34/245	91/811
TSH low	Model E (95 % CI)	1.00	0.70 (0.16-3.00)	1.40 (0.40-5.00)	3.11 (1.10-9.62)	0.098
	Events/Population	6/54	3/46	6/58	15/80	30/238
No Depression	Model E (95 % CI)	1.00	1.02 (0.87-1.20)	1.20 (1.03-1.38)	1.43 (1.24-1.65)	<0.001
	Events/Population	339/3804	256/2926	384/3893	447/4291	1426/14914
Depression	Model E (95 % CI)	1.00	1.96 (0.70-5.48)	1.11 (0.42-2.96)	2.60 (1.06-6.31)	0.020
	Events/Population	6/75	11/81	16/184	50/400	83/740
No cancer	Model E (95 % CI)	1.00	1.05 (0.90-1.24)	1.19 (1.03-1.38)	1.43 (1.24-1.66)	<0.001
	Events	326/712	255/2858	374/3870	441/4359	1396/14799

Cancer	Model E (95 % CI)	1.00	0.87 (0.42-1.82)	1.43 (0.77-2.64)	2.29 (1.31-3.99)	0.003
	Events/Population	19/167	12/149	26/207	56/332	113/855
No COPD**	Model E (95 % CI)	1.00	1.02 (0.87-1.21)	1.19 (1.02-1.38)	1.48 (1.28-1.72)	<0.001
	Events/Population	325/3648	247/2798	364/3667	444/4152	1380/14265
COPD**	Model E (95 % CI)	1.00	1.61 (0.84-3.07)	1.44 (0.81-2.54)	1.77 (1.03-3.05)	0.218
	Events/Population	20/231	20/209	36/410	53/539	129/1389
No Baseline MI†	Model E (95 % CI)	1.00	1.03 (0.88-1.22)	1.20 (1.04-1.40)	1.46 (1.27-1.69)	<0.001
	Events	335/3819	255/2940	385/3965	457/4489	1432/15213
MI†	Model E (95 % CI)	1.00	0.83 (0.34-2.02)	0.74 (0.32-1.71)	1.27 (0.60-2.70)	0.319
	Events/Population	10/60	12/67	15/112	40/202	77/441
No anaemia	Model E (95 % CI)	1.00	0.94 (0.74-1.20)	1.19 (0.96-1.48)	1.38 (1.12-1.70)	0.002
	Events/Population	149/1857	119/1524	193/2114	239/2480	700/7975
Anaemia	Model E (95 % CI)	1.00	1.20 (0.85-1.71)	1.05 (0.74-1.48)	1.89 (1.39-2.59)	<0.001
	Events/Population	68/767	58/583	63/768	106/844	295/2962
General health excellent or good	Model E (95 % CI)	1.00	1.06 (0.88-1.27)	1.19 (1.01-1.42)	1.36 (1.13-1.63)	0.007
	Events/Population	268/3180	205/2367	269/2869	210/2281	952/10697
General health moderate or poor	Model E (95 % CI)	1.00	0.93 (0.47-1.86)	0.88 (0.49-1.61)	0.95 (0.55-1.66)	0.964
	Events/Population	14/114	20/166	58/486	160/1412	252/2178

* P test for trend across vitality quartiles. **COPD: Chronic Obstructive Pulmonary Disease. † MI: Myocardial Infarction