

SUPPLEMENTAL MATERIAL

Table S1. Criteria for assessment of bias / study quality

1st Author	Year	Representativeness of cohort	Selection of non-exposed	Measurement of body weight	Measurement of physical activity	Response rate	Loss to follow-up	Reverse causality	Measurement of health outcomes	Quality score
Sherman(1)	1994	1	1	1	0	0	1	1	1	6
Sesso(2)	1999	1	1	0	1	1	0	1	0	5
Hu(3)	2000	1	1	0	0	0	1	1	1	5
Sesso(4)	2000	1	1	0	0	0	1	1	0	4
Gregg(5)	2003	1	1	1	1	0	1	1	0	6
Hu (NHS)(6)	2004	1	1	0	0	0	1	1	1	5
Hu (Finnish pop)(7)	2004	0	1	0	1	0	1	1	1	5
Franco(8)	2005	1	1	1	0	0	1	1	0	5
Myint(9)	2006	1	1	1	1	0	1	1	1	7
Hu(10)	2007	0	1	0	1	0	1	1	1	5
Hu(11)	2010	1	0	1	0	1	0	1	1	5
Eguchi (12)	2012	1	1	1	0	0	0	1	1	5
Odegaard(13)	2011	1	1	1	1	0	1	1	1	7
Petersen(14)	2012	1	1	1	1	0	1	1	1	7
Reis(15)	2011	1	1	1	0	0	0	1	0	4
Shi(16)	2013	1	1	1	1	1	0	1	1	7
Baceviciene(17)	2012	1	1	1	1	1	0	0	1	6
Clays(18)	2012	1	1	1	1	0	0	1	1	6
Holtermann(19)	2012	1	1	1	1	1	0	1	1	7
Jefferis(20)	2012	1	1	1	1	1	0	1	1	7
Kraigher-Krainer(21)	2013	1	1	0	1	0	1	1	1	6
Park(22)	2012	1	1	1	1	0	0	0	1	5
Chomistek(23)	2013	1	1	0	1	0	0	1	1	5
Gunnell(24)	2013	1	1	1	1	0	0	1	1	6
Holtermann(25)	2013	1	1	1	1	1	0	1	1	7
Jefferis(26)	2013	1	1	1	1	1	0	1	1	7
Kim(27)	2013	1	1	1	1	0	0	1	1	6
McDonnell(28)	2013	0	1	1	1	1	0	1	1	6
Patel(29)	2013	1	1	1	1	1	0	1	0	6
Soedamah(30)	2013	1	1	0	0	0	0	1	1	4
Vergnaud(31)	2013	1	1	1	1	1	0	1	1	7
Wang(32)	2013	1	1	1	1	1	0	1	1	7
Williams(16)	2013	1	0	1	1	0	1	1	1	6
Zhang, Q(29)	2013	1	1	1	0	1	0	1	1	6
Zhang, Y(29)	2013	1	1	1	1	1	0	1	1	7
Young(33)	2014	1	1	1	1	0	0	1	1	6

- *Representativeness of cohort (0 = no description or selected group of users (e.g. nurses), 1 = otherwise)*
- *Selection of non-exposed (0 = no description or drawn from different source than exposed, 1 = otherwise)*
- *Measurement of body weight (0 = no description or self report, 1 = otherwise)*
- *Measurement of physical activity (0 = no description or non-validated self report, 1 = otherwise)*
- *Response rate (0 = no description or less than 60%, 1 = otherwise)*
- *Loss to follow-up (0 = no description or greater than 5%, 1 = otherwise)*
- *Reverse causality (0 = no description or included participants with health outcome at baseline, 1 = otherwise)*
- *Measurement of health outcome (0 = no description or incidence measured by self report of doctor diagnosis, 1 = otherwise)*

Table S2. Converting physical activity measures to a standardised metric of ‘Additional METh/d’

The single metric that we converted all the measures from the identified papers to was ‘Additional MET hours per day’ (or ‘Additional METh/d’). This measure is a comparative measure, where the baseline group in each paper is arbitrarily assigned the value of zero and the extra physical activity in the other exposure groups is estimated as the amount of time spent in physical activity multiplied by the intensity of the physical activity, measured in METs (or ‘metabolic equivalents’). METs are a standard measure used in physical activity research, which are an estimate of the intensity of physical activity compared to a baseline of 1 MET which is the intensity of sitting quietly. A standard compendium of MET values for many different activities can be found on the Compendium of Physical Activities Google Site.(34)

In order to develop the ‘Additional METh/d’ metric, it is necessary to estimate the METh/d for all of the reported physical activities described in each paper for each of the exposure groups, and then subtract the baseline METh/d from each of the groups. There were a number of standard rules that we applied for each paper, to remove subjectivity from the process. These rules were as follows:

1. When a paper uses a range to describe an exposure (e.g. 0-2 h/week walking) we used a point estimate which was the mid-point of the range.
2. When a paper uses an open category to describe an exposure we assume that the size of this category is the same as the closest equivalent exposure category and then calculate the median. For example, if a paper categorised walking as 0-2h/week; 2-4h/week; 4+ h/week, then we assume that the last exposure group is 4-6h/week and use the median value of 5h/week.
3. When physical activity is measured in ‘occasions’ or ‘sessions’ but no time is estimated, we assume that each occasion or session is half an hour.
4. When a paper describes physical activity in terms of intensity (rather than describing the actual activity that was performed) then we assume the following MET values: light intensity: 2.5 METs; moderate intensity: 4.5 METs; vigorous intensity: 6.5 METs. Ambiguous activities are assigned to either light, moderate or vigorous intensity levels – for example, ‘exercise’ or ‘sport’ are both categorised as vigorous.
5. Where the paper tries to measure amount of time spent in ‘moderate or vigorous’ physical activity but gives no information about the type of activity, we assume a MET value of 5.5.
6. Often papers categorised groups using an ‘or’ function. For example, an exposure group may consist of individuals who walk for at least 5 hours per week or exercise for at least two hours per week. In these instances, we assumed that any combination of these two activities is equally likely. So we calculated the METh/d for someone who only walks 5 hours per week, for someone who only exercises for two hours a week, and for someone who both walks for five hours a week AND exercises for two hours a week. We then calculated the average of the three measures, and assigned that value to the exposure group.
7. When a paper split groups into x-tiles of an exposure variable and provided estimates of mean and standard deviation of the exposure variable in the whole sample, we assumed that the exposure variable was log-normally distributed (unless otherwise stated in the paper) and then calculate the exposure variable for each of the x-tile variables from this assumed distribution.

Table S3. Identified studies evaluating the effect of physical activity on CVD outcome and Type II Diabetes Incidence with adjustment for body weight

1st Author (year)	Cohort name	Domains of PA measured	Disease outcome	Disease ascertainment	Population	Sample size	Number of events	Follow-up (years)	Adjustments
Baceviciene (2012)(17)	MONICA	Recreational; Active Travel; Household	CVD mortality	National Death Register	Lithuanian adults aged 25-64	2,643	150	12.6	Age, sex, education, study year, smoking, alcohol, BMI, hypertension, cholesterol, glucose, CHD, stroke
Chomistek (2013)(23)	WHI	Recreational; Active Travel	CHD incidence	Questionnaire & medical records, adjudicated by physicians	US women aged 50-79	71,018	2,411	12.2	Age, sedentary time, race, education, income, marital status, smoking, history of MI, depression, alcohol, sleep, total calories, saturated fat & fibre, BMI
			Stroke incidence				2,050		
			CVD incidence				4,235		
Clays (2012)(18)	Belstress	Recreational; Occupational	CHD incidence	Not reported	Belgian adults aged 35-59	14,337	87	3.15	Age, educational level, occupational class, job strain, BMI, smoking, alcohol, diabetes, SBP, cholesterol, HDL,
Eguchi (2012) (12)	JAAC	Recreational; Active Travel	CVD mortality	Death Certificates	Japanese men aged 40-79	18,747	441	16.5	Age, hx of hypertension, hx of diabetes, education, employment, mental stress, seven health behaviours (fruit, fish, milk, exercise, BMI, ethanol, sleep, smoking)
					Japanese women aged 40-79	24,263	408		
Franco (2005)(8)	Framingham	Recreational; Active Travel; Household; Occupational	CVD incidence	Physician evaluation of diagnosis	US adults aged 28-62,	9,033	1,573	12.0	Age, sex, smoking, BMI, hypertension, co-morbidities

1st Author (year)	Cohort name	Domains of PA measured	Disease outcome	Disease ascertainment	Population	Sample size	Number of events	Follow-up (years)	Adjustments
Gregg (2003)(5)	SOF	Walking; leisure activities; sports	CVD mortality	Death certificates	US women aged >65	9,518	826	10.6	Age, smoking, BMI, co-morbidities
Gunnell (2013)(24)	HWSS	Recreational; Active Travel	IHD disease incidence	Hospital records	Australian adults aged >45	14,890	538	3	Age, sex, smoking, charlson index, LTPA, sedentary activity level, BMI, fruit & veg intake, survey year, diabetes hospitalisation
Holtermann (2012)(19)	Copenhagen City Heart Study	Recreational; Household	IHD mortality	Death registry	Danish men aged 40-59	5,249	579	30	Age, clinical factors (BMI, BP)
Holtermann (2013)(25)	Copenhagen City Heart Study	Recreational; Occupational	CVD mortality	National Death Register	Danish men aged 25-66	7,411	1,945	22.4	Age, smoking, alcohol, cholesterol, SBP, blood pressure meds, diabetes, household income, BMI
					Danish women aged 25-66	8,916	1,814	22.4	
Hu (2000)(3)	Nurses Health Study	Walking; vigorous exercise activities	Stroke incidence	Self-report and health screening	US women aged 40-65	72,488	407	8.0	Age, smoking, BMI, alcohol, menopausal status, parental history of CHD, aspirin use, co-morbidities
Hu (2004)(6)	Nurses Health Study	Walking; leisure activities	CVD mortality	Death certificates	US women aged 30-55	116,564	2,370	24.0	Age, BMI, smoking, alcohol, parental history of CHD, menopausal status, hormone use
Hu (2004)(7)	Finland population	Occupational PA; leisure activities	CVD incidence	Routine update from registry	Finnish adults aged 25-64	18,892	818	9.8	Age, education, alcohol, smoking, BMI, SBP, cholesterol, co-morbidities

