Supplemental Appendix 1:

Search strategy (PubMed):

#1 food*[tiab] OR whole grain*[tiab] OR refined grain*[tiab] OR cereal*[tiab] OR pasta*[tiab] OR rice*[tiab] OR potato*[tiab] OR vegetable*[tiab] OR fruit*[tiab] OR nut*[tiab] OR legume*[tiab] OR bean*[tiab] OR egg*[tiab] OR dairy[tiab] OR dairies[tiab] OR milk[tiab] OR yogurt[tiab] OR cheese[tiab] OR fish[tiab] OR seafood[tiab] OR meat[tiab] OR processed meat[tiab] OR sugar sweetened beverage*[tiab]

#2 cardiovascular OR coronary OR stroke OR vascular OR myocardial infarction OR heart failure

#3 prospective OR cohort OR longitudinal OR follow-up OR case-cohort OR nested case-control

#4 (#1 AND #2 AND #3)

Supplemental Appendix 2: Full-text articles excluded

Reference	**Reason for exclusion**
(Appleby et al., 1999; Bao et al., 2013; Bazzano et al., 2002; Blomhoff et al., 2006; Buil-Cosiales et al., 2016; Chan et al., 2013; Chiuve et al., 2014; Dauchet et al., 2010; Daviglus et al., 1997; Diez-Espino et al., 2017; Djousse et al., 2009a; Djousse et al., 2010; Djousse et al., 2009b; Dolecek, 1992; Eguchi et al., 2012; Erkkila et al., 1999; Ezzati et al., 2003; Fitzgerald et al., 2012; Folsom and Demissie, 2004; Fraser and Shavlik, 1997; Fraser et al., 1997; Fung et al., 2004; Guasch-Ferre et al., 2013; Haffner et al., 1998; Holmberg et al., 2009; Houston et al., 2011; Hu et al., 1999; Iso and Kubota, 2007; Jacobs et al., 1998; Jiang et al., 2002; Kaushik et al., 2008; Kelemen et al., 2005; Key et al., 1996; Kinjo et al., 1999; Kochar et al., 2010; Kondo et al., 2013; Kromhout et al., 1995; Kushi et al., 1996; Lai et al., 2015; Liu et al., 2003; Marchioli et al., 2002; Martinez-Lapiscina et al., 2010; Meyer et al., 2001; Meyer et al., 2000; Montonen et al., 2005; Mozaffarian et al., 2011; Muraki et al., 2013; Nagao et al., 2012; Nagata et al., 2002; Nagura et al., 2009; Nakamura et al., 2004; Nakamura et al., 2005; Nouri et al., 2016; Okuda et al., 2015; Oliveira et al., 2010; Oomen et al., 2000; Oude Griep et al., 2010; Oyebode et al., 2014; Pan et al., 2013; Pietinen et al., 1997; Prineas et al., 1993; Rebello et al., 2014; Rhee et al., 2017; Sahyoun et al., 2006; Salonen et al., 1992; Sangita et al., 2013; Sauvaget et al., 2003; Schulze et al., 2003; Scrafford et al., 2011; Sharma et al., 2013; Sharma et al., 2014; Shi et al., 2011; Sinha et al., 2009; Siscovick et al., 1995; Song et al., 2004; Steffen et al., 2005; Strandhagen et al., 2000; Takachi et al., 2008; Takachi et al., 2010; Tanaka et al., 2013; Trichopoulou et al., 2005; Umesawa et al., 2008; van Aerde et al., 2013; van Dam et al., 2002; van den Brandt, 2011; van der Schouw et al., 2005; Vang et al., 2008; Villegas et al., 2008; Villegas et al., 2006; von Ruesten et al., 2013; Wang et al., 2003; Weng et al., 2013; Whiteman et al., 1999; Yang et al., 2014; Yochum et al., 2000; Yuan et al., 2001; Zazpe et al., 2013; Zazpe et al., 2011; Zhang et al., 2011)	Not relevant exposure/outcome
(Bemelmans et al., 2002; de Lorgeril et al., 1999; Gramenzi et al., 1990; Kontogianni et al., 2008; Leng et al., 1998; Lockheart et al., 2007; Mann et al., 1997; Martinez-Gonzalez et al., 2002a; Martinez-Gonzalez et al., 2002b; Panagiotakos et al., 2005; Radzeviciene and Ostrauskas, 2012; Sacks et al., 1995; Sasazuki, 2001; Singh et al., 2002; Tavani et al., 2001)	Not relevant study design
(He et al., 2010; Nilsen et al., 2001)	Secondary prevention
(Abete et al., 2014; Afshin et al., 2014; Alexander et al., 2016; Aune et al., 2016; Benisi-Kohansal et al., 2016; Chen et al., 2016; Gan et al., 2015; Grosso et al., 2015; Huang et al., 2016; Lemaitre et al., 2011; Leung Yinko et al., 2014; Li et al., 2016; Li et al., 2014; Luo et al., 2014; Mayhew et al., 2016; Qin et al., 2015; Tang et al., 2015; Wang et al., 2014; Weng et al., 2016; Zhan et al., 2017; Zhou et al., 2014; Zong et al., 2016)	Meta-analysis

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Food group	Amount
Refined grains/whole grains	30 grams
Vegetables/fruits	80 grams
Nuts	28 grams
Legumes	100 grams
Eggs	55 grams
Dairy	200 grams
Fish	100 grams
Red meat	85 grams
Processed meat	30 grams
Sugar sweetened beverages	250 ml/grams

Supplemental Table 1: Conversion of 1 serving size to grams[1]

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[1] World Cancer Research Fund International: Continuous Update Project (CUP). London (2017). http://www.wcrf.org/int/research-we-fund/continuous-update-project-cup

