

eTable 1. Hazard ratios (95% confidence intervals) for all-cause mortality according to changes in health behaviours between 1984/5 and 1991/2 in the complete case sample (n = 3,163).

	Hazard Ratio (95% CI) ^a
Healthy changes in behaviour ^b	
Smoking cessation (1984/5: current; 1991/2: never/former)	0.6 (0.3, 1.0)
Decrease alcohol consumption (1984/5: ≥14/21 units; 1991/2 <14/21 units)	0.9 (0.6, 1.3)
Increase fruit and vegetable intake (1984/5: <3 times/day; 1991/2 ≥3 times/day)	1.0 (0.8, 1.3)
Increase physical activity (1984/5: <2hrs/ week; 1991/2 ≥2 hrs /week)	0.9 (0.7, 1.1)
Unhealthy changes in behaviour ^c	
Start smoking (1984/5: never/former; 1991/2: current)	1.2 (0.8, 1.8)
Increase alcohol consumption (1984/5: <14/21 units; 1991/2 ≥14/21 units)	1.0 (0.7, 1.4)
Decrease fruit/ vegetable intake (1984/5: ≥3 times/day; 1991/2 <3 times/day)	1.5 (1.0, 2.3)
Decrease physical activity (1984/5: ≥2 hrs /week; 1991/2 <2hrs/ week)	1.0 (0.8, 1.3)

^a Adjusted for changes in other behaviours, age, sex and ethnicity. ^b Fully adjusted was for changes in other behaviours, baseline age, sex, ethnicity, occupational social class, marital status, body mass index, systolic blood pressure, diastolic blood pressure, FEV¹, simple reaction time, choice reaction time, memory index score, visual spatial reasoning score, diagnoses of a heart condition/ stroke, respiratory disease, diabetes, gastrointestinal disease, and arthritis. ^c Reference group for healthy changes were: current smoker 1984/5 & 1991/2, ≥14/21 units alcohol 1984/5 & 1991/2, fruit and vegetables <3 times/day 1984/5 & 1991/2, and <2hrs/ week physical activity 1984/5 & 1991/2. ^d Reference group for unhealthy changes were: Never/former smoker 1984/5 & 1991/2, <14/21 units alcohol 1984/5 & 1991/2, fruit and vegetables ≥3 times/day 1984/5 & 1991/2, and ≥2 hrs /week physical activity 1984/5 & 1991/2.

BMI = Body Mass Index; FEV¹ = Forced expiratory volume in one second

eTable 2. Change in health behaviours between 1984/5 and 1991/2 and all-cause mortality-risk after excluding 1,370 participants with any health diagnosis (n = 6,753)

	Hazard Ratio (95% CI) ^a
Healthy changes in behaviour ^b	
Smoking cessation (1984/5: current; 1991/2: never/former)	1.0 (0.8, 1.4)
Decrease alcohol consumption (1984/5: $\geq 14/21$ units; 1991/2 $< 14/21$ units)	0.9 (0.6, 1.2)
Increase fruit and vegetable intake (1984/5: < 3 times/day; 1991/2 ≥ 3 times/day)	0.9 (0.8, 1.1)
Increase physical activity (1984/5: < 2 hrs/ week; 1991/2 ≥ 2 hrs /week)	1.0 (0.8, 1.1)
Unhealthy changes in behaviour ^c	
Start smoking (1984/5: never/former; 1991/2: current)	1.1 (0.8, 1.5)
Increase alcohol consumption (1984/5: $< 14/21$ units; 1991/2 $\geq 14/21$ units)	1.1 (0.8, 1.5)
Decrease fruit/ vegetable intake (1984/5: ≥ 3 times/day; 1991/2 < 3 times/day)	1.1 (0.8, 1.6)
Decrease physical activity (1984/5: ≥ 2 hrs /week; 1991/2 < 2 hrs/ week)	1.0 (0.8, 1.2)

^a Adjusted for changes in other behaviours, age, sex and ethnicity. ^b Fully adjusted was for changes in other behaviours, baseline age, sex, ethnicity, occupational social class, marital status, body mass index, systolic blood pressure, diastolic blood pressure, FEV¹, simple reaction time, choice reaction time, memory index score, visual spatial reasoning score, diagnoses of a heart condition/ stroke, respiratory disease, diabetes, gastrointestinal disease, and arthritis. ^c Reference group for healthy changes were: current smoker 1984/5 & 1991/2, $\geq 14/21$ units alcohol 1984/5 & 1991/2, fruit and vegetables < 3 times/day 1984/5 & 1991/2, and < 2 hrs/ week physical activity 1984/5 & 1991/2. ^d Reference group for unhealthy changes were: Never/former smoker 1984/5 & 1991/2, $< 14/21$ units alcohol 1984/5 & 1991/2, fruit and vegetables ≥ 3 times/day 1984/5 & 1991/2, and ≥ 2 hrs /week physical activity 1984/5 & 1991/2.

