Supplementary Table 1. Hazard ratios (HRs) for the association of asthma with cardiovascular disease (CVD), coronary heart disease (CHD), and stroke mortality by age in the MJ health check-up programme, Taiwan

		CVD mortality						CHD mortality						Stroke mortality					
	N	Cases (n)	Rate per 100,000 py	Model 1 HR	Model 1 (95% CI)	Model 2 HR	Model 2 95% CI	Cases (n)	Rate per 100,000 py	Model 1 HR	Model 1 95% CI	Model 2 HR	Model 2 95% CI	Cases (n)	Rate per 100,000 py	Model 1 HR	Model 1 95% CI	Model 2 HR	Model 2 95% CI
<60 years																			
No asthma	384,436	802	22	1.00		1.00		186	5	1.00		1.00		319	9	1.00		1.00	
Asthma	12,392	34	32	1.30	(0.92 ,1.84)	1.18	(0.84 ,1.66)	11	10	1.76	(0.96 ,3.24)	1.54	(0.84 ,2.85)	12	11	1.16	(0.65 ,2.06)	1.10	(0.62 ,1.97)
Non-active asthma (history only)	10,237	18	21	0.99	(0.62 ,1.58)	0.97	(0.61 ,1.54)	6	7	1.40	(0.62 ,3.15)	1.32	(0.58 ,2.97)	6	7	0.83	(0.37 ,1.87)	0.86	(0.39 ,1.94)
Active asthma (current drug use)	2,155	16	76	2.02	(1.23 ,3.31)	1.57	(0.96 ,2.58)	5	24	2.57	(1.06 ,6.26)	1.95	(0.80 ,4.78)	6	29	1.89	(0.84 ,4.24)	1.53	(0.68 ,3.44)
>=60 years																			
No asthma	46,993	1,961	421	1.00		1.00		544	117	1.00		1.00		759	163	1.00		1.00	
Asthma	2,525	148	599	1.27	(1.07 ,1.50)	1.13	(0.95 ,1.33)	39	158	1.20	(0.87 ,1.66)	1.02	(0.73 ,1.41)	56	227	1.25	(0.95 ,1.64)	1.16	(0.88 ,1.52)
Non-active asthma (history only)	1,366	66	479	1.05	(0.82 ,1.34)	0.97	(0.76 ,1.24)	19	138	1.09	(0.69 ,1.71)	0.96	(0.61 ,1.53)	29	211	1.19	(0.82 ,1.73)	1.14	(0.79 ,1.65)
Active asthma (current drug use)	1,159	82	749	1.52	(1.22 ,1.90)	1.30	(1.04 ,1.63)	20	183	1.33	(0.85 ,2.08)	1.07	(0.68 ,1.68)	27	247	1.31	(0.89 ,1.92)	1.18	(0.80 ,1.74)
Age interaction p																			
Asthma (yes/no)				0.85		0.50				0.25		0.15				0.85		1.00	
Asthma (no, history only, history and drug)				0.079		0.32				0.15		0.22				0.18		0.49	

PY: person-years
Model 1: adjust for sex
Model 2: adjust for sex education, marital status, smoking, alcohol consumption, physical activity, diabetes, hypertension, body mass index, total cholesterol, triglyceride, history of heart disease/heart surgery/use of heart drug, and history of stroke

Supplementary table 2. Hazard ratios (HRs) for the association of asthma with cardiovascular disease (CVD), coronary heart disease (CHD), and stroke mortality, excluding deaths[a] occurring during the two first years of follow-up, in the MJ health check-up programme, Taiwan