Author	Year	Country	Cohort Name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of whole grains	Adjustment factors	Follow up years	Consumption frequency or amount	RR/HR/OR (95% confidence intervals)
Del Gobbo	2015	USA	Cardiovascular Health Study	Both	≥65	4,490	1,380	FFQ, validated	HF	Medical records, diagnostic tests, clinical consultations, and interviews	Whole grains	Age, sex, race, enrollment site, education, annual income, total kcal expended, walking pace, smoking, alcohol intake, BMI, prevalent treated hypertension, prevalent diabetes mellitus, prevalent CHD, polyunsaturated fat to saturated fat ratio	21.5	Quintiles of intake Q1 Q2 Q3 Q4 Q5	RR 1.00 0.89 (0.75, 1.05) 1.14 (0.97, 1.34) 1.04 (0.88, 1.23) 1.00 (0.85, 1.19)
Djoussé	2007	USA	PHS	Men	40-86	21,376	1,018	SFFQ	HF	Self-reported/ questionnaire	Whole grain breakfast cereal	Age, smoking, alcohol consumption, vegetable consumption, use of multivitamin, PA, and history of atrial fibrillation, left ventricular hypertrophy, and valvular heart disease	19.6	Servings/wk 0 ≤1 2-6 ≥7	HR 1.00 0.86 (0.69, 1.08) 0.78 (0.64, 0.96) 0.72 (0.59, 0.88)
Hansen	2017	Denmark	Danish Diet, Cancer and Health cohort	Both	50-64	55,338	2,283 / 1,879 / 391	SFFQ, validated	Stroke (nonfatal and fatal) / Ischemic stroke / Haemorrhagic stroke	Danish National Patient Register, verified by review of records	Oatmeal	Total EI, alcohol intake, PA, smoking, education, BMI-adjusted waist circumference, atrial fibrillation, hypertension, hypercholesterolemia and diabetes	13.5	g/d < 21 ≥ 21	HR 1.00 0.85 (0.77, 0.95) / 0.85 (0.76, 0.95) / 0.89 (0.70, 1.14)
											Rye bread			g/d <62.5 ≥ 62.5	HR 1.00 0.94 (0.84, 1.06) / 0.96 (0.85, 1.09) / 0.85 (0.65, 1.10)
Helnæs	2016	Denmark	Danish Diet, Cancer and Health Cohort	Men / Women	50-64	25,921 / 28,950	1,676 / 653	FFQ, validated, self-administered	MI (nonfatal and fatal)	Linkage with The Danish National Patient Register and The Danish Register of Causes of Death	Total Whole Grain products (Rye bread, WG bread, oatmeal, and	Age, school level, smoking, pack-years, alcohol intake from beer and spirits, alcohol intake from wine, participation in sports, menopausal status, HRT, and intakes of fruit, vegetables, fish, red meat, and processed	13.6	g/d 66/63 116/103 163/135 224/201	HR 1.00 0.85 (0.75, 0.98)/ 0.82 (0.66, 1.02) 0.85 (0.74, 0.98)/ 0.80 (0.64, j0.98) 0.89 (0.77, 1.02)/ 0.72 (0.57, 0.91)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Dietary assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Units	Risk estimate
											crispbread)	meat, BMI, waist circumference, SBP, self-reported hypertension, serum cholesterol, and self-reported hypercholesterolemia			
Jensen	2004	USA	HPFS	Men	40-75	42,850	1,818	SFFQ, validated	CHD (nonfatal MI and fatal CHD)	Self-reported/questionnaire, medical records, autopsy records	Whole grain	Added bran intake, added germ intake, age, EI, smoking, alcohol intake, PA, family history of MI, use of vitamin E supplement, and intakes of fats (saturated, polyunsaturated, and trans), fruit, vegetables, and fish.	14	g/d 3.5 9.6 16.0 24.7 42.4	HR 1.00 0.97 (0.84, 1.11) 0.94 (0.82, 1.09) 0.86 (0.74, 1.01) 0.82 (0.70, l0.96)
Liu	1999	USA	NHS	Wo-men	38-63	75,521	761	SFFQ, validated	CHD (nonfatal MI and fatal CHD)	Self-reported/questionnaire, medical records, autopsy records, death certificate	Whole grain	Age, BMI, cigarette smoking, alcohol intake, parental or family history of MI before the age of 60 y, self-reported history of hypertension or hypercholesterolemia, menopausal status, protein intake, aspirin use, use of multiple vitamin or vitamin E supplements, vigorous activity, and total EI, saturated, polyunsaturated, monounsaturated, and *trans* fats, dietary fibre, folate, vitamin B-6, and vitamin E	10	Servings/d 0.13 0.43 0.85 1.31 2.7	RR 1.00 0.93 (0.74, 1.14) 0.94 (0.75, 1.16) 0.86 (0.68, 1.09) 0.79 (0.62, 1.01)
Liu	2000	USA	NHS	Wo-men	38-63	75,521	352	FFQ, validated	Ischaemic stroke	Self-reported/questionnaire, medical records, death reported by	Whole grain	Age, BMI, PA, cigarette smoking, alcohol intake, parental history of MI at 60 years of age, aspirin use, menopausal status, self-reported	12	Servings/d 0.13 0.43 0.85 1.31 2.7	RR 1.00 0.72 (0.53, 1.00) 0.78 (0.58, 1.08) 0.60 (0.50, 0.98) 0.69 (0.50, 0.98)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Dietary assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Exposure categories	RR/HR (CI)
										next of kin or obtained from postal authorities or National Death Index		hypertension, self-reported high blood cholesterol level use of multivitamins or vitamin E supplement, saturated fat, trans fatty acids, and total EI			
Mizrahi	2009	Finland	Finnish Mobile Clinic Health Exami-nation Survey	Both	40-74	3,932	625 / 342 / 64	1-year dietary history interview	Cerebrovascular disease (nonfatal and fatal) / Ischaemic stroke / Intracerebral haemorrhage	Finnish Hospital Discharge Register; Statistics Finland	Whole grain	Age, sex, BMI, smoking, PA, serum cholesterol level, blood pressure and EI.	24	g/d (m/w) 0-139/ 0-89 140-201/ 90-134 202-279/ 135-194 280-1321/ 195-963	RR 1.00 0.98 (0.78, 1.23) / 0.95 (0.70, 1.29) / 1.01 (0.49, 2.08) 1.18 (0.93, 1.48) / 1.11 (0.81, 1.51) /1.31 (0.64, 2.68) 1.12 (0.87, 1.45) / 1.06 (0.75, 1.50) / 1.19 (0.53, 2.67)
Muraki	2015	USA	NHS I, NHS II, HPFS	Both	~50 / ~36 / ~53	207,556	4,672	SFFQ, validated	Stroke (nonfatal and fatal)	Medical records or self-reports	Brown rice	Age, sex, cohorts, ethni-city, BMI, smoking, alcohol intake, PA, family history of MI, menopausal status and postmenopausal hormone use, oral contraceptive use, multivitamin use, current aspirin use, prevalent hypertension, prevalent hyper-cholesterolemia, prevalent diabetes, total EI, modified alternate HEI score (quintiles) as a summary measure of diet quality	21	Sevings/wk <1 1 2-4 ≥5	HR 1.00 1.03 (0.94, 1.14) 1.05 (0.92, 1.19) 1.39 (0.99, 1.96)
Neelakant an	2016	China	Singa-pore Chinese Health Study	Both	45-75	1,443	751	SFFQ	AMI (nonfatal and fatal)	Electronic record linkages of the SCHS cohort database with a centralized,	Whole grains	Age, sex, dialect group, year of interview, and year blood was drawn, age at interview, total EI, education, smoking, PA, BMI, history of	NA	Per 2 point increment	0.92 (0.81, 1.04)

			nested case-control study							population-based Singapore MI Registry or a nationwide hospital discharge database			diabetes and/or hypertension		
Nettleton	2008	USA	ARIC	Both	45-64	15, 143	1, 140	SFFQ	HF (hospitalization or death)	County death certificates, local hospital discharge lists	Whole grains	EI, age, sex, race/centre, education level, PA, smoking, drinking status, CVD, diabetes, and hypertension	13	Per 1 serving/d	RR 0.93 (0.87, 0.99)
Rautiainen	2012	Sweden	Swedish Mammography Cohort	Wo-men	49-83	32,561	1, 114	FFQ, validated	MI (nonfatal and fatal)	Swedish Hospital Discharge and the Cause of Death registries	Whole grain	Age, education, smoking, BMI, PA, hypertension, hypercholesterolemia, family history of MI, aspirin use, HRT use, dietary supplement use, and intakes of total energy and alcohol	9.9	Servings/d ≤2.3 2.3-3.4 3.4-4.7 ≥4.7	HR 1.00 0.95 (0.81-1.13) 0.88 (0.74-1.04) 0.89 (0.74, 1.07)
Sonested	2015	Sweden	Malmö Diet and Cancer Study cohort	Both	44-74	26,445	1,344	Modified diet history method, FFQ, validated	Coronary event (nonfatal or fatal MI or death due to IHD)	Linkage with Swedish Hospital Discharge Registry and Cause-of-death Registry	Whole grains	Age, sex, season, diet method version, EI, BMI, smoking, alcohol consumption, leisure-time PA, and education	14	Portions/d 0.0 0.3 0.7 1.2 2.5	HR 1.00 0.85 (0.73, 0.98) 0.91 (0.79, 1.05) 0.85 (0.73, 0.98) 0.88 (0.76, 1.01)
Sonested	2015	Sweden	Malmö Diet and Cancer Study cohort	Both	44-74	26,445	1, 176	Modified diet history method, FFQ, validated	Stroke (nonfatal and fatal)	Linkage with Swedish Hospital Discharge Registry and Cause-of-death Registry	Whole grains	Age, sex, season, diet method version, EI, BMI, smoking, alcohol consumption, leisure-time PA, and education	14	Portions/d 0.0 0.3 0.7 1.2 2.5	HR 1.00 0.96 (0.81, 1.14) 0.92 (0.78, 1.10) 0.75 (0.62, 0.90) 0.85 (0.71, 1.01)
Steffen	2003	USA	ARIC	Both	45-64	15,792	535	SFFQ, validated	CAD	Annual telephone calls, communitywide hospital surveillance, and linkage	Whole grain	Age, race, sex, and time-dependent EI, education, smoking status, pack-years of smoking, PA, alcohol intake, and hormone replacement in women,	11	Servings/d 0.1 0.5 1.0 1.5 3.0	HR 1.00 0.76 (0.58, 0.99) 0.93 (0.72, 1.21) 0.73 (0.55, 0.98) 0.72 (0.53, 0.97)