1st Author (year)	Cohort name	Domains of PA measured	Disease outcome	Disease ascertainment	Population	Sample size	Number of events	Follow-up (years)	Adjustments
Hu (2007)(10)	Finland population	Occupational PA; active travel; leisure activities	CHD incidence	Routine update from registry	Finnish adults aged 25-64	47,840	4,660	18.9	Age, education, alcohol, smoking, BMI, SBP, cholesterol, diabetes
Hu (2010)(11)	Finland population	Occupational PA; active travel; leisure activities	Heart Failure incidence	Routine update from registry	Finnish adults aged 25-74	59,178	3,614	18.4	Age, education, alcohol, smoking, BMI, SBP, cholesterol, co-morbidities
Jefferis (2012)(20)	BRHS	Recreational; Active Travel; Household	Type II Diabetes incidence	Self report, then correspondence with primary care NHS central registers & death certificates	UK men aged 60-79	2,675	113	7.1	Age, region, social class, smoking, alcohol, coffee, total kcal/day, dietary intake, cholesterol. BMI
Jefferis (2013)(35)	BRHS	Recreational; Household; Active Travel	Stroke incidence	Mortality microdata by National stats office	UK men aged 40-59	3,435	195	10.9	Age, region, alcohol, smoking, social class, cholesterol, SBP, BMI, AF, LVH
Kim (2013)(27)	Seoul Male Cohort Study	Recreational; Active Travel; Household; Occupational	CVD mortality	Review of medical records & adjudicated by physician panel	Korean adults aged 40-59	12,538	171	19	Age, educational attainment, alcohol, sleep, FHx of CVD, smoking, BMI, health score, cholesterol, blood pressure, glucose
Kraigher-Krainer (2013)(21)	Framingham	Recreational; Occupational	Heart Failure Incidence		US adults aged 30-62	1,142	250	10	Age, sex, SBP, Hypertension, diabetes, valve disease, alcohol, LV hypertrophy, BMI

1st Author (year)	Cohort name	Domains of PA measured	Disease outcome	Disease ascertainment	Population	Sample size	Number of events	Follow-up (years)	Adjustments
McDonnell (2013)(28)	REGARDS	Recreational; Occupational; Active Travel	Stroke incidence	Patients, medical records and adjudication by 2 physicians	US adults aged >45	27,348	918	5.7	Age, sex, race, age-race interaction, socioeconomic factors, diabetes, hypertension, BMI, alcohol, smoking
Myint (2006)(9)	EPIC - Norfolk	Occupational PA; leisure activities	Stroke incidence	Routine update from registry	UK adults aged 40-79	20,040	361	8.6	Age, sex, BMI, SBP, cholesterol, smoking, alcohol, diabetes
Odegaard (2011)(13)	Singapore Chinese Health Study	Recreational; Active Travel	CVD mortality	Registries	Chinese adults aged 45-74	44,056	1,971	13	Factors simultaneously (BMI, Alcohol, Smoking, Diet, sleep), Age, sex, dialect, age enrolled, education, diabetes, FHx of Colorectal Ca, energy intake
Park (2012)(22)	KEPEC	Recreational; Household	CVD mortality	Death Certificates	Korean women aged >65	5,079	607	8	Age, self-reported health, self-reported limitation in activity, smoking status, drinking status, body mass index, religion and other types of physical activity
Patel (2013)(29)	CHS	Recreational; Occupational; Household; Active Travel	Heart Failure incidence Acute MI incidence Stroke incidence	Adjudicated by CHS Events committee	US adults aged >65	5,503	1,037 5,061 5,290	13	Age, sex, race, education, income, alcohol, smoking, BMI, Coronary artery disease, MI, Hypertension, T2DM, Stroke,

1st Author (year)	Cohort name	Domains of PA measured	Disease outcome	Disease ascertainment	Population	Sample size	Number of events	Follow-up (years)	Adjustments
			CVD mortality				877		
Petersen (2012)(14)	Copenhagen City Heart Study	Recreational; Active Travel	CHD incidence	National patient register	Danish men aged 20-93	4,487	1431	13	Age, education, smoking habits, alcohol, BMI, diabetes, cholesterol, blood pressure lowering therapy
			MI incidence				795		
			CHD incidence		Danish women aged 20-93	5,956	1,393		
			MI incidence				589		
Reis (2011)(15)	NIH-AARP	Occupational; Household	Type II Diabetes	Self-report	US men aged 50-71	114,996	11,031	10	Age, Race, educational attainment, marital status, BMI, diet, Alcohol, smoking
					US women aged 50-71		92,483		
Sesso (1999)(2)	CAHS	Walking; stair climbing; sports	CVD incidence	Self-report of doctor diagnosis	US women, 37-69	1,564	181	31	Age, BMI, SBP, smoking, family history of CHD, diabetes
Sesso (2000)(4)	Harvard college alumni	Walking; stair climbing; sports; leisure activities	CHD incidence	Self-report of doctor diagnosis	US adults aged 39-88	12,516	2,135	16.0	Age, BMI, smoking, alcohol, hypertension, diabetes, early parental death
Sherman (1994)(1)	Framingham	Recreational; Active Travel; Household; Occupational	CVD mortality	Death certificates	US adults >75	285	81	10.0	Age, SBP, cholesterol, smoking, weight, glucose intolerance, co-morbidities

1st Author (year)	Cohort name	Domains of PA measured	Disease outcome	Disease ascertainment	Population	Sample size	Number of events	Follow-up (years)	Adjustments
Shi (2013)(36)	SMHS	Recreational; Active Travel	Type II Diabetes	Follow-up surveys and checking if conforms to American guidelines	Chinese adults aged 40-64	51,464	1,304	5.4	Age, Energy intake, Smoking, Alcohol, education level, occupation, income level, hypertension, family history of diabetes, BMI, WHR
Soedamah (2013)(30)	Health Survey for England and Scottish Health Survey	Recreational; Household; Active Travel	CVD mortality	Patient-based database of deaths	UK adults aged >40	17,410	638	9.7	Age, Marital status, Social Class, Ethnicity, Education, Survey year, cigarette smoking status, longstanding illness, BMI, domestic activity and alcohol
Vergnaud (2013)(31)	EPIC	Recreational; Occupational; Household; Active Travel	CVD Mortality	Board of health & death indexes	Europeans Aged 25-70	378,864	23,828	12.8	Sex, Age, Centre, Educational level, smoking, menopause, body fatness, calorific foods, plant foods, animal foods, alcohol & breastfeeding
Wang (2013)(32)	SMHS	Recreational; Occupational; Household; Active Travel	CVD mortality	National patient register	Chinese men 40-74	61,477	1,181	5.48	Age, Educational level, Income, Occupation, alcohol, pack-years of smoking, energy intake, red meat, fruit, daily PA other than exercise, BMI, Hx of CVD, Diabetes, Hypertension, Liver disease
Williams (2013)(16)	NWHS	Recreational; Active Travel; Household; Occupational	CVD mortality Ischaemic Heart disease incidence	National death index	US walking magazine subscribers (ages unknown)	42,022	834 443	9.6	Age, race, sex, education, prior heart attack, aspirin use, intake of meat, fruit, alcohol, BMI and medication use

1st Author (year)	Cohort name	Domains of PA measured	Disease outcome	Disease ascertainment	Population	Sample size	Number of events	Follow-up (years)	Adjustments
Young (2014)(33)	California Men's Health Study	Recreational; Active Travel; Household; Occupational	Heart Failure Incidence	National patient register	US men aged 45-69	82,695	3,473	7.8	Age, race/ethnicity, education, income, BMI, smoking, hypertension, diabetes, anti-hypertensives, HDL, glucose, triglycerides, food intake, alcohol
Zhang, Q (2013)(29)	Kailuan	Recreational; Occupational; Household; Active Travel	Stroke incidence: total, ischaemic and haemorrhagic	2 yearly physician interviews and checking hospital discharges	Chinese adults aged 19-98	91698	1,486	4	Smoking, BMI, Diet, Cholesterol, Blood pressure, Glucose, Age, Sex, Hospital, Education, Income
Zhang, Y (2011)(37)	MONICA	Recreational; Occupational	Stroke incidence: total, ischaemic and haemorrhagic	Computer registry	Finnish adults Finnish adults aged 25-74	36,686	1,478	13.7	Age, Study year, sex, smoking, physical activity, vegetable consumption, fruit consumption, education, alcohol, FHx of Stroke, Hx of Diabetes, BMI, SBP, Cholesterol

AF – Atrial Fibrillation; BMI – Body Mass Index; BP – Blood pressure; BRHS – British Regional Heart Study; CAH - College Alumni Health Study; CHS – Cardiovascular Health Study; CHD – Coronary Heart Disease; CVD Cardiovascular disease; EPIC – European Prospective Investigation of Cancer; FHx – family history; HWSS – Health and Wellbeing Surveillance System; Hx – history; JAAC - Japan Collaborative Cohort Study; JPHC – Japan Public Health Center based prospective study; KEPEC – Korean Elderly Pharmacoepidemiologic Cohort; LTA - Leisure Time Physical Activity; LVH – Left Ventricular hypertrophy; MI – Myocardial Infarction; Monica – the WHO Multinational Monitoring of Trends and Determinants of Cardiovascular Disease; NHANES – National Health and Nutrition Examination Survey; NHS – National Health Service; NHS – Nurses' Health Study; NIH-AARP – National Institute of Health – American Association of Retired Persons; NWHS - National Walker's Health Study; PA – physical activity; REGARDS – Reasons for Geographic Differences in Stroke; SBP – Systolic Blood Pressure; SMHS - Shanghai Men's Health Study; SOF – Study of Osteoporotic Fractures; SOF – Study of Osteoporotic Fractures; T2DM Type II Diabetes Mellitus; US – United States; VTE – Venous thromboembolism; WHI – Women's Health Initiative; CHS – Cardiovascular Health Study; WHR - Waist-to-hip ratio

Table S4. Excluded studies and data points evaluating the effect of physical activity on CVD outcome and Type II Diabetes Incidence.