			CVD mortality					CHD mortality					Stroke mortality			
	N[a]	Cases (n)	Model 1		Model 2		Cases (n)	Model 1		Model 2		Cases (n)	Model 1		Model 2	
			HR	(95% CI)	HR	95% CI		HR	95% CI	HR	95% CI		HR	95% CI	HR	95% CI
No asthma	431,200	2,534	1.00		1.00		661	1.00		1.00		988	1.00		1.00	
Asthma	14,896	161	1.23	(1.05 ,1.44)	1.10	(0.94 ,1.29)	44	1.26	(0.93 ,1.71)	1.07	(0.79 ,1.46)	60	1.18	(0.91 ,1.53)	1.10	(0.85 ,1.44)
Non-active asthma (history only)	11,597	78	1.05	(0.84 ,1.32)	0.98	(0.78 ,1.23)	22	1.13	(0.74 ,1.72)	1.01	(0.66 ,1.54)	33	1.14	(0.81 ,1.61)	1.11	(0.78 ,1.57)
Active asthma (current drug use)	3,299	83	1.47	(1.18 ,1.83)	1.24	(1.00 ,1.55)	22	1.46	(0.98 ,2.17)	1.15	(0.75 ,1.76)	27	1.23	(0.84 ,1.80)	1.10	(0.75 ,1.62)

Model 1: adjust for age and sex
Model 2: adjust for age, education, marital status, smoking, alcohol consumption, physical activity, diabetes, hypertension, body mass index, total cholesterol, triglyceride, history of heart disease/heart surgery/use of heart drug, and history of stroke
[a] The number of deaths due to CVD, CHD, and stroke varied and thus the total number of participants after excluding deaths due to each of three causes differed.

Supplementary Table 3. Hazard ratios (HRs) for the association of asthma with cardiovascular disease (CVD), coronary heart disease (CHD), and stroke mortality, excluding individuals with history of heart disease / heart surgery / use of heart drug, and history of stroke at baseline, in the MJ health check-up programme, Taiwan

	N	CVD mortality					CHD mortality					Stroke mortality				
		Cases (n)	Model 1		Model 2		Cases (n)	Model 1		Model 2		Cases (n)	Model 1		Model 2	
			HR	(95% CI)	HR	95% CI		HR	95% CI	HR	95% CI		HR	95% CI	HR	95% CI
No asthma	414,859	1,992	1.00		1.00		514	1.00		1.00		823	1.00		1.00	
Asthma	13,802	108	1.16	(0.96 ,1.41)	1.15	(0.95 ,1.39)	23	0.94	(0.62 ,1.43)	0.92	(0.60 ,1.40)	42	1.10	(0.81 ,1.50)	1.09	(0.80 ,1.49)
Non-active asthma (history only)	10,935	51	0.94	(0.71 ,1.25)	0.95	(0.72 ,1.26)	13	0.92	(0.53 ,1.60)	0.91	(0.52 ,1.58)	21	0.94	(0.61 ,1.45)	0.97	(0.63 ,1.50)
Active asthma (current drug use)	2,867	57	1.47	(1.13 ,1.92)	1.41	(1.08 ,1.84)	10	0.96	(0.52 ,1.80)	0.93	(0.50 ,1.75)	21	1.32	(0.85 ,2.03)	1.25	(0.81 ,1.93)

Model 1: adjust for age and sex

Model 2: adjust for age, education, marital status, smoking, alcohol consumption, physical activity, diabetes, hypertension, body mass index, total cholesterol and triglycerides.

Supplementary table 4. Hazard ratios (HRs) for the association of asthma with cardiovascular disease (CVD), coronary heart disease (CHD), and stroke mortality, excluding individuals with FEV1/FCV < 0.7 at baseline, in the MJ health check-up programme, Taiwan