										with local and national death-certificate registries		BMI, waist-to-hip ratio, SBP, and use of antihypertensive medications; HDL and LDL are included in the model for incident CAD			
Steffen	2003	USA	ARIC	Both	45-64	15,792	214	SFFQ, validated	Ischaemic stroke	Annual telephone calls, community-wide hospital surveillance, and linkage with local and national death-certificate registries	Whole grain	Age, race, sex, and time-dependent EI, education, smoking status, pack-years of smoking, PA, alcohol intake, and hormone replacement in women, BMI, waist-to-hip ratio, SBP, and use of antihypertensive medications; HDL and LDL are included in the model for incident CAD	11	Servings/d 0.1 0.5 1.0 1.5 3.0	HR 1.00 1.11 (0.75, 1.64) 0.79 (0.50, 1.21) 0.89 (0.57, 1.39) 0.75 (0.46, 1.22)
Tektonidis	2015	Sweden	Swedish Mammography Cohort	Women	48-83	32,921	1,648	FFQ, validated	HF	Linkage of the study cohort to the Swedish Inpatient Register and the Swedish Cause of Death Register	Non-refined/ high fibre grains	Education level, family history of MI, cigarette smoking, >40 min of walking or/and cycling per day, >1 h of exercise per week, BMI, history of hypertension), of hypercholesterolemia, of diabetes, aspirin use, total EI	10.4	Servings/d <median >median	RR 1.00 0.93 (0.83-1.03)
Tektonidis	2015	Sweden	Swedish Mammography Cohort	Women	48-83	32,921	1,532 / 262	FFQ, validated	Ischemic stroke / Haemorrhagic	Linkage of the study cohort to the Swedish Inpatient Register and the Swedish Cause of Death Register	Non-refined/ high fibre grains	Education level, family history of MI, cigarette smoking, >40 min of walking or/and cycling per day, >1 h of exercise per week, BMI, history of hypertension, of hyper-cholesterolemia, of dia-betes, aspirin use, total EI	10.4	Servings/d <median >median	RR 1.00 0.88 (0.78, 0.99 / 1.00 (0.76, 1.31)
Tektonidis	2016	Sweden	Cohort of	Men	45-79	37,308	1,269	SFFQ, validated	HF	Linkage to the Swedish	Non-refined/	Education level, family history of MI, cigarette	10.9	Servings/d <median	RR 1.00

		Swedish Men							National Patient and the Cause of Death Registers	high fibre grains	smoking, >40 minutes of walking or/and cycling per day, >1 h of exercise per week, BMI, history of hypertension, of hyper-cholesterolemia, of diabetes, aspirin use, total EI		>median	0.92 (0.82, 1.04)

Supplemental Table 2: General study characteristics of the included studies investigating the association between whole grain intake and risk of coronary heart disease, stroke, and heart failure

Author	Year	Country	Cohort name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of refined grains	Adjustment factors	Fol-low up years	Consump-tion fre-quency or amount	RR/HR/OR (95% confidence intervals)
Djoussé	2007	USA	PHS	Men	40-86	21,376	1,018	SFFQ	HF	Self-reported/quest ionnaire	Refined grain breakfas t cereal	Age, smoking, alcohol consumption, vegetable consumption, use of multivitamin, PA, and history of atrial fibrilla-tion, left ventricular hypertrophy, and valvular heart disease	19.6	Servings/wk 0 ≤1 2-6 ≥7	HR 1.00 1.11 (0.83-1.49) 1.10 (0.82-1.48) 0.83 (0.58, 1.18)
Eshak	2014	Japan	JPHC study	Both	40-69	91,223	4,395	FFQ, validated	Stroke (nonfatal and fatal) / Hemorrhagic stroke / Ischemic stroke	Medical records; national vital statistics	Rice	Age; sex; public health centre area; history of hypertension; history of diabetes; use of lipid-lowering drugs; BMI; smoking status; ethanol intake; leisure-time sports activity; occupa-tion; intakes of seafood, meat, fruit, vegetables, soy, SFAs, and sodium; total EI; and, for women, menopausal status and hormone use	15-18	g/d 251 326 377 430 542	HR 1.00 1.07 (0.93, 1.17) / 1.05 (0.90, 1.22) / 1.07 (0.92, 1.23) 0.94 (0.85, 1.08) / 0.95 (0.81, 1.12) / 0.99 (0.81, 1.07) 0.93 (0.84, 1.13) / 0.95 (0.81, 1.11) / 0.99 (0.81, 1.16) 1.01 (0.90, 1.14) / 0.96 (0.79, 1.15) / 1.05 (0.90, 1.22)
Eshak	2014	Japan	JPHC study	Both	40-69	91,223	1,088	FFQ, validated	IHD (nonfatal and fatal)	Medical records; national vital statistics	Rice	Age; sex; public health centre area; history of hypertension; history of diabetes; use of lipid-	15-18	g/d 251 326 377	HR 1.00 0.93 (0.76, 1.14) 0.99 (0.80, 1.22)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet assessment	Outcome	Outcome ascertainment	Exposure	Adjustments	Follow-up	Exposure levels	RR (95% CI)
												lowering drugs; BMI; smoking status; ethanol intake; leisure-time sports activity; occupation; intakes of seafood, meat, fruit, vegetables, soy, SFAs, and sodium; total EI; and, for women, menopausal status and hormone use		430 542	0.95 (0.77, 1.19) 1.08 (0.84, 1.38)
Liu	2000	USA	NHS	Women	38-63	75,521	352	FFQ, validated	Ischaemic stroke	Self-reported/questionnaire, medical records, death reported by next of kin or obtained from postal authorities or National Death Index	Refined grain	Age, BMI, PA, cigarette smoking, alcohol intake, parental history of MI at 60 years of age, aspirin use, menopausal status (premenopausal, postmenopausal without HRT, post-menopausal with past HRT, or postmenopausal with current HRT), self-reported hypertension, self-reported high blood cholesterol level use of multivitamins or vitamin E supplement, saturated fat, trans fatty acids, and total EI	12	Servings/d 0.13 0.43 0.85 1.31 2.7	RR 1.00 1.11 (0.81, 1.52) 1.18 (0.85, 1.64) 0.94 (0.66, 1.35) 0.97 (0.67, 1.42)
Mizrahi	2009	Finland	Finnish Mobile Clinic Health Examination Survey	Both	40-74	3,932	625 / 342 / 64	1-year dietary history interview	Cerebrovascular disease (nonfatal and fatal) / Ischaemic stroke / Intracerebral haemorrhage	Finnish Hospital Discharge Register; Statistics Finland	Refined grain	Age, sex, BMI, smoking, PA, serum cholesterol level, blood pressure and EI.	24	g/d (m/w) 0-50/0-43 51-82/ 44-68 83-124/ 69-99 125-567/ 100-457	RR 1.00 0.93 (0.74, 1.15) / 0.81 (0.60, 1.10) / 0.70 (0.36, 1.36) 0.88 (0.70, 1.10) / 0.95 (0.71, 1.28) 0.66 (0.33, 1.33) 0.88 (0.69, 1.14) / 0.85 (0.61, 1.19) / 0.66 (0.31, 1.42)
Muraki	2015	USA	NHS I, NHS II, HPFS	Both	~50 / ~36 / ~53	207,556	4,672	SFFQ, validated	Stroke (nonfatal and fatal)	Medical records or self-reports	White rice	Age, sex, cohorts, ethnicity, BMI, smoking, alcohol intake, PA,	21	Servings/wk <1 1	RR 1.00 0.97 (0.90, 1.03)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Dietary assessment	Outcome	Outcome ascertainment	Exposure	Adjustments		Unit	HR (95% CI)
												family history of MI, menopausal status and postmenopausal hor-mone use, oral contra-ceptive use, multivi-tamin use, current aspirin use, prevalent hypertension, prevalent hypercholesterolemia, prevalent diabetes, total EI, modified alternate HEI score (quintiles) as a summary measure of diet quality		2-4 ≥5	0.97 (0.89, 1.05) 1.25 (0.99, 1.57)
Sonested	2015	Sweden	Malmö Diet and Cancer Study cohort	Both	44-74	26,445	1,344	Modified diet history method, FFQ, validated	Coronary event (nonfatal or fatal MI or death due to IHD)	Linkage with Swedish Hospital Discharge Registry and Cause-of-death Registry	Refined grains	Age, sex, season, diet method version, EI, BMI, smoking, alcohol consumption, leisure-time PA, and education	14	Portions/d 1.2 2.0 2.5 3.1 4.3	HR 1.00 0.98 (0.85, 1.15) 1.04 (0.89, 1.21) 1.08 (0.92, 1.25) 1.08 (0.93, 1.26)
Sonested	2015	Sweden	Malmö Diet and Cancer Study cohort	Both	44-74	26,445	1,176	Modified diet history method, FFQ, validated	Stroke (nonfatal and fatal)	Linkage with Swedish Hospital Discharge Registry and Cause-of-death Registry	Refined grains	Age, sex, season, diet method version, EI, BMI, smoking, alcohol consumption, leisure-time PA, and education	14	Portions/d 1.2 2.0 2.5 3.1 4.3	HR 1.00 1.09 (0.91, 1.30) 1.07 (0.89, 1.27) 1.02 (0.85, 1.23) 1.03 (0.86. 1.25)
Steffen	2003	USA	ARIC	Both	45–64	15,792	535	SFFQ, validated	CAD	Annual telephone calls, communitywide hospital surveillance, and linkage with local and national death-certificate registries	Refined grain	Age, race, sex, and time-dependent EI, education, smoking status, pack-years of smoking, PA, alcohol intake, and hormone replacement in women, BMI, waist-to-hip ratio, SBP, and use of antihypertensive medications; HDL and LDL are included in the model for incident CAD	11	Servings/d 0.5 1.5 2.0 3.0 5.0	HR 1.00 0.91 (0.65, 1.27) 1.14 (0.83, 1.56) 1.28 (0.93, 1.75) 1.17 (0.82, 1.66)
Steffen	2003	USA	ARIC	Both	45–64	15,792	214	SFFQ, validated	Ischaemic stroke	Annual telephone	Refined grain	Age, race, sex, and time-dependent EI,	11	Servings/d 0.5	HR 1.00