BMI = Body Mass Index; FEV¹ = Forced expiratory volume in one second

eTable 3. Change in health behaviours between 1984/5 and 1991/2 and all-cause mortality-risk after excluding 773 deaths in first five years after 1991/2 (n = 7,350)

	Hazard Ratio (95% CI) ^a
Healthy changes in behaviour^b	
Smoking cessation (1984/5: current; 1991/2: never/former)	1.0 (0.7, 1.3)
Decrease alcohol consumption (1984/5: ≥14/21 units; 1991/2 <14/21 units)	0.8 (0.6, 1.1)
Increase fruit and vegetable intake (1984/5: <3 times/day; 1991/2 ≥3 times/day)	1.0 (0.8, 1.2)
Increase physical activity (1984/5: <2hrs/ week; 1991/2 ≥2 hrs /week)	0.9 (0.7, 1.0)
Unhealthy changes in behaviour^c	
Start smoking (1984/5: never/former; 1991/2: current)	1.1 (0.8, 1.5)
Increase alcohol consumption (1984/5: <14/21 units; 1991/2 ≥14/21 units)	1.1 (0.8, 1.6)
Decrease fruit/ vegetable intake (1984/5: ≥3 times/day; 1991/2 <3 times/day)	1.4 (1.0, 2.0)
Decrease physical activity (1984/5: ≥2 hrs /week; 1991/2 <2hrs/ week)	1.1 (0.9, 1.0)

^a Adjusted for changes in other behaviours, age, sex and ethnicity. ^b Fully adjusted was for changes in other behaviours, baseline age, sex, ethnicity, occupational social class, marital status, body mass index, systolic blood pressure, diastolic blood pressure, FEV¹, simple reaction time, choice reaction time, memory index score, visual spatial reasoning score, diagnoses of a heart condition/ stroke, respiratory disease, diabetes, gastrointestinal disease, and arthritis. ^c Reference group for healthy changes were: current smoker 1984/5 & 1991/2, ≥14/21 units alcohol 1984/5 & 1991/2, fruit and vegetables <3 times/day 1984/5 & 1991/2, and <2hrs/ week physical activity 1984/5 & 1991/2. ^d Reference group for unhealthy changes were: Never/former smoker 1984/5 & 1991/2, <14/21 units alcohol 1984/5 & 1991/2, fruit and vegetables ≥3 times/day 1984/5 & 1991/2, and ≥2 hrs /week physical activity 1984/5 & 1991/2.

BMI = Body Mass Index; FEV¹ = Forced expiratory volume in one second

eTable 4. Association of Changes in Health Behaviors with All-Cause Mortality With and Without Adjustment for Concomitant Changes in Behaviors (n = 8,123)

	Hazard ratio (95% CI)	
	Adjusted for age, sex, ethnicity, plus changes in other behaviors	Adjusted for age, sex, ethnicity
Healthy changes in behavior		
Smoking cessation	0.98 (0.76, 1.26)	0.94 (0.74, 1.20)
Decrease alcohol consumption	0.91 (0.70, 1.18)	0.89 (0.70, 1.14)
Increase fruit and vegetable intake	0.98 (0.85, 1.14)	0.96 (0.82, 1.12)
Increase physical activity	0.82 (0.71, 0.94)	0.82 (0.71, 0.94)
Unhealthy changes in behavior		
Start smoking	1.06 (0.80, 1.39)	1.06 (0.80, 1.40)
Increase alcohol consumption	1.02 (0.76, 1.36)	1.02 (0.76, 1.36)
Decrease fruit/ vegetable intake	1.23 (0.93, 1.61)	1.26 (0.95, 1.66)
Decrease physical activity	1.15 (0.98, 1.33)	1.15 (1.00, 1.32)