Note these studies have been excluded as only one data point for the disease outcome was found, therefore it was decided not to include in a meta-analysis

1st Author (year)	Cohort name	Domains of PA measured	Disease outcome	Disease ascertainment	Population	Sample size	Number of events	Follow-up (years)	Adjustments
Patel (2013)(29)	CHS	Recreational, Occupational, Household, Active Travel	Angina incidence	Adjudicated by CHS Events committee	Age >65	5,503	4708	13	Age, sex, race, education, income, alcohol, smoking, BMI, Coronary artery disease, Myocardial infarction, Hypertension, T2DM and Stroke
Williams (2013)(16)	NWHs	Recreational, Active Travel, Household, Occupational	Cerebrovascular disease mortality	National death index	Walking magazine subscribers	42,022	147	9.6	Age, race, sex, education, prior heart attack, aspirin use, intake of meat, fruit, alcohol, BMI and medication use
			Heart Failure mortality				53		
			Diabetes mortality				48		
Wattanakit (2012)(38)	ARIC	Recreational, occupational	Venous thromboembolism incidence	Telephoning patients & hospital discharge list	Adults aged 45-64	15340	468	15.5	BMI, age, race, field centre, and sex

ARIC – Atherosclerosis Risk in Communities Study; BMI – Body Mass Index; CHS – Cardiovascular Health Study; NWHs - National Walker's Health Study.

Table S5. Sensitivity analyses: results restricted to studies that achieved at least six of the eight study criteria; studies with implausible PA values removed. Meta-analyses adjusted for body weight for 11.25 METhr/week increase in PA, with a 0.25 power transformation

Condition (ICD-10 code)	<i>High quality studies only</i>		<i>Implausible PA ranges removed</i>		<i>Main results (for comparison)</i>	
	RR (95% CI)	I ²	RR (95% CI)	I ²	RR (95% CI)	I ²
CVD incidence (I00-I99)	<i>n/a</i>		0.83 (0.77, 0.89)	0.0%	0.83 (0.77, 0.89)	0.0%
CVD mortality (I00-I99)	0.81 (0.76, 0.86)	25.1%	0.76 (0.69, 0.84)	78.2%	0.77 (0.71, 0.84)	73.6%
Stroke incidence (I60-I69)	0.81 (0.75, 0.87)	0.0%	0.82 (0.77, 0.87)	0.0%	0.82 (0.77, 0.87)	0.0%
CHD incidence (I20-I25)	0.76 (0.67, 0.86)	0.0%	0.79 (0.74, 0.86)	0.0%	0.80 (0.75, 0.86)	0.0%
CHD mortality (I20-25)	0.80 (0.58, 1.09)	59.1%	0.80 (0.58, 1.09)	59.1%	0.80 (0.58, 1.09)	59.1%
Heart failure incidence (I50)	0.79 (0.73, 0.85)	0.0%	0.80 (0.75, 0.86)	4.0%	0.81 (0.76, 0.86)	0.0%
Myocardial infarction incidence (I21-22)	0.75 (0.62, 0.89)	0.0%	0.75 (0.62, 0.89)	0.0%	0.75 (0.62, 0.89)	0.0%
Type 2 diabetes incidence (E11)	0.71 (0.52, 0.97)	27.3%	0.74 (0.72, 0.77)	0.0%	0.74 (0.72, 0.77)	0.0%

n/a - too few studies for a meta-analysis

Table S6. Meta-regressions: Association between study-level variables and CVD mortality relative risk for 11.25 METhours/week increase in physical activity, assuming .025 power transformation

<i>Study-level variables</i>	<i>Meta-regression coefficient</i>	<i>p</i>
Quality score (minimum = 1; maximum = 8)	0.07	0.023
Method of obesity measurement (0 = subjective; 1 = objective)	0.24	0.001
Validated PA measurement (0 = no; 1 = yes)	0.07	0.342
Gender (0 = men only; 1 = women only)	-0.03	0.654
Mean age of participants (0 = under 65; 1 = 65+)	-0.09	0.287
Active travel (0 = not included; 1 = included)	-0.07	0.480
Occupational PA (0 = not included; 1 = included)	0.06	0.351
Household PA (0 = not included; 1 = included)	-0.07	0.330
Mean follow-up years	0.01	0.381
Geography (baseline – US): Europe	0.07	0.000
Geography (baseline – US): Other	0.15	0.000

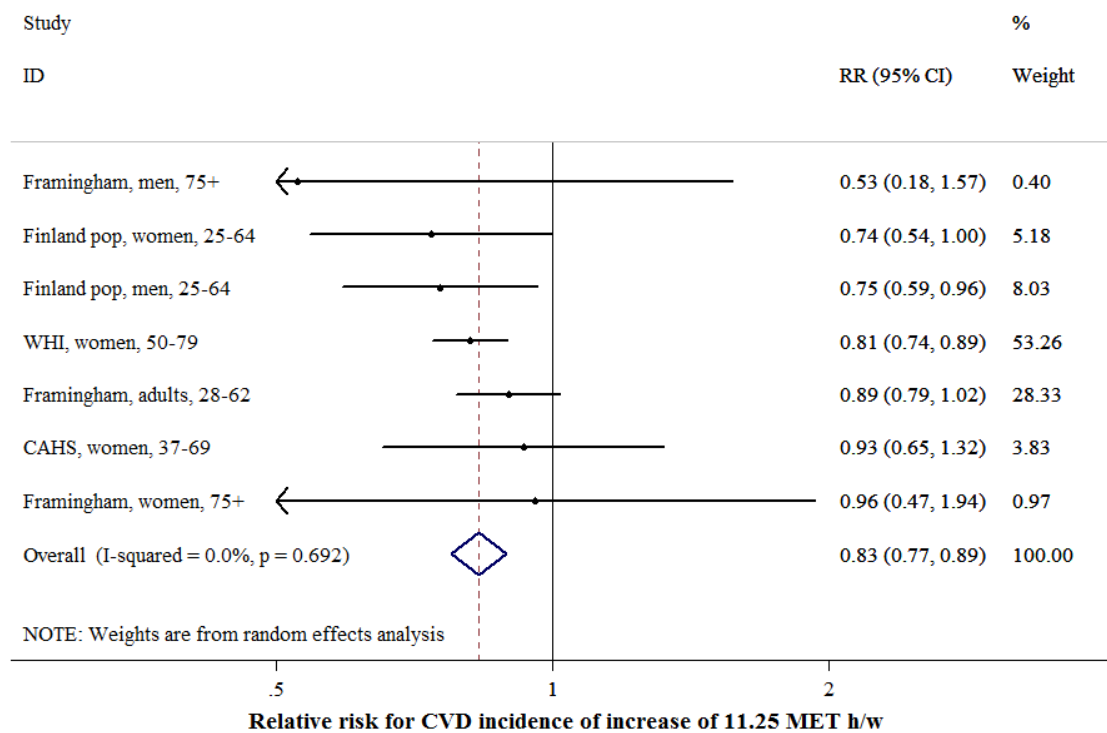
NB: CVD mortality selected as outcome as it has the most data lines (17 data lines from 14 studies) and considerable heterogeneity. Meta-regression weighted by the inverse of the standard error. Results are not mutually adjusted.

Supplemental Figures

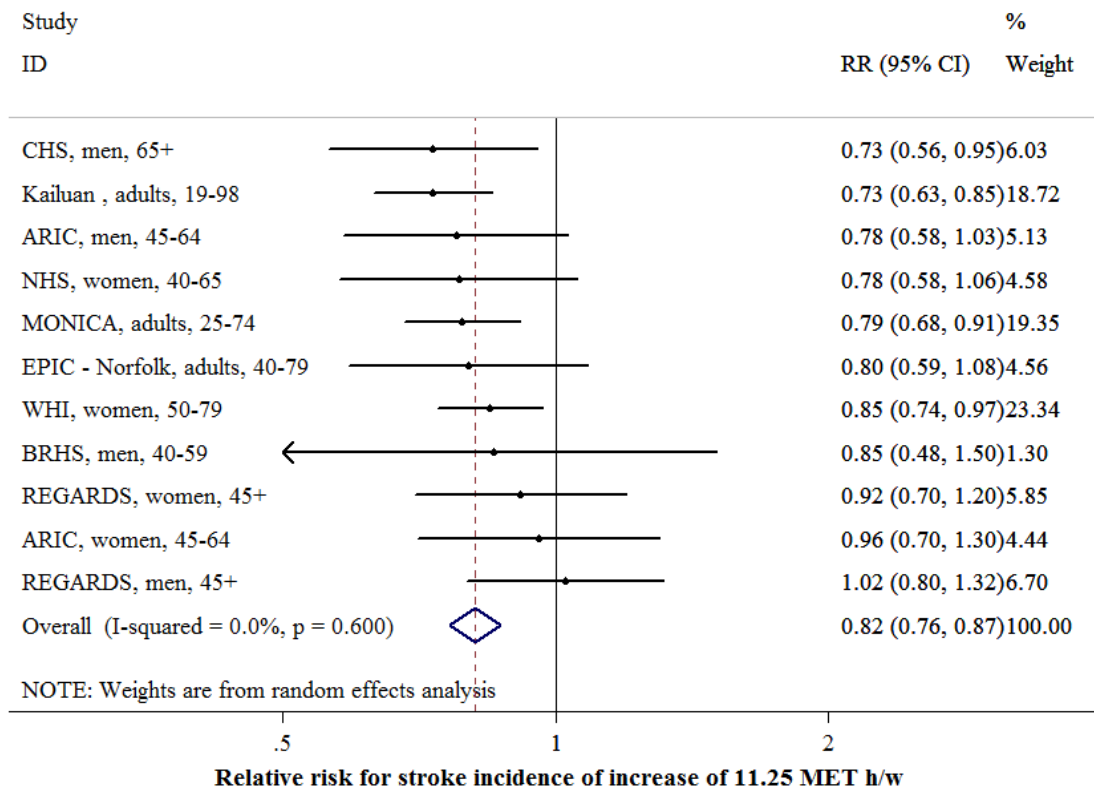
Figures S1-7: Meta-analysis of 11.25 METhr/week increase in physical activity for cardiovascular disease and diabetes health outcomes

Meta-analysis results are displayed for all the power 0.25 analyses, adjusted for body weight. Conditions are given in the figures.