Author	Year	Country	Cohort	Sex	Age	N	Cases	Dietary assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Intake	HR (95% CI)
										calls, communitywide hospital surveillance, and linkage with local and national death-certificate registries		education, smoking status, pack-years of smoking, PA, alcohol intake, and hormone replacement in women, BMI, waist-to-hip ratio, SBP, and use of antihypertensive medications; HDL and LDL are included in the model for incident CAD		1.5 2.0 3.0 5.0	1.10 (0.71, 1.73) 1.00 (0.63, 1.58) 0.68 (0.41, 1.13) 0.82 (0.48, 1.40)
Yu	2013	China	Shang-hai Men's Health Study	Men	40–74	61,482	189	SFFQ, validated	CHD (nonfatal MI and fatal CHD)	Home visits every 2–3 years; medical records	White rice and refined wheat products	Stratified by birth cohort and adjusted for educational level, income, smoking status, alcohol consumption, PA-level, waist-to-hip ratio, history of hyper-tension, and dietary intakes of TE, saturated fat, and protein	5.4	g/d 306 354 388 430	HR 1.00 1.15 (0.69, 1.90) 1.38 (0.76, 2.51) 2.01 (0.96, 4.23)
Yu	2013	China	Shang-hai Women's Health Study	Wo-men	40–70	74,941	130	SFFQ, validated	CHD (nonfatal MI and fatal CHD)	Home visits every 2–3 years; medical records	White rice and refined wheat products	Stratified by birth cohort and adjusted for educational level, income, smoking status, alcohol consumption, PA-level, waist-to-hip ratio, history of hyper-tension, and dietary intakes of TE, saturated fat, and protein	9.8	g/d 253 297 327 367	HR 1.00 0.97 (0.49, 1.93) 1.41 (0.69, 2.90) 1.53 (0.64, 3.68)

Supplemental Table 3: General study characteristics of the included studies investigating the association between refined grain intake and risk of coronary heart disease, stroke, and heart failure

Author	Year	Country	Cohort name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of vegetables	Adjustment factors	Follow up years	Consumption frequency or amount	RR/HR/OR (95% confidence intervals)
Belin	2011	USA	WHI-OS	Women	50-79	83,183	1,836	WHI-FFQ	HF	Self-report at contacts; linkage with the National Death Index of the National Centre for Health Statistics	Vegetables	Age, race, education, PA, EI, BMI, smoking, diabetes medications, taking pills for hypertension ever, and ever taking pills for cholesterol	10.0	Servings <3.01 ≥3.01	HR 1.00 1.01 (0.91, 1.13)
Bendinelli	2011	Italy	EPI-COR Study	Women	35-74	29,689	144	FFQ, validated	CHD (fatal and nonfatal MI and coronary revascularization)	Review of clinical records	Vegetables	Educational level, smoking status, alcohol consumption, body height, body weight, waist circumference, daily non-alcoholic caloric intake, hypertension, menopausal status, total PA index, total meat consumption, vegetable consumption in analyses for fruit, and fruit consumption in analyses for vegetables	7.85	Cut-off g/d ≤117.5 ≤171.5 ≤241.7 ≥241.7	HR 1.00 0.54 (0.34, 0.90) 0.68 (0.42, 1.10) 0.62 (0.37, 1.04)
Bhupa-thiraju	2013	USA	NHS	Women	30-55	71,141	2,582	SFFQ, validated	CHD (nonfatal and fatal)	Self-reported/medical records; Deaths were identified by reports from next of kin, the US postal system, or by using certificates obtained from state vital	Vegetables	Age, calendar year, BMI, total EI, smoking status, PA, menopausal status and postmenopausal hormone use (for women only; premenopausal, postmenopausal with no history of hormone therapy use, postmenopausal with history of hormone	24	Servings/d 1.49 2.25 2.90 3.69 5.14	RR 1.00 0.89 (0.79, 1.01) 0.79 (0.70, 0.90) 0.84 (0.74, 0.96) 0.85 (0.74, 0.97)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Intake	RR/HR
										statistics departments and the National Death Index		therapy use, or postmenopausal with current hormone therapy), alcohol intake, parental history of early MI (before age 65 y for mother or age 55 y for father), multivitamin use, aspirin use, intakes of trans fatty acids, cereal fibre, red meat, and fish			
Bhupa-thiraju	2013	USA	HPFS	Men	40-75	42,135	3,607	SFFQ, validated	CHD (nonfatal and fatal)	Self-reported/ medical records; Deaths were identified by reports from next of kin, the US postal system, or by using certificates obtained from state vital statistics departments and the National Death Index	Vege-tables	Age, calendar year, BMI, total EI, smoking status, PA, alcohol intake, parental history of early MI (before age 65 y for mother or age 55 y for father), multivitamin use, and aspirin use, and intakes of trans fatty acids, cereal fibre, red meat, and fish	22	Servings/d 1.38 2.13 2.81 3.65 5.22	RR 1.00 0.99 (0.89, 1.09) 0.96 (0.87, 1.07) 0.96 (0.86, 1.07) 0.92 (0.82, 1.03)
Buckland	2009	Spain	EPIC	Men /Wo-men	29-69	15,335 / 25,422	480 / 126	FFQ validated	CHD (nonfatal and fatal)	Self-reported/quest ionnaire, record linkage	Vege-tables	Stratified by centre and age and were adjusted for education; PA; BMI; smoking status; diabetes, hypertension, and hyperlipidaemia status; and total calorie intake	10.4	g/1,000 kcal /d 0-78.1 >78.1-136 >136-1, 079	HR 1.00 0.78 (0.63, 0.97) / 1.13 (0.70, 1.82) 0.70 (0.54, 0.90) / 1.08 (0.67, 1.75)
Dauchet	2004	France, Northern Ireland	PRIME Study	Men	50-59	8,087	249	FFQ	Total coronary events (combined acute	Questionnaire ; medical committee; death certificates	Vege-tables	Centre, age, smoking, alcohol consumption, PA, education level, employment status, SBP, total cholesterol,	5	Frequency/d ≤0.79 1-1.29 ≥1.5	RR 1.00 0.84 (0.63, 1.13) 1.01 (0.88, 1.15)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Outcome ascertainment	Exposure	Adjustments	Follow-up	Comparison	Risk estimate
									coronary events and angina)			HDL-cholesterol, BMI, treatment for hypertension, diabetes or dyslipidaemia			
Dilis	2012	Greece	EPIC	Men / Wo-men	20-86	9,740 / 14,189	426 / 210	SFFQ, validated	CHD incidence	Self-reported/confirmed through medical records	Vege-tables	Age, BMI, height, PA, years of schooling, EI, alcohol consumption, smoking, arterial blood pressure, other nutritional variables	10	Per 1 SD increment	HR 1.15 (0·95, 1·39) / 0.89 (0·62, 1·29)
Gillman	1995	USA	The Framingham Study	Men	45-65	832	97	24-hour recall	Stroke	Recording at follow-up visit; surveillance of hospital admissions records and communication with family physicians and relatives	Vege-tables	SBP, serum cholesterol, cigarette smoking, glucose intolerance, BMI, physical activity index, left ventricular hypertrophy, EI, and consumption of ethanol and fat	20	Per increment of 3 servings/d	RR 0.74 (0.54, 1.01)
del Gobbo	2015	USA	Cardiovascular Health Study	Both	≥65	4,490	1,380	FFQ, validated	HF	Medical records, diagnostic tests, clinical consultations, and interviews	Vege-tables	Age, sex, race, enrolment site, education, annual income, total kcal expended, walking pace, smoking, alcohol intake, BMI, prevalent treated hypertension, prevalent diabetes mellitus, prevalent CHD, polyunsaturated fat to saturated fat ratio	21.5	Quintiles of intake Q1 Q2 Q3 Q4 Q5	RR 1.00 1.00 (0.85, 1.15) 1.06 (0.89, 1.25) 1.05 (0.89, 1.25) 1.18 (0.95, 1.41)
Hansen	2010	Denmark	Danish Diet, Cancer and Health cohort study	Men / Wo-men	50-64	25,065 / 28,318	820 / 255	SFFQ, validated	Acute coronary syndrome (ACS)	Linkage of the Central Population Registry number of each partici-pant to the National	Vege-tables	BMI, length of school education, smoking, alcohol intake, alcohol abstainers and physical, intake of saturated fats and whole grains, total	7.7	g/d (m) <96 >96≤148 >148≤211 >211 g/d (w)	IRR (m) 1.00 1.06 (0.88, 1.28) 1.03 (0.85, 1.26) 0.93 (0.75, 1.16) IRR (w)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Intake	Risk estimate
										Patient Registry and the Cause of Death Registry, review of medical records		cholesterol and SBP		<110 >110≤167 >167≤237 >237	1.00 1.15 (0.84, 1.58) 0.88 (0.61, 1.28) 1.09 (0.74, 1.61)
Hansen	2017	Denmark	Danish Diet, Cancer and Health cohort study	Both	50-64	55,338	2,283	SFFQ, validated	Stroke (nonfatal and fatal) / ischemic stroke / hemorrhagic stroke	Danish National Patient Register, verified by review of records	Cabbages	total EI, alcohol intake, PA, smoking, education, BMI-adjusted waist circumference, atrial fibrillation, hypertension, hypercholesterolemia and diabetes	13.5	g/d (m/w) <15/16 ≥15/16	HR 1.00 0.97 (0.88, 1.06) / 0.97 (0.88, 1.08) / 0.96 (0.77, 1.19)
											Root vegetables			g/d (m/w) <16/29 ≥16/29	HR 1.00 0.93 (0.85, 1.03) / 0.95 (0.86, 1.05) / 0.87 (0.69, 1.09)
Hirvonen	2001	Finland	ATBC	Men, smokers	50-69	25,372	1,122	Modified diet history questionnaire, self-administered, validated	MI nonfatal	Hospital Discharge Register	Vegetables	Age, supplementation group, systolic and diastolic blood pressure, serum total cholesterol, serum HDL-cholesterol, BMI, smoking years, number of cigarettes smoked daily, histories of diabetes mellitus and coronary heart disease, marital status, education, and leisure-time PA	6.1	g/d <52 52-80 81-110 111-156 >156	RR 1.00 0.96 (0.80–1.15) 0.90 (0.75–1.08) 1.01 (0.84–1.22) 0.77 (0.63, 0.94)
Johnsen	2003	Denmark	Danish Diet, Cancer, and Health study	Both	50-64	53,035	266	SFFQ, validated	Ischaemic stroke	Danish National Registry of Patients	Vegetables	Sex, total EI, smoking status, SBP, diastolic blood pressure, total serum cholesterol, history of diabetes, BMI, alcohol intake, intake of red meat, intake of n-3 PUFA, PA, and education	3.09	g/d 66 117 162 215 312	RR 1.00 1.03 (0.72, 1.48) 1.08 (0.74, 1.57) 1.13 (0.76, 1.67) 1.00 (0.66, 1.53)
Joshipura	1999	USA	NHS	Women	34-59	75,596	366	SFFQ, validated	Ischaemic stroke	Self-reported/questionnaire;	Vegetables	Age, smoking, alcohol, family history of MI, BMI,	14	Servings/d 1.6 NA	RR 1.00 1.23 (0.92, 1.65)