	N	Cases (n)	CVD mortality Model 1 HR	(95% CI)	Model 2 HR	95% CI	Cases (n)	CHD mortality Model 1 HR	95% CI	Model 2 HR	95% CI	Cases (n)	Stroke mortality Model 1 HR	95% CI	Model 2 HR	95% CI
No asthma	352,774	2,319	1.00		1.00		617	1.00		1.00		902	1.00		1.00	
Asthma	11,074	117	1.27	(1.06 ,1.53)	1.12	(0.93 ,1.36)	32	1.29	(0.90 ,1.84)	1.08	(0.76 ,1.55)	46	1.29	(0.96 ,1.73)	1.21	(0.90 ,1.63)
Non-active asthma (history only)	8,835	60	1.05	(0.81 ,1.36)	0.98	(0.76 ,1.27)	19	1.25	(0.79 ,1.97)	1.11	(0.70 ,1.76)	25	1.13	(0.76 ,1.68)	1.11	(0.75 ,1.66)
Active asthma (current drug use)	2,239	57	1.62	(1.25 ,2.11)	1.33	(1.02 ,1.73)	13	1.36	(0.78 ,2.35)	1.05	(0.60 ,1.82)	21	1.55	(1.01 ,2.39)	1.36	(0.88 ,2.10)

Model 1: adjust for age and sex
Model 2: adjust for age, education, marital status, smoking, alcohol consumption, physical activity, diabetes, hypertension, body mass index, total cholesterol, triglyceride, history of heart disease/heart surgery/use of heart drug, and history of stroke

Supplementary Table 5. Hazard ratios (HRs) for the association of asthma with cardiovascular disease (CVD), coronary heart disease (CHD), and stroke mortality by smoking status in the MJ health check-up programme, Taiwan

	N	CVD mortality Cases (n)	Model 1 HR	(95% CI)	Model 2 HR	95% CI	CHD mortality Cases (n)	Model 1 HR	95% CI	Model 2 HR	95% CI	Stroke mortality Cases (n)	Model 1 HR	95% CI	Model 2 HR	95% CI
Non or ex-smoker																
No asthma	332,699	1,898	1.00		1.00		470	1.00		1.00		754	1.00		1.00	
Asthma	11,456	113	1.15	(0.95 ,1.39)	1.04	(0.86 ,1.25)	30	1.20	(0.83 ,1.73)	1.03	(0.71 ,1.50)	40	1.03	(0.75 ,1.42)	0.98	(0.71 ,1.35)
Non-active asthma (history only)	9,018	56	1.00	(0.77 ,1.31)	0.94	(0.72 ,1.23)	16	1.15	(0.70 ,1.89)	1.04	(0.63 ,1.72)	24	1.09	(0.72 ,1.63)	1.07	(0.71 ,1.61)
Active asthma (current drug use)	2,438	57	1.33	(1.02 ,1.74)	1.14	(0.88 ,1.49)	14	1.26	(0.74 ,2.14)	1.02	(0.60 ,1.75)	16	0.96	(0.59 ,1.58)	0.87	(0.53 ,1.43)
Current smoker																
No asthma	98,730	865	1.00		1.00		260	1.00		1.00		324	1.00		1.00	
Asthma	3,461	69	1.55	(1.21 ,1.98)	1.34	(1.04 ,1.71)	20	1.45	(0.92 ,2.29)	1.20	(0.75 ,1.90)	28	1.67	(1.13 ,2.45)	1.51	(1.02 ,2.23)
Non-active asthma (history only)	2,585	28	1.13	(0.78 ,1.65)	1.01	(0.69 ,1.48)	9	1.18	(0.61 ,2.30)	1.01	(0.52 ,1.97)	11	1.19	(0.65 ,2.17)	1.11	(0.61 ,2.04)
Active asthma (current drug use)	876	41	2.07	(1.51 ,2.84)	1.72	(1.25 ,2.36)	11	1.78	(0.97 ,3.25)	1.41	(0.77 ,2.60)	17	2.26	(1.38 ,3.69)	1.97	(1.20 ,3.23)
Smoking status interaction p																
Asthma (yes/no)					0.18					0.74					0.12	
Asthma (no, history only, history and drug)					0.27					0.82					0.088	

Model 1: adjust for age
Model 2: adjust for age, education, marital status, alcohol consumption, physical activity, diabetes, hypertension, body mass index,
total cholesterol, triglyceride, history of heart disease/heart surgery/use of heart drug, and history of stroke