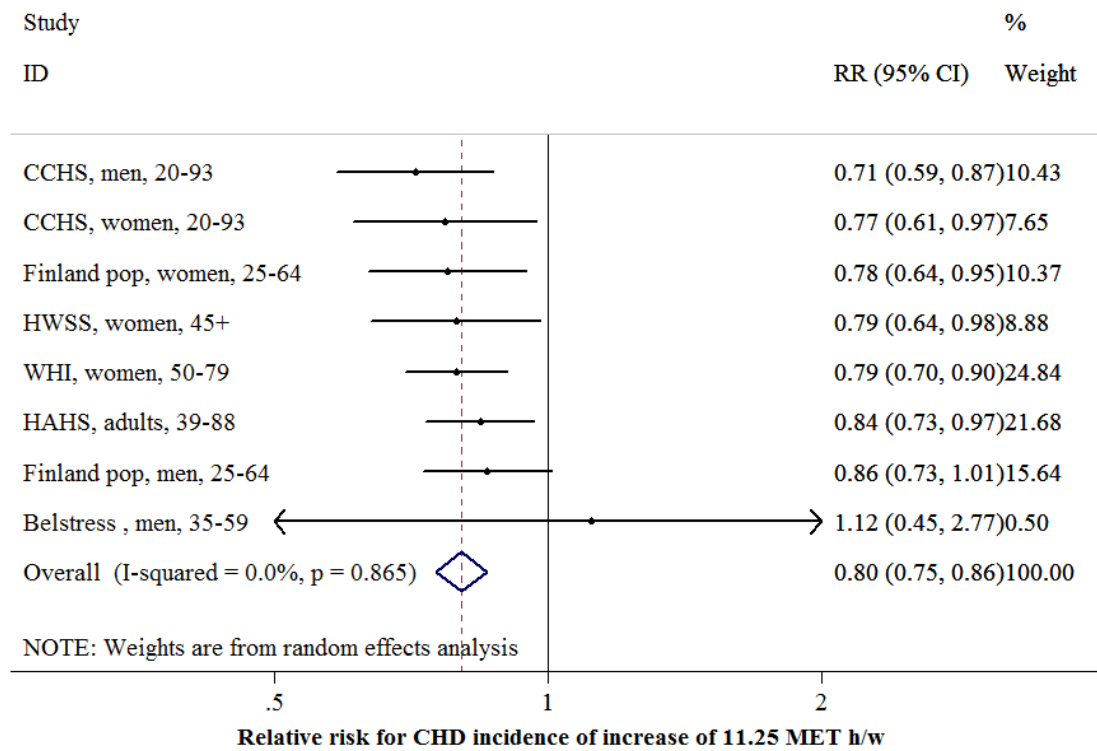
S1: CVD incidence



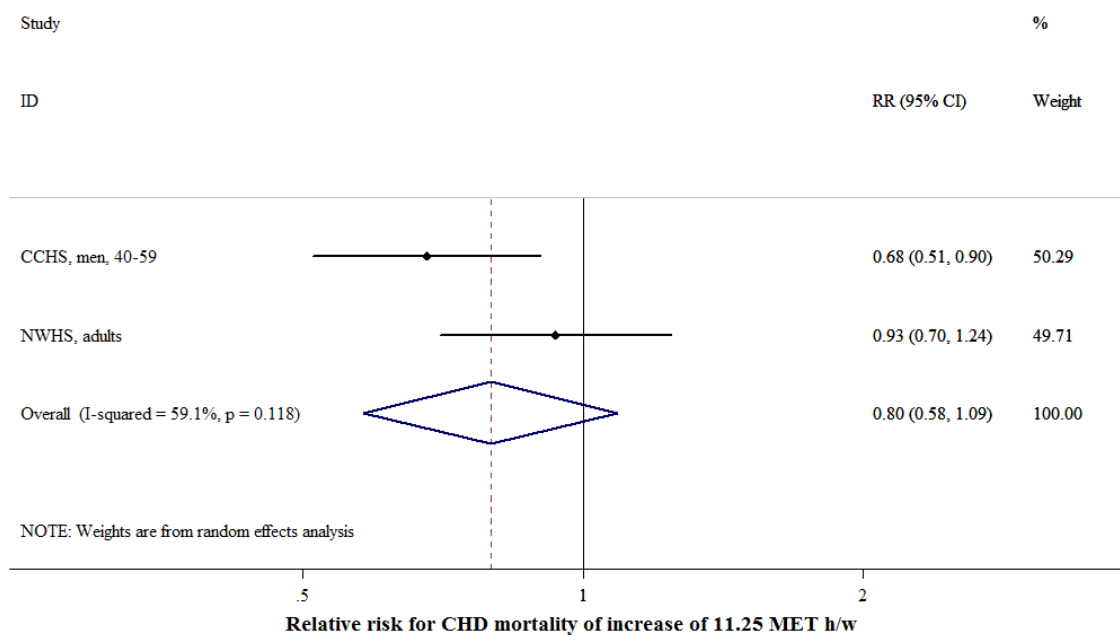
S2: Stroke incidence



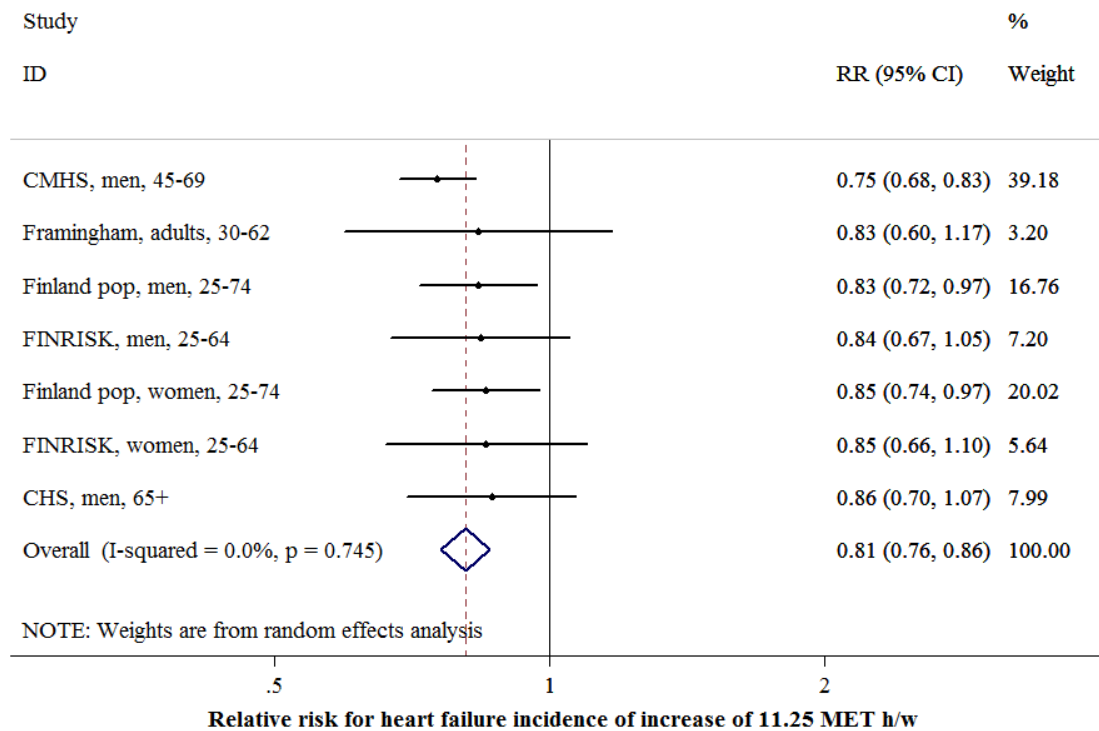
S3: CHD incidence



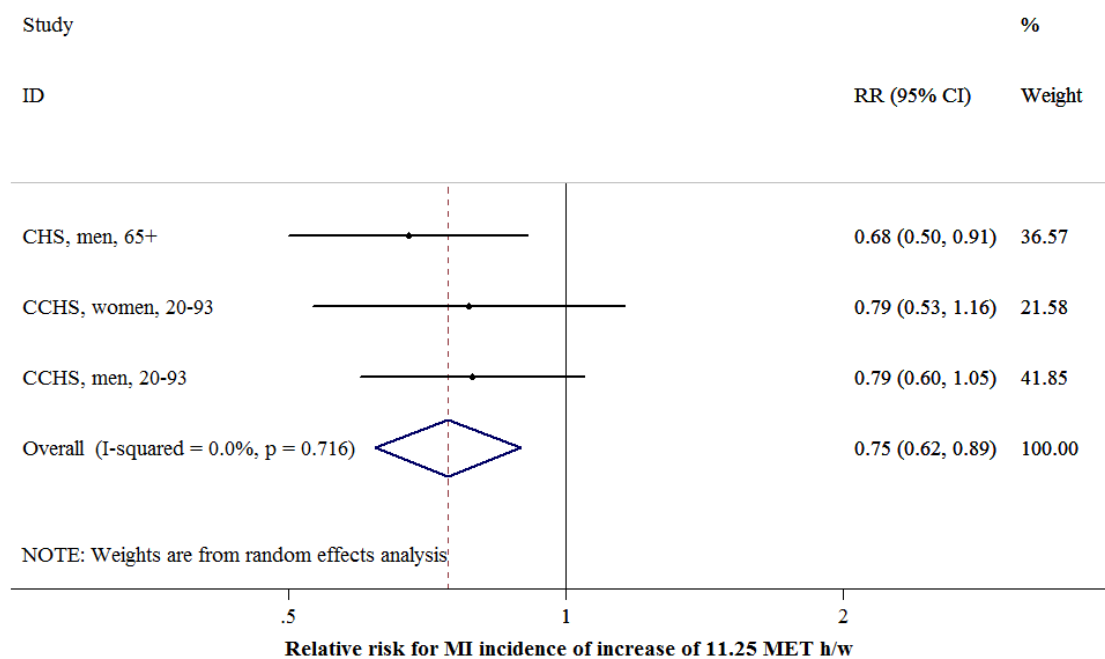
S4: CHD mortality



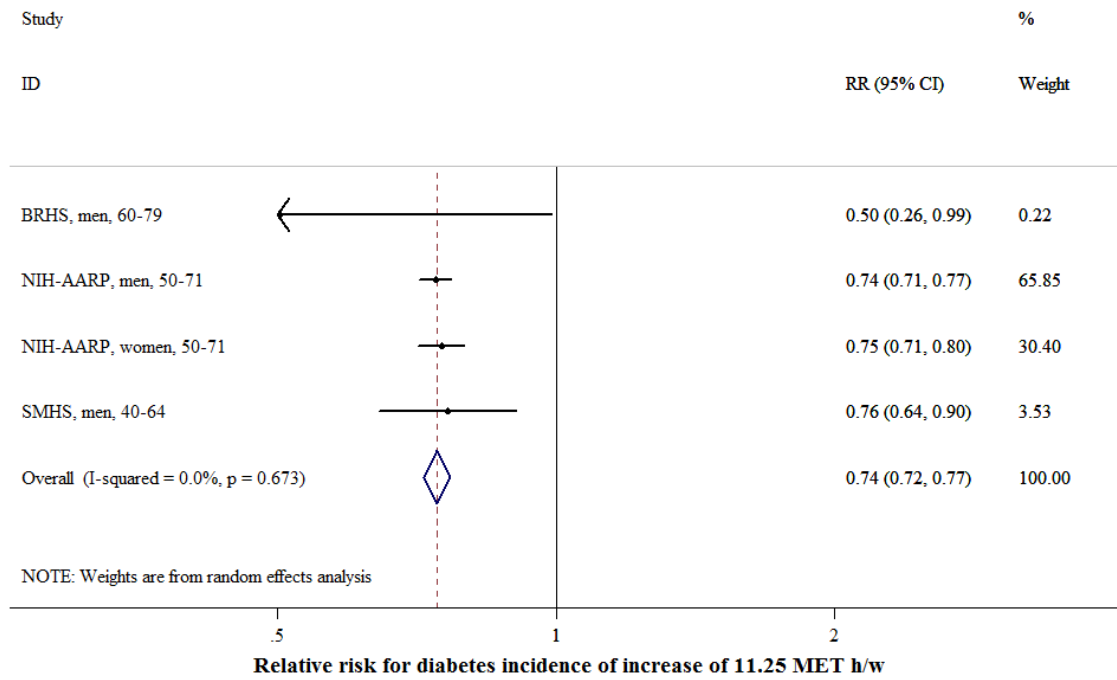
S5: Heart failure incidence



S6: MI incidence



S7: Diabetes incidence



Figures S8-S10: Dose-response relationship for the effect of 11.25 METhr/week increase in physical activity for the cardiovascular disease and diabetes health outcomes

Meta-analysis results are displayed for all the power 0.25 analyses, adjusted for body weight. Conditions are given in the figures.