Author	Year	Country	Study	Sex	Age	N	Cases	Dietary method	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Intake	Estimate (95% CI)
										medical records		vitamin supplement use, vitamin E use, PA, aspirin use, 7 time periods for wo-men, hypertension and hypercholesterolemia, total EI, postmenopausal hormone use		3.3 NA 6.2	0.88 (0.63, 1.22) 0.76 (0.54, 1.08) 0.89 (0.63, 1.26)
Joshipura	1999	USA	HPFS	Men	40-75	38,683	204	SFFQ, validated	Ischaemic stroke	Self-reported/questionnaire; medical records	Vege-tables	Age, smoking, alcohol, family history of MI, BMI, vitamin supplement use, vitamin E use, PA, aspirin use, 4 time periods for men, hypertension and hypercholesterolemia, total EI	8	Servings/d 1.4 NA 2.8 NA 5.4	RR 1.00 0.99 (0.65, 1.51) 0.76 (0.49, 1.20) 0.81 (0.51, 1.26) 0.90 (0.58, 1.41)
Keli	1996	Netherlands	Zutphen Study	Men	50-69	552	42	Dietary history method	Stroke (nonfatal and fatal)	Questionnaires; diagnoses confirmed in letters from a neurologist or internist	Vege-table	Age, average SBP, serum cholesterol, EI, lifetime cigarette smoking exposure until 1970, fish consumption in 1970, and alcohol consumption habits from 1960 to 1970	15	g/d <153 153-216 ≥216	RR 1.00 0.75 (0.37, 1.51) 0.82 (0.35, 1.94)
Kobylecki	2015	Denmark	Copenhagen General Population Study (CGPS)	Both	20–100	87,030	2,823	FFQ	IHD	Danish Patient Registry	Vege-tables	Age, sex, smoking, alcohol intake, BMI, income, use of vitamin supplementation, PA at work and in leisure time, and C-reactive protein, possible mediators and SBP. LDL cholesterol, TG, HDL-cholesterol, FEV1 in % of predicted and FEV1/FVC	2003-2013	Times/d 0 <1 1 ≥2	HR 1.00 0.89 (0.78, 1.02) 0.83 (0.73, 0.95) 0.88 (0.75, 1.02)

Larsson	2009	Finland	ATBC	Men, smokers	50-69	26,556	702 / 383 / 196	FFQ, validated self-administered	Cerebral infarctions / Intracerebral haemorrhagic / Subarachnoid haemorrhagic	Record linkage with the National Hospital Discharge Register and the National Register of Causes of Death	Vege-tables	Age, supplementation group, number of cigarettes smoked daily, BMI, systolic and diastolic blood pressures, serum total cholesterol, serum HDL, cholesterol, histories of diabetes and coronary heart disease, leisure-time PA, and intakes of alcohol and total energy, intakes of folate and magnesium	13.6	g/d 25.4 47.9 70.3 98.6 153.7	RR 1.00 0.94 (0.84, 1.06)/ 0.91 (0.67, 1.23)/ 0.76 (0.49–1.17) 0.90 (0.80–1.01)/ 0.97 (0.72–1.32)/ 0.83 (0.54–1.26) 0.91 (0.81–1.02)/ 0.73 (0.53–1.02)/ 0.60 (0.38–0.95) 0.75 (0.66, 0.85)/ 0.80 (0.58, 1.11)/ 0.62 (0.40, 0.98)
Larsson	2013	Sweden	Swedish Mammography Cohort Cohort of Swedish Men	Both	45-83	74,961	4,089 / 3,159 / 435 / 148	FFQ, validated	Stroke (nonfatal and fatal) / Cerebral infarction / Intracerebral Haemorrhagic / Subarachnoid Haemorrhagic	Swedish Hospital Discharge Registry, Swedish Death Register	Vege-tables	Age, sex, smoking status and pack-years of smoking, education, BMI, total PA, aspirin use, history of hypertension, diabetes, family history of MI, and intakes of total energy, alcohol, coffee, fresh red meat, processed meat, and fish	10.2	Servings/d 0.9 1.8 2.5 3.4 5.1	RR 1.00 0.97 (0.88, 1.06)/ 0.95 (0.85, 1.06)/ 0.95 (0.72, 1.27)/ 1.55 (0.91, 2.67) 0.91 (0.82, 1.01)/ 0.88 (0.78, 0.98)/ 0.96 (0.71, 1.31)/ 1.15 (0.64, 2.08) 0.98 (0.88, 1.08)/ 0.94 (0.83, 1.06)/ 0.98 (0.71, 1.36)/ 1.18 (0.65, 2.16) 0.90 (0.80, 1.01) / 0.88 (0.77, 1.00) / 0.88 (0.62, 1.27) / 1.45 (0.78, 2.70)
Lin	2013	China	Cardio-Vascular Disease risk FACtor Two town-ship Study (CVDF	Both	45,8± 14,2	2,061	123 / 97	FFQ, validated	Stroke (nonfatal and fatal) / Ischemic stroke	Self-reported and cross-confirmed by medical records or death certi-ficate. After 1996: death certificate data, insu-	Vege-tables	Sex, baseline age, urinary sodium/creatinine, smoking status, drinking status, PA, BMI, SBP change, DBP change, and hypertension medication	12	Tertile Servings Tertile 1 Tertile 2 Tertile 3	HR 1.00 0.98 (0.62, 1.55)/ 0.97 (0.58, 1.63) 1.04 (0.67, 1.62) / 1.04 (0.63, 1.71)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Outcome assessment	Exposure	Adjustments	Follow-up	Category	Risk estimate
			ACTS)							rance claim records of NHI database, self-reported disease history collected in medical records					
Liu	2000	USA	Women's Health Study	Wo-men	45-75	39,876	126	SFFQ, validated	MI	Self-reported/ questionnaire; confirmed through phy-sicians; medi-cal records, autopsy re-ports, and death certificates	Vege-tables	Age, BMI, smoking, alcohol, postmenopausal status, postmenopausal hormone use, Multivitamin use, Vitamin C supplement use, History of diabetes, History of hypertension, History of high cholesterol, Parental history of MI	5	Servings/d 1.5 2.5 3.4 4.6 6.9	RR 1.00 0.94 (0.54, 1.63) 0.55 (0.29, 1.05) 0.87 (0.49, 1.55) 0.88 (0.50, 1.58)
Liu	2001	USA	PHS	Men	40-84	15,220	1,148	SFFQ, validated	CHD (nonfatal and fatal)	Self-reported/quest ionnaire; records; death certificates	Vege-tables	Age, treatment, smoking, alcohol, PA, BMI, history of diabetes mellitus, high cholesterol, hypertension, use of multivitamins	12	Servings/d <1 1-1.49 1.5-1.99 2-2.49 ≥2.5	RR 1.00 0.99 (0.85, 1.15) 0.93 (0.78, 1.12) 0.89 (0.71, 1.10) 0.77 (0.60, 0.98)
Martínez-González	2011	Spain	The SUN Project	Both	38	13,609	68	SFFQ validated	CHD only	Follow-up questionnaire and review of medical records	Vege-tables	Age, sex, family history of CHD, total EI, PA, smoking, BMI, diabetes at baseline, use of aspirin, history of hypertension and history of hypercholesterolemia	4.9	g/d (m/w) <401/501 ≥401/501	HR 1.00 0.82 (0.50, 1.35)
Misirli	2012	Greece	EPIC	Both	NA	23,601	395	SFFQ, validated	Cerebrovascul ar disease incidence	Medical records	Vege-tables	Sex, BMI, age, education, smoking status, PA, diabetes, EI	10.6	Increment g/d 231	HR 0.84 (0.72, 0.98)

Author	Year	Country	Study	Sex	Age	N	Cases	Dietary assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Intake	RR/HR
Mizrahi	2009	Finland	Finnish Mobile Clinic Health Examination Survey	Both	40-74	3,932	625 / 342 / 64	1-year dietary history interview	Cerebrovascular disease (nonfatal and fatal) / Ischaemic stroke / Intracerebral haemorrhage	Finnish Hospital Discharge Register; Statistics Finland	Vegetables	Age, sex, BMI, smoking, PA, serum cholesterol level, blood pressure and EI.	24	g/d (m/w) 0–44/1-56 45–84/ 57-95 85-137/ 96-150 138–535/ 151-800	RR 1.00 0.90 (0.72; 1.12)/ 0.70 (0.52, 0.95)/ 0.96 (0.45, 2.07) 1.02 (0.82, 1.28)/ 0.78 (0.58, 1.06)/ 1.45 (0.71, 2.95) 1.11 (0.88, 1.41) / 0.92 (0,68, 1,25) / 1.45 (0.69, 3.03)
Neelakan-tan	2016	China	Singa-pore Chinese Health Study nested case-control study	Both	45-75	1,443	751	SFFQ	AMI (nonfatal and fatal)	Electronic record linkages of the SCHS cohort data-base with a centralized, population-based Singapore MI Registry or a nationwide hospital discharge database	Vege-tables	Age, sex, dialect group, year of interview, and year blood was drawn, age at interview, total EI, education, smoking, PA, BMI, history of diabetes and/or hypertension	NA	Per 2 point increment	0.96 (0.84, 1.10)
Oude Griep	2012	Netherlands	MORGEN Study	Both	20-65	20,069	245	FFQ, validated	CHD (nonfatal and fatal)	Municipal population Register; Statistics Netherlands; hospital discharge register	Vege-tables	Age, sex, EI, alcohol intake, smoking status, educational level, dietary supplement use, use of HRT, family history of acute MI, BMI, intakes of wholegrain foods, processed meat and fish and quantity of fruit and vegetable consumption	10	g/d 88±38 115±43 145±52	HR 1.00 1.03 (0.76, 1.40) 1.26 (0.89; 1.79)
Oude Griep	2012	Netherlands	MORGEN Study	Both	20-65	20,069	233	FFQ, validated	Stroke (nonfatal and fatal)	Municipal population Register; Statistics	Vege-tables	Age, sex, EI, alcohol intake, smoking status, educational level, dietary	10	g/d 88±38 115±43 145±52	HR 1.00 0.96 (0.71, 1.29) 0.76 (0.52, 1.10)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet method	Outcome	Case ascertainment	Exposure	Adjustments	Follow-up	Level	RR/HR (95% CI)
										Netherlands; hospital discharge register		supplement use, use of HRT, family history of acute MI, BMI, intakes of wholegrain foods, processed meat and fish and quantity of fruit and vegetable consumption			
Rautiainen	2015	Sweden	Swedish Mammography Cohort	Wo-men	49-83	34,319	3,051	FFQ, validated	HF	Linkage via the national registration number to the National Patient Registry and the Cause of Death Registry	Vege-tables	Age, education, smoking, BMI, PA, hypertension, diabetes, family history of MI, alcohol consumption, EI, dietary supplement use, and consumption of meat, fish, and whole grains	12.9	Servings/d 1.3 2.2 3.0 4.0 5.8	RR 1.00 0.86 (0.78, 0.96) 0.83 (0.74, 0.93) 0.87 (0.78, 0.98) 0.83 (0.73, 0.95)
Sonested	2015	Sweden	Malmö Diet and Cancer Study cohort	Both	44-74	26,445	1,344	Modified diet history method, FFQ, validated	Coronary event (nonfatal or fatal MI or death due to IHD)	Linkage with Swedish Hospital Discharge Registry and Cause-of-death Registry	Vege-tables	Age, sex, season, diet method version, EI, BMI, smoking, alcohol consumption, leisure-time PA, and education.	14	g/d 72 123 164 213 332	HR 1.00 0.95 (0.83, 1.10) 0.99 (0.86, 1.15) 0.98 (0.85, 1.14) 0.99 (0.85, 1.16)
Sonested	2015	Sweden	Malmö Diet and Cancer Study cohort	Both	44-74	26,445	1,176	Modified diet history method, FFQ, validated	Stroke (nonfatal and fatal)	Linkage with Swedish Hospital Discharge Registry and Cause-of-death Registry	Vege-tables	Age, sex, season, diet method version, EI, BMI, smoking, alcohol consumption, leisure-time PA, and education.	14	g/d 72 123 164 213 332	HR 1.00 0.99 (0.84, 1.16) 0.85 (0.71, 1.01) 0.90 (0.76, 1.08) 0.86 (0.71, 1.04)
Tognon	2014	Denmark	1982–83 Danish MONICA	Both	30-60	1,849	161	7 d food record, validated	MI (nonfatal and fatal)	National Patient Registry of Hospital Discharges, the Cause of Death Register and the Central Person	Vege-tables	Sex, BMI, education, PA and cigarette smoking	11	g/d <192.1 >192.1	HR 1.00 0.73 (0.54, 1.00)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Source	Exposure	Adjustments	Follow-up	Intake	HR
										Register					
Tognon	2014	Denmark	1982–83 Danish MONICA	Both	30-60	1,849	167	7 d food record, validated	Stroke (nonfatal and fatal)	National Patient Registry of Hospital Discharges, the Cause of Death Register and the Central Person Register	Vege-tables	Sex, BMI, education, PA and cigarette smoking	11	g/d <192.1 >192.1	HR 1.00 0.94 (0.69, 1.27)
Würtz	2016	Denmark	Danish Diet, Cancer and Health study	Men / Wo-men	50–64	26,029 / 29,142	1,694 / 656	FFQ, validated	MI (nonfatal and fatal)	Danish National Patient Register, Danish Cause of Death Register, Central Population Register	Vege-tables	Age, EI, alcohol abstinence, alcohol intake, BMI, waist circumference, smoking status, PA, duration of schooling, menopausal status and use of HRT, fruits, sweets, soft drinks, lean dairy products, fatty dairy products, potato chips, refined cereals, wholegrain cereals, nuts	13.6	Per 150 g/wk higher intake	HR 1.00 (0.99, 1.02) / 1.00 (0.98, 1.02)
Yokoya-ma	2000	Japan	NA	Men / Wo-men	≥40	880 / 1,241	91 / 105	SFFQ	Stroke	Annual follow-up examinations and registry	Vege-tables	(Sex), age, MBP, TC, BMI, presence of atrial fibrillation, use of antihypertensive medication, personal history of IHD, physical activity, smoking, and alcohol drinking	20	d/wk 0-2 3-5 6-7	HR 1.00 0.61 (0.21, 1.84)/ 0.72 (0.12, 4.45) 0.33 (0.15, 0.77)/ 0.89 (0.22, 3.71)
							58 / 51		Cerebral infarction					d/wk 0-2 3-5 6-7	HR 1.00 0.96 (0.22, 4.15)/ 0.85 (0.07, 10.1) 0.49 (0.15, 1.65) / 0.83 (0.11, 6.25)
							18 / 36		Haemorrhagic stroke					d/wk 0-2 3-5 6-7	HR 1.00 1.26 (0.10, 16.0)/ NA 0.67 (0.08, 5.78)/