Figure S8: CVD mortality

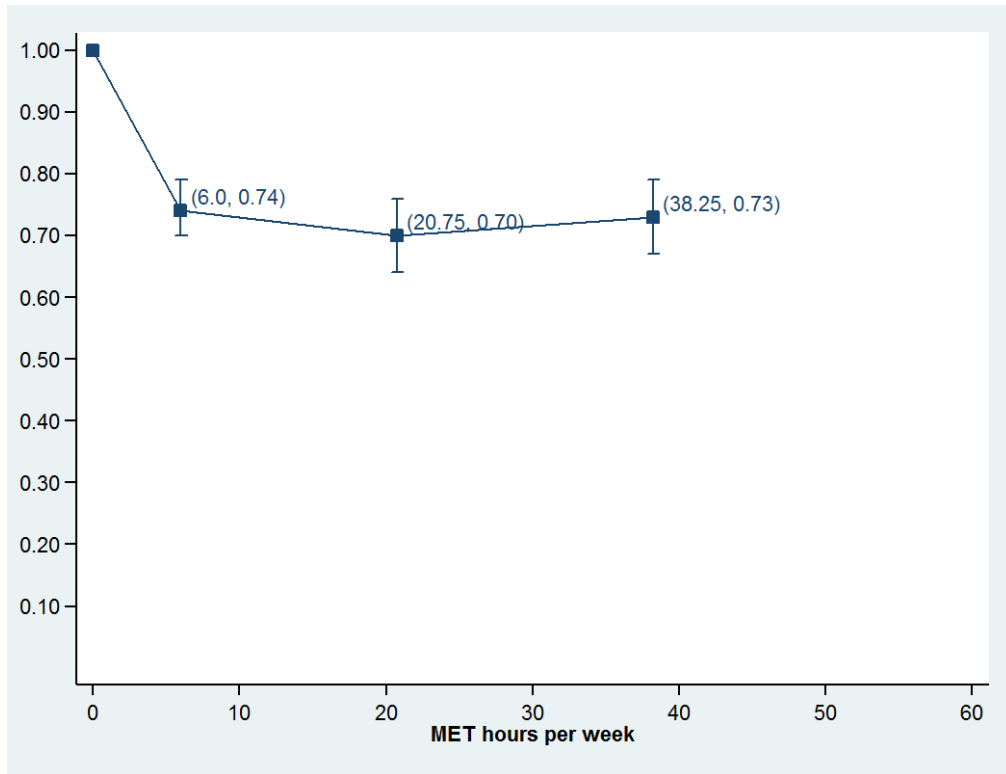


Figure S9: CVD incidence

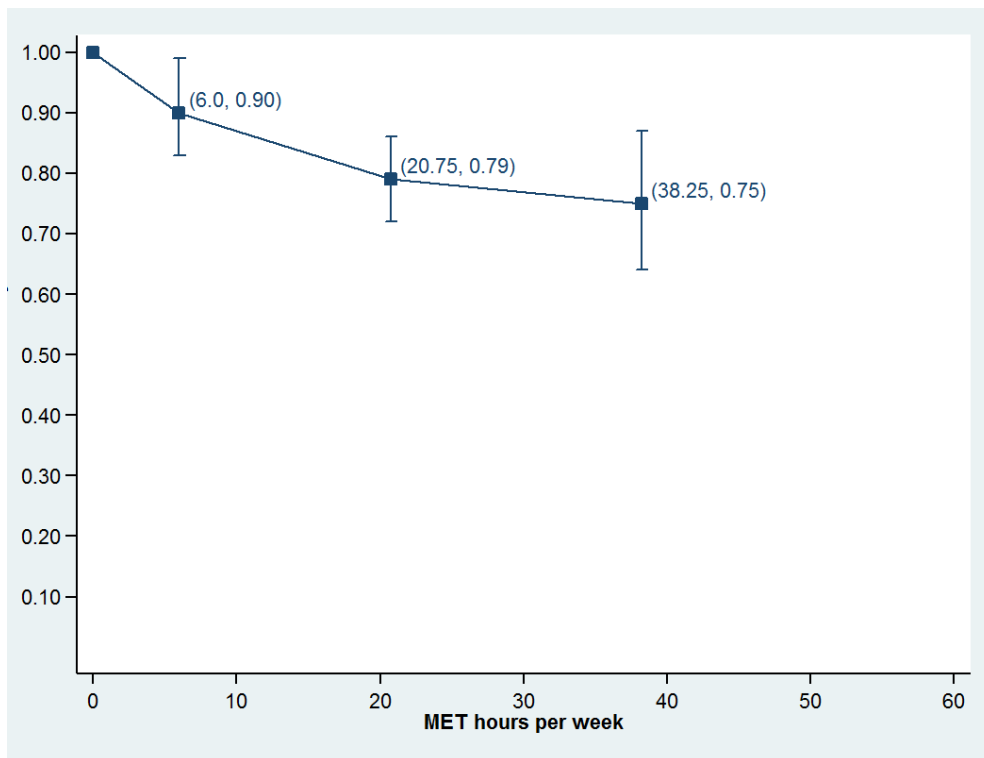


Figure S10: T2DM incidence

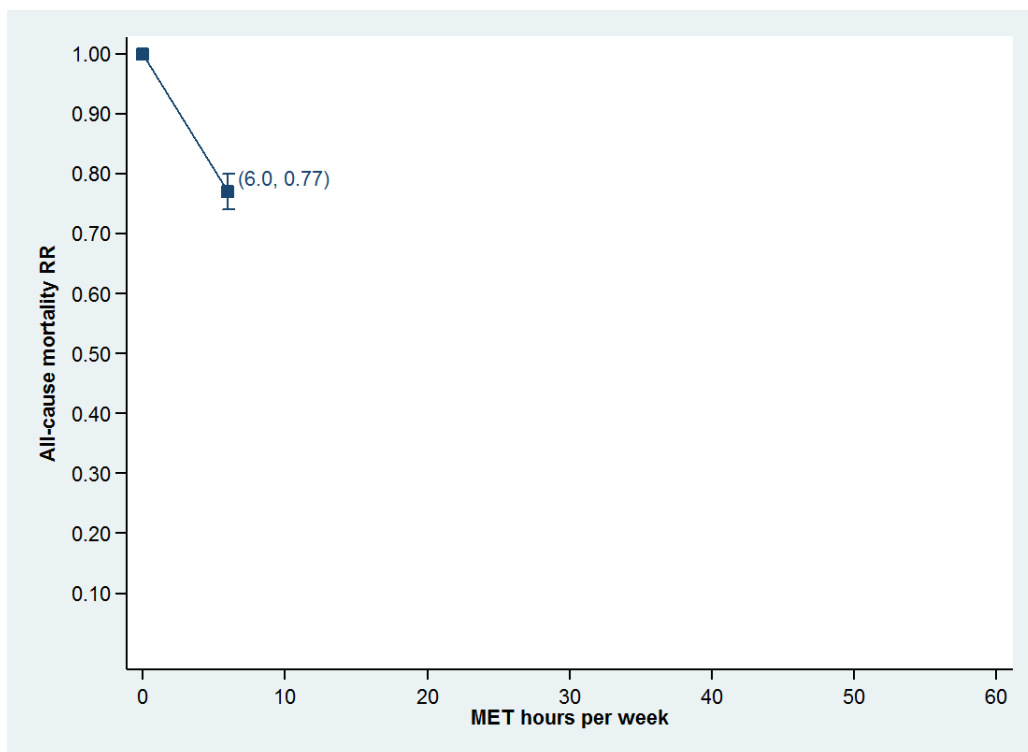
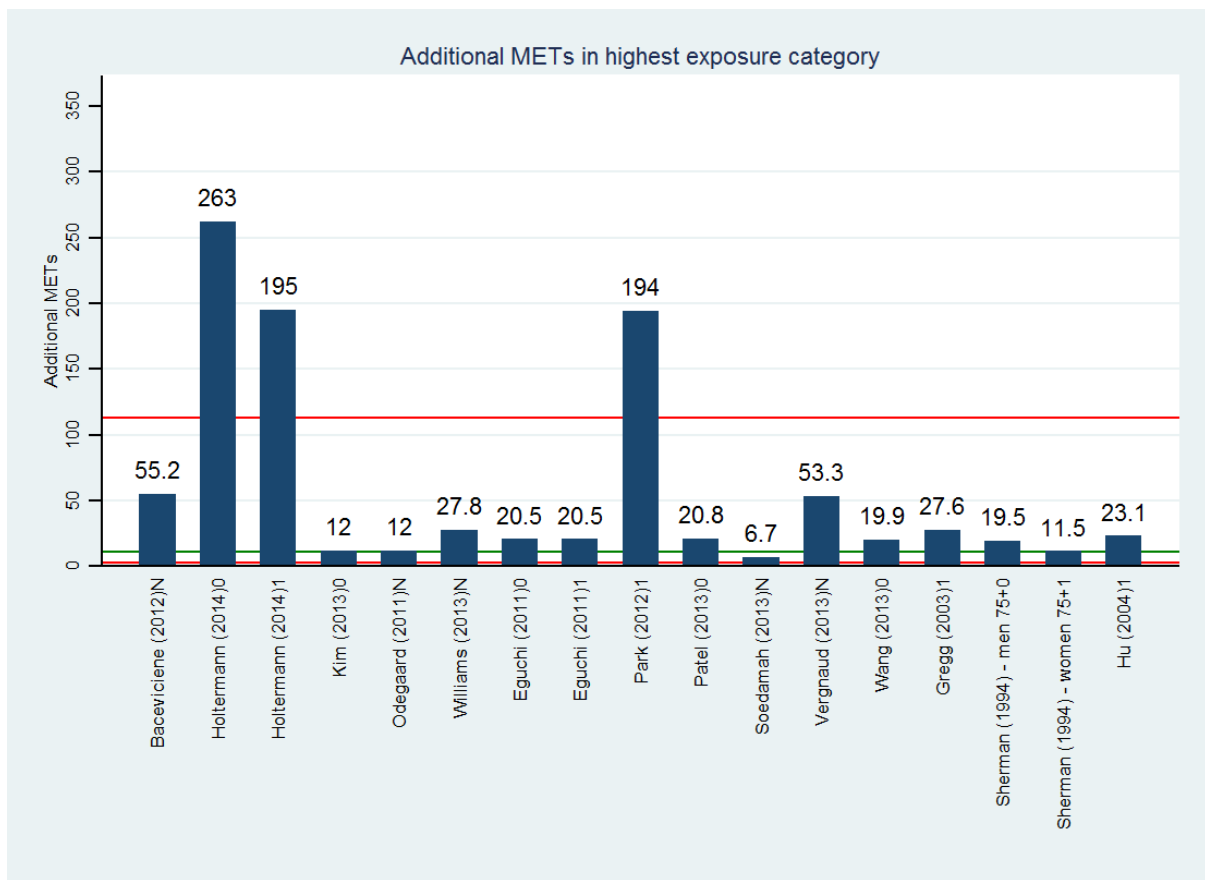


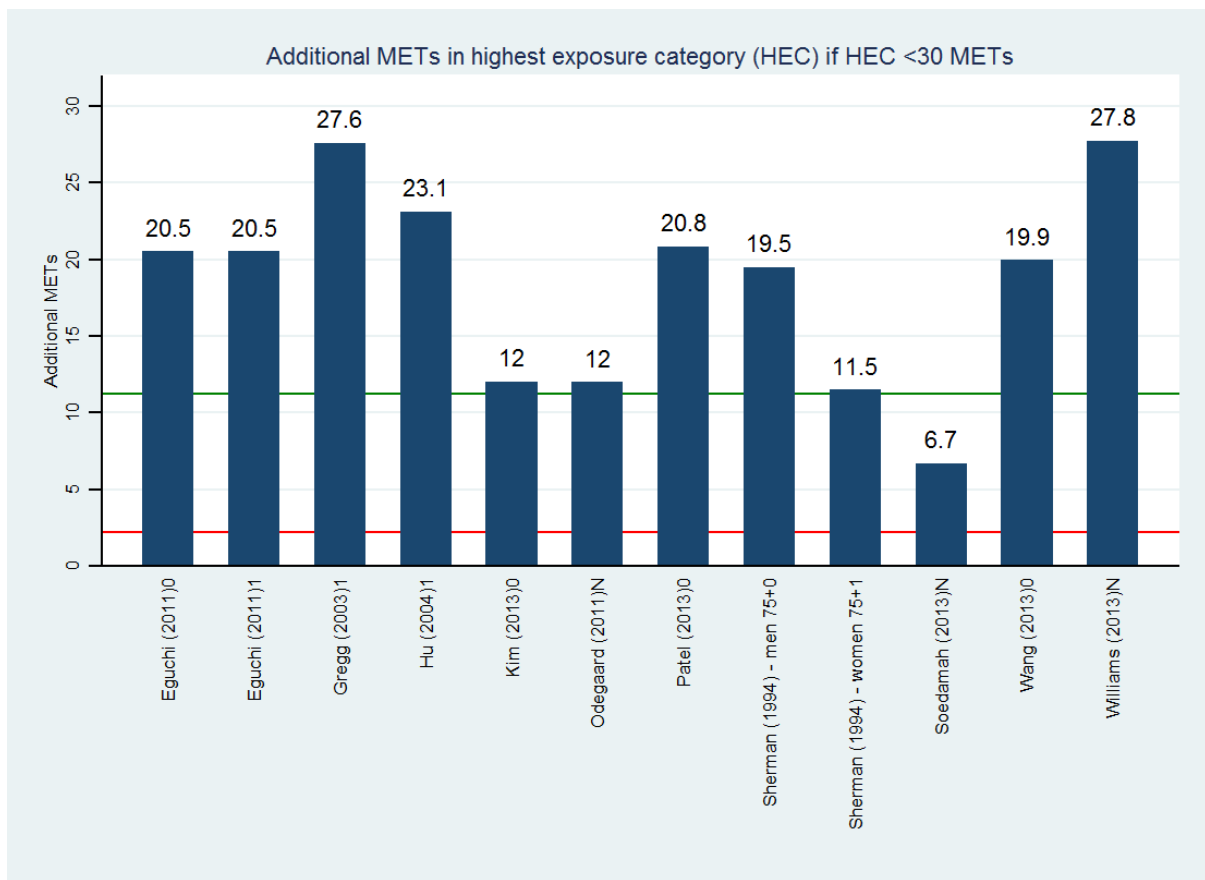
Figure S11. Chart showing additional MET hours per week in highest exposure category for CVD mortality studies



The green line indicates the recommended PA level of 11.25METhr/week