Author	Year	Country	Study	Sex	Age	N	Cases	Dietary assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up		Results
															0.54 (0.07, 4.12)
Yu	2014	China	Shang-hai Wo-men's Health Study	Wo-men	40-70	67,211	148	FFQ, validated	Coronary events (nonfatal MI or fatal CHD)	Biennial home visits, further confirmed by medical record review.	Vege-tables	Stratified by birth cohort (5-year interval) and adjusted for baseline age, BMI, income, education, smoking, alcohol consumption, PA, use of aspirin and vitamin E and multivitamin supplements, menopause and HRT, total energy, and red meat and fish/shellfish intake, history of diabetes, hypertension or dyslipidaemia	9.8	g/d 137 213 292 429	HR 1.00 1.15 (0.75, 1.76) 0.77 (0.48, 1.25 0.83 (0.52, 1.33)
Yu	2014	China	Shang-hai Men's Health Study	Men	40-74	55,474	217	FFQ, validated	Coronary events (nonfatal MI or fatal CHD)	Biennial home visits, further confirmed by medical record review.	Vege-tables	Stratified by birth cohort (5-year interval) and adjusted for baseline age, BMI, income, education, smoking, alcohol consumption, PA, use of aspirin and vitamin E and multivitamin supplements, total energy, and red meat and fish/shellfish intake, history of diabetes, hypertension or dyslipidaemia	5.4	g/d 160 253 344 502	HR 1.00 0.95 (0.65, 1.37) 0.68 (0.45, 1.01) 1.02 (0,71, 1,48)
Zhang	2011	Finland	NA	Both	25-74	36,686	1,478 / 1,168 / 311	Self-administered questionnaire	Stroke (nonfatal and fatal) / Ischemic stroke / Haemorrhagic stroke	National Hospital Discharge Register, Statistics Finland	Vege-tables	Age, study year, sex, smoking, PA, vegetable consumption, fruit consumption, education, alcohol consumption, family	13.7	times/wk <1 1-2 3-6	HR 1.00 0.96 (0.82-1.11)/ 0.98 (0.83-1.16)/ 0.86 (0.61-1.21) 0.83 (0.71-0.98)/ 0.84 (0.70-1.01)/

| | | | | | | | | | | | | history of stroke, history of diabetes mellitus, BMI, SBP, and total cholesterol level, other than the variable in the analytic model | | ≥7 | 0.80 (0.55-1.15) 0.82 (0.67, 1.00) / 0.84 (0.67, 1.04) / 0.71 (0.46, 1.09) |

Supplemental Table 4: General study characteristics of the included studies investigating the association between vegetable intake and risk of coronary heart disease, stroke, and heart failure

Author	Year	Country	Cohort name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of fruits	Adjustment factors	Follow up years	Consumption frequency or amount	RR/HR/OR (95% confidence intervals)
Belin	2011	USA	WHI-OS	Women	50-79	83,183	1,836	WHI-FFQ	HF	Self-report at contacts; linkage with the National Death Index of the National Centre for Health Statistics	Fruits	Age, race, education, PA, log (daily EI), BMI, smoking, diabetes medications, taking pills for hypertension ever, and ever taking pills for cholesterol	10.0	Servings <2.57 ≥2.57	HR 1.00 0.97 (0.88, 1.08)
Bendinelli	2011	Italy	EPICOR Study	Women	35–74	29,689	144	FFQ	CHD (fatal and nonfatal MI and coronary revascularization)	Review of clinical records	Fruits	Educational level, smoking status, alcohol consumption, body height, body weight, waist circumference, daily non-alcoholic caloric intake, hypertension, menopausal status, total PA index, total meat consumption, vegetable consumption in analyses for fruit, and fruit consumption in analyses for vegetables	7.85	Cut-offs g/d ≤219.3 ≤318.6 ≤441.3 ≥441.3	HR 1.00 1.36 (0.84, 1.93) 1.68 (1.04, 2.72) 1.24 (0.73, 2.12)
Bhupathi-raju	2013	USA	NHS	Women	30-55	71,141	2,582	SFFQ	CHD (nonfatal and fatal)	Self-reported/medical records; Deaths were identified by reports from next of kin, the US postal system, or by using certificates obtained from state vital statistics departments	Fruits	Age, calendar year, BMI, total EI, smoking status, PA, menopausal status and postmenopausal hormone use (for women only; premenopausal, postmenopausal with no history of hormone therapy use, postmenopausal with history of hormone therapy use, or postmenopausal with current hormone therapy), alcohol intake,	24	Servings/d 0.44 0.91 1.35 1.85 2.84	RR 1.00 0.88 (0.78, 0.99) 0.86 (0.76, 0.97) 0.77 (0.67, 0.87) 0.87 (0.76, 0.99)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet method	Outcome	Ascertainment	Exposure	Adjustments		Category	Estimate
										and the National Death Index		parental history of early MI (before age 65 y for mother or age 55 y for father), multivitamin use, and aspirin use, and intakes of trans fatty acids, cereal fibre, red meat, and fish			
Bhupathi-raju	2013	USA	HPFS	Men	40-75	42,135	3,607	SFFQ	CHD (nonfatal and fatal)	Self-reported/ medical records; Deaths were identified by reports from next of kin, the US postal system, or by using certificates obtained from state vital statistics departments and the National Death Index	Fruits	Age, calendar year, BMI, total EI, smoking status, PA, alcohol intake, parental history of early MI (before age 65 y for mother or age 55 y for father), multivitamin use, and aspirin use, and intakes of trans fatty acids, cereal fibre, red meat, and fish	22	Servings/d 0.42 0.89 1.35 1.93 3.07	RR 1.00 1.00 (0.90, 1.11) 0.91 (0.82, 1.01) 0.85 (0.76, 0.95) 0.88 (0.78, 0.99)
Buckland	2009	Spain	EPIC	Men / Wo-men	29-69	15,335 / 25,422	480 / 126	FFQ validated	CHD (nonfatal and fatal)	Self-reported/quest ionnaire, record linkage	Fruits	Stratified by centre and age and were adjusted for education; PA; BMI; smoking status; diabe-tes, hypertension, and hyperlipidaemia status; and total calorie intake	10.4	g/1,000 kcal /d 0-97.4 >97.4-183 >183-1,531	HR 1.00 0.91 (0.73, 1.12) / 1.05 (0.63, 1.73) 0.92 (0.72, 1.18) / 0.94 (0.58, 1.54)
Dauchet	2004	France, Northern Ireland	PRIME Study	Men	50-59	8,087	249	FFQ	Total coronary events (combined acute coronary events and angina)	Questionnaire; medical committee; death certificates	Fruits	Centre, age, smoking, alcohol consumption, PA, education level, employment status, SBP, total cholesterol, HDL-cholesterol, BMI, treatment for hypertension, diabetes or dyslipidaemia	5	Frequency/d ≤0.57 0.64-1.14 ≥1.29	RR 1.00 0.83 (0.60, 1.14) 0.90 (0.66, 1.24)
del Gobbo	2015	USA	Cardiov	Both	≥65	4,490	1,380	FFQ,	HF	Medical	Fruits	Age, sex, race,	21.5	Quintiles of	RR