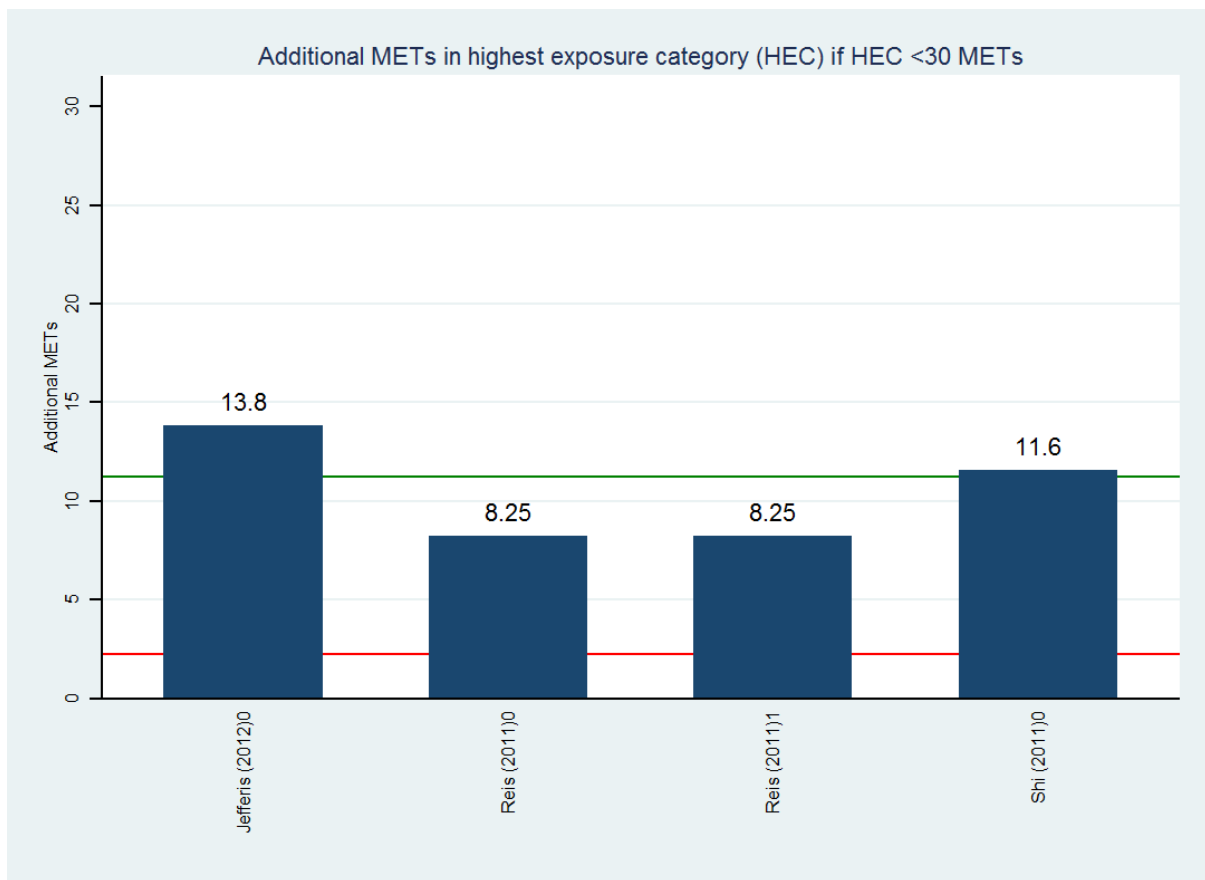
The red lines indicate the threshold for implausibly high levels (10 times the recommendation) or implausibly low (less than 30 minutes as demonstrated by the lower line)

Figure S12. Chart showing additional METs of less than 30 in highest exposure category CVD mortality studies



Please note the green line relates to recommended PA of 11.25METs, compared with the red line this time pertaining to the lower limit of <30 mins per week.

Figure S13. Chart showing additional METs of less than 30 in highest exposure category for T2DM incidence studies

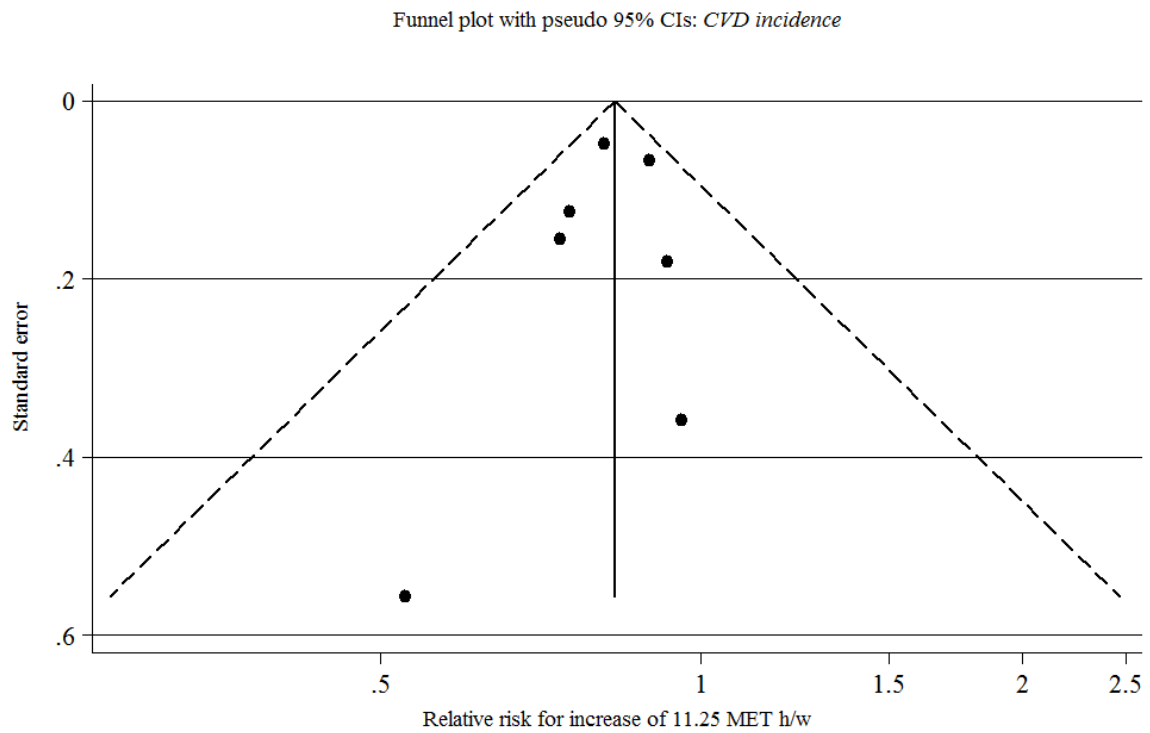


Please note the green line relates to recommended PA of 11.25METs, compared with the red line this time pertaining to the lower limit of <30 mins per week.

Figures S14—S20: Funnel plots for meta-analyses of 11.25 METhr/week increase in physical activity for cardiovascular disease and diabetes health outcomes

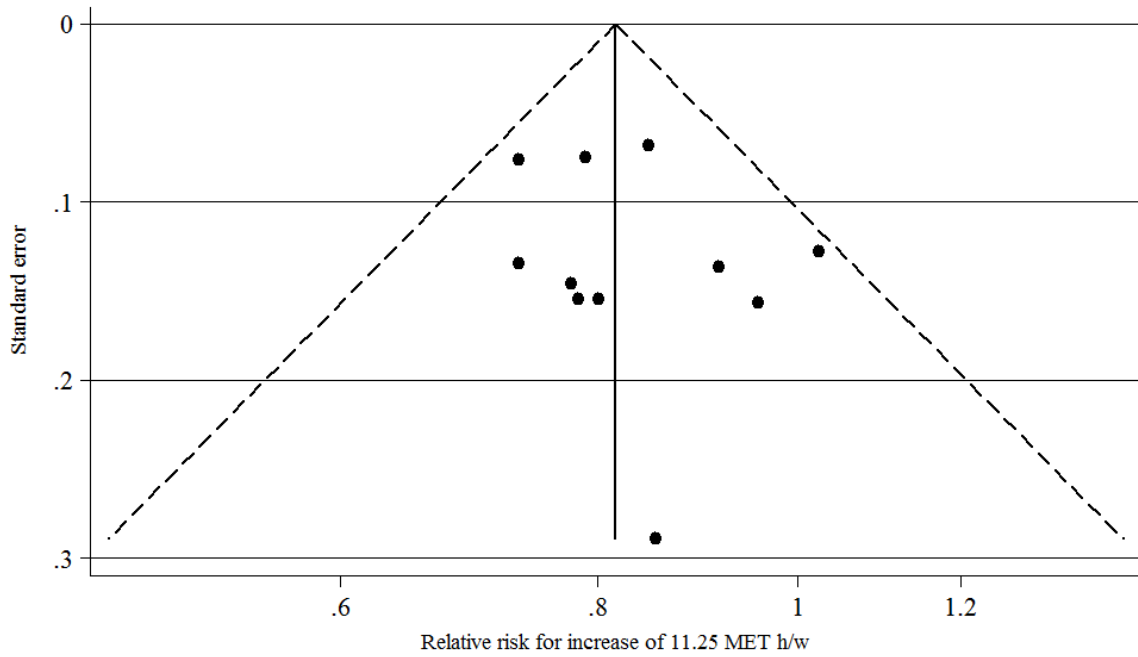
Meta-analysis results are displayed for all the power 0.25 analyses, adjusted for body weight. Conditions are given in the figures.

S14: CVD incidence



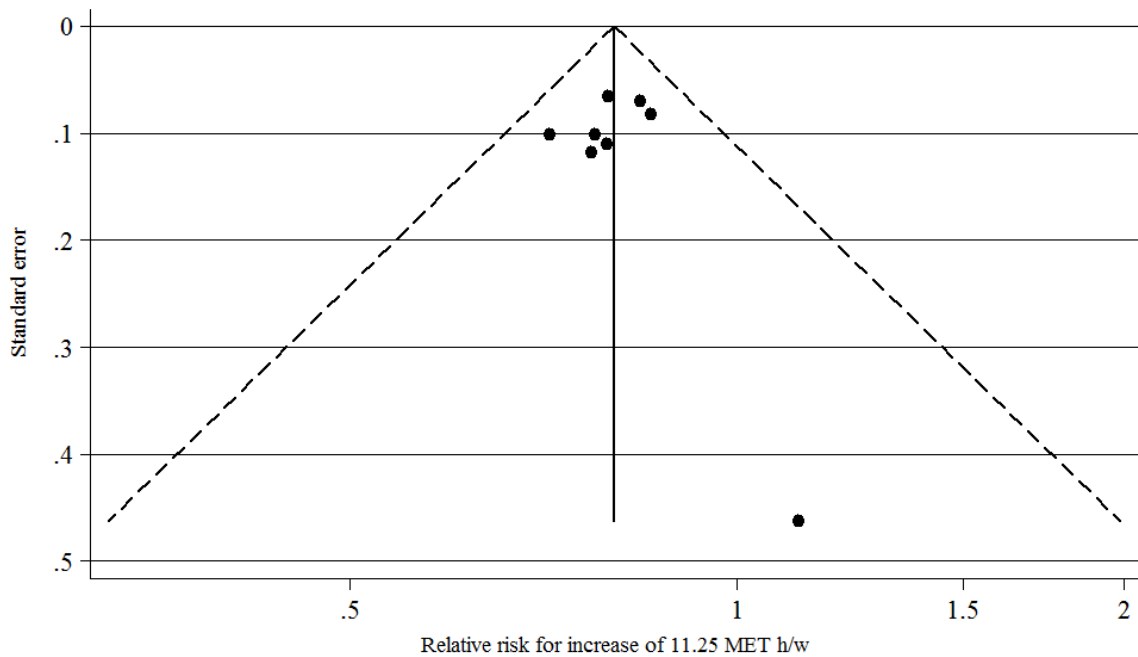
S15: Stroke incidence

Funnel plot with pseudo 95% CIs: *stroke incidence*

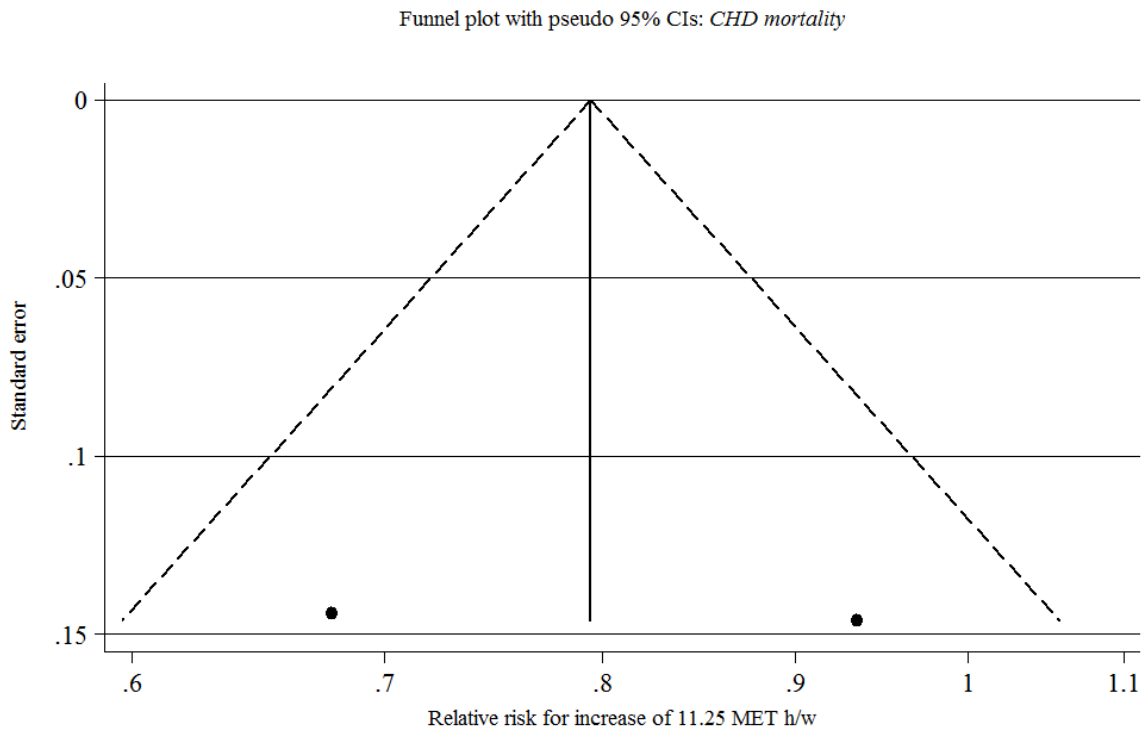


S16: CHD incidence

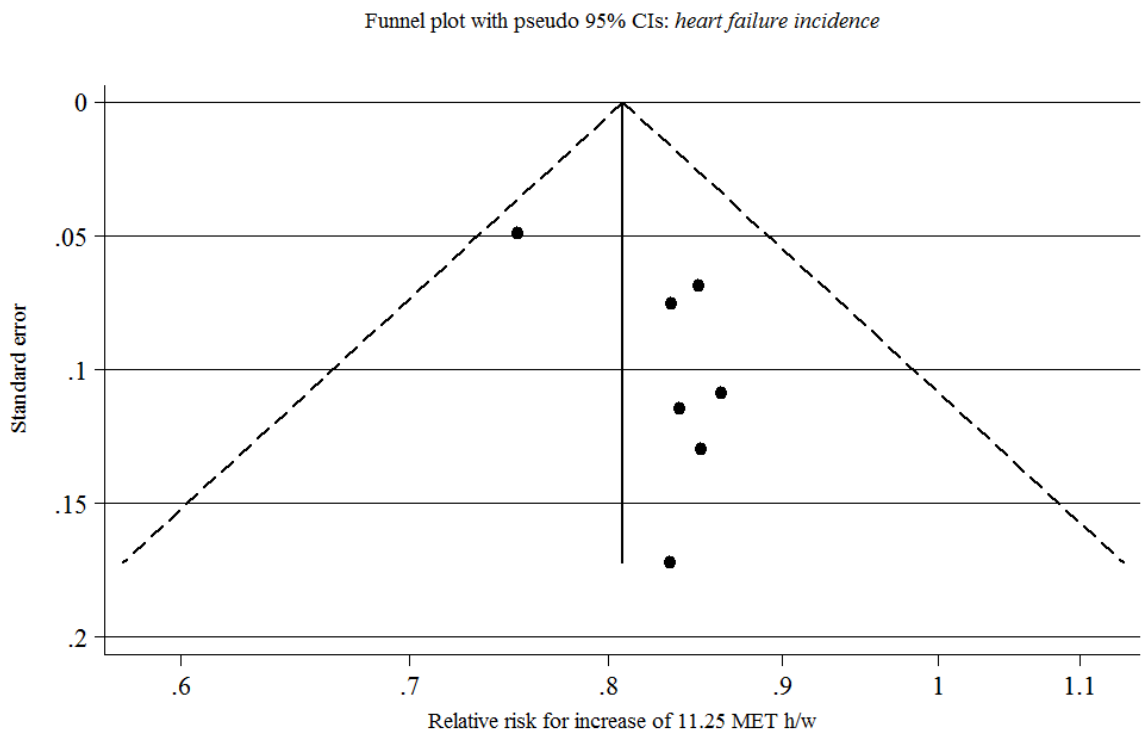
Funnel plot with pseudo 95% CIs: *CHD incidence*



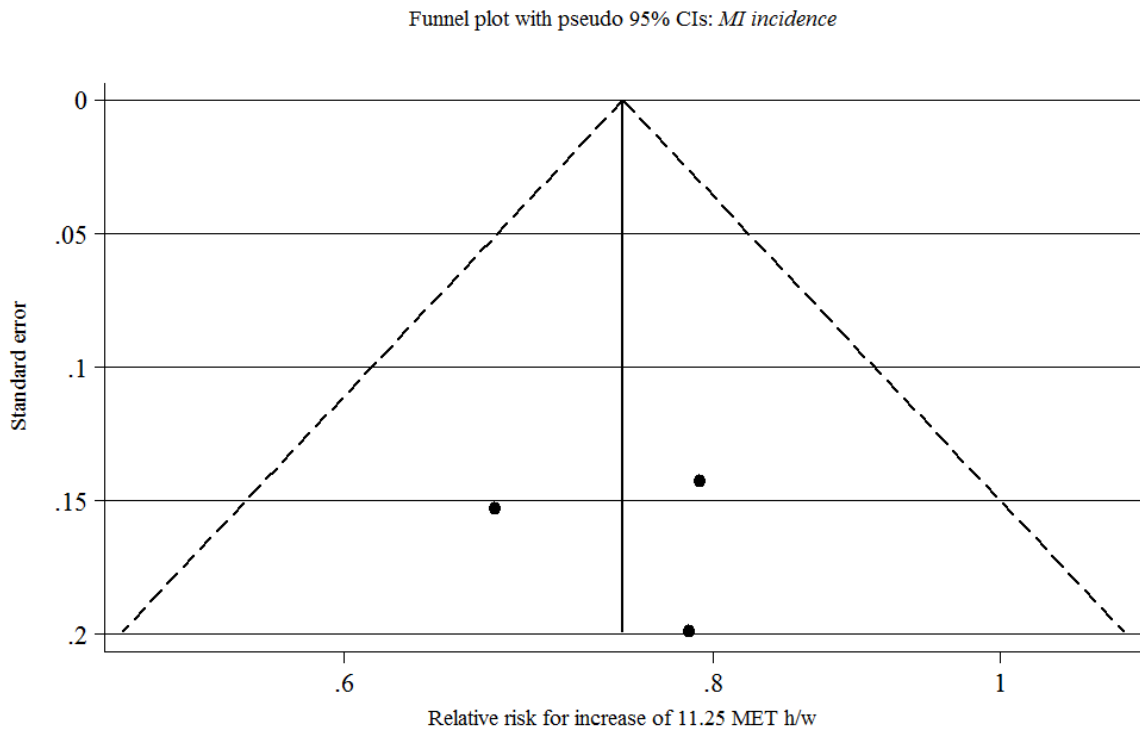
S17: CHD mortality



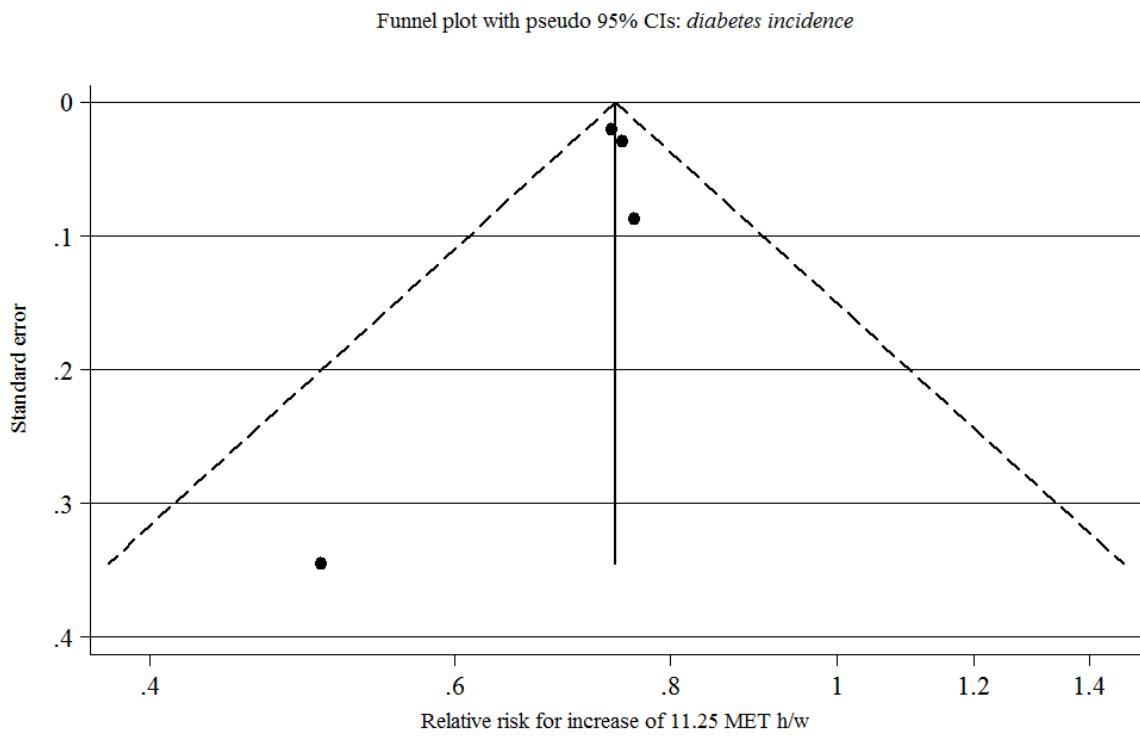
S18: Heart failure incidence



S19: MI incidence



S20: Diabetes incidence



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