			ascular Health Study					validated		records, diagnostic tests, clinical consultations, and interviews		enrolment site, education, annual income, total kcal expended, walking pace, smoking, alcohol intake, BMI, prevalent treated hypertension, prevalent diabetes mellitus, prevalent CHD, polyunsaturated fat to saturated fat ratio		intake Q1 Q2 Q3 Q4 Q5	1.00 0.80 (0.67, 0.95) 1.02 (0.86, 1.20) 1.07 (0.90, 1.26) 0.92 (0.77, 1.09)
Du	2016	China	China Kadoori e Biobank Study	Both	30-79	45,1665	2,551	FFQ and questionnaire on amount	Major coronary events (nonfatal and fatal)	Disease Surveillance Points vital-status data sets checked annually against local residential records and health insurance records, confirmed with street committees or village admi-nistrators; linkages with disease registries and NHI claims databases	Fruits, fresh	Educational level, income, alcohol consumption, smoking status, PA, survey season, and consumption of dairy products, meat, and preserved vegetables and were stratified according to age at risk, sex, and region	7	d/wk 0 >0<1 1-3 4-6 7	HR 1.00 0.83 (0.73, 0.94) 0.77 (0.67, 0.88) 0.64 (0.52, 0.78) 0.66 (0.55, 0.79)
Du	2016	China	China Kad-oorie Biobank Study	Both	30-79	451,665	14,57 9 / 3,523	FFQ and questionnaire on amount	Ischemic stroke / Haemorrhagic stroke	Disease Surveillance Points vital-status data sets checked annually against local residential records and health	Fruits, fresh	Educational level, income, alcohol consumption, smoking status, PA, survey season, and consumption of dairy products, meat, and preserved vegetables and were stratified according to age at risk,	7	d/wk 0 >0<1 1-3 4-6 7	HR 1.00 0.90 (0.85, 0.95)/ 0.86 (0.77, 0.97) 0.83 (0.79, 0.88)/ 0.81 (0.72, 0.92) 0.79 (0.73, 0.86)/ 0.64 (0.54, 0.76) 0.75 (0.70, 0.81) / 0.64 (0.54, 0.76)

										insurance records, confirmed with street committees or village administrators; linkages with disease registries and NHI claims databases		sex, and region			
Fraser	1992	USA	Adventist Health Study	Both	≥ 25	26,743	134	SFFQ	Definite MI (nonfatal)	Self-reported/questionnaire, medical records review	Fruit index	Stratified on age, sex, smoking, exercise, relative weight, and high blood pressure	6	Frequency of use <1 1-2 >2	 1.00 1.10 (0.57, 2.61) 1.07 (0.58, 1.96)
Gillman	1995	USA	The Framingham Study	Men	45-65	832	97	24-hour recall	Stroke	Recording at follow-up visit; surveillance of hospital admissions records and communication with family physicians and relatives	Fruits	SBP, serum cholesterol, cigarette smoking, glucose intolerance, BMI, PA index, left ventricular hypertrophy, EI, and consumption of ethanol and fat	20	for each increment of 3 servings/d	RR 0.81 (0.56, 1.17)
Hansen	2010	Denmark	Danish Diet, Cancer and Health cohort study	Men / Women	50-64	25,065 / 28,318	820 / 255	SFFQ, validated	Acute coronary syndrome (ACS)	Linkage of the Central Population Registry number of each participant to the National Patient Registry and the Cause of Death Registry, review of medical records	Fruit	BMI, length of school education, smoking, alcohol intake, alcohol abstainers and physical, intake of saturated fats and whole grains, total cholesterol and SBP	7.7	g/d <50 >50≤112 >112≤188 >188 / <95 >95≤168 >168≤272 >272	IRR 1.00 0.98 (0.81, 1.18) 0.89 (0.73, 1.09) 0.93 (0.75, 1.14) 1.00 0.94 (0.67, 1.32) 0.92 (0.65, 1.30) 0.80 (0.54, 1.17)

Author	Year	Country	Study	Age	Sex	N	Cases	Dietary assessment	Outcome	Outcome ascertainment	Exposure	Adjustments	Follow-up	Exposure (units)	Risk estimate
Hansen	2017	Denmark	Danish Diet, Cancer and Health cohort	50-64	Both	55,338	2,283	SFFQ, validated	Stroke (nonfatal and fatal) /ischemic stroke / hemorrhagic stroke	Danish National Patient Register, verified by review of records	Apples and pears	total EI, alcohol intake, PA, smoking, education, BMI-adjusted waist circumference, atrial fibrillation, hypertension, hypercholesterolemia and diabetes	13.5	g/d (m/w) <56/71 ≥56/71	HR 1.00 0.91 (0.84, 1.00) / 0.91 (0.82, 1.00) / 0.95 (0.77, 1.18)
Hirvonen	2001	Finland	ATBC	Men, smokers	50-69	25,372	1,122	Modified diet history questionnaire, self-administered, validated	MI (nonfatal)	Hospital Discharge Register	Fruits	Age, supplementation group, systolic and diastolic blood pressure, serum total cholesterol, serum HDL-cholesterol, BMI, smoking years, number of cigarettes smoked daily, histories of diabetes mellitus and coronary heart disease, marital status, education, and leisure-time PA	6.1	g/d <25 25-53 54-88 89-136 >136	RR 1.00 0.97 (0.80, 1.16) 0.91 (0.75, 1.09) 0.89 (0.74, 1.08) 0.87 (0.72, 1.05)
Johnsen	2003	Denmark	Danish Diet, Cancer, and Health study	Both	50-64	53,035	266	SFFQ, validated	Ischaemic stroke	Danish National Registry of Patients	Fruits	Sex, total EI, smoking status, SBP, diastolic blood pressure, total serum cholesterol, history of diabetes, BMI, alcohol intake, intake of red meat, intake of n - 3 PUFA, PA, and education	3.09	g/d 41 107 167 249 423	RR 1.00 0.92 (0.65, 1.32) 1.04 (0.72, 1.49) 0.72 (0.48, 1.10) 0.60 (0.38, 0.95)
Joshipura	1999	USA	NHS	Women	34-59	75,596	366	SFFQ, validated	Ischaemic stroke	Self-reported/ questionnaire; medical records	Fruits	Age, smoking, alcohol, family history of MI, BMI, vitamin supplement use, vitamin E use, PA, aspirin use, 7 time periods for women, hypertension and hypercholesterolemia, total EI, postmenopausal hormone use	14	Servings/d 0.9 NA 2.3 NA 4.5	RR 1.00 0.88 (0.65, 1.20) 0.82 (0.60, 1.13) 0.66 (0.47, 0.93) 0.69 (0.49, 0.98)
Joshipura	1999	USA	HPFS	Men	40-75	38,683	204	SFFQ, validated	Ischaemic stroke	Self-reported/questionnaire; medical	Fruits	Age, smoking, alcohol, family history of MI, BMI, vitamin supplement use, vitamin E	8	Servings/d 0.90 NA 0.83	RR 1.00 0.78 (0.50, 1.22) 0.84 (0.54, 1.31)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet method	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Intake	Risk
										records		use, PA, aspirin use, 4 time periods for men, hypertension and hyper-cholesterolemia, total EI		NA 0.79	0.87 (0.56, 1.34) 0.68 (0.42, 1.10)
Keli	1996	Netherlands	Zutphen Study	Men	50-69	552	42	Dietary history method, validated	Stroke (nonfatal and fatal)	Questionnaires; diagnoses confirmed in letters from a neurologist or internist	Solid fruit	Age, average SBP, serum cholesterol, EI, lifetime cigarette smoking exposure until 1970, fish consumption in 1970, and alcohol consumption habits from 1960 to 1970	15	g/d <41 41-99.7 >99.8	RR 1.00 0.83 (0.41, 1.66) 0.52 (0.21, 1.31)
											Citrus fruits			g/d <28 28-91.6 >91.7	RR 1.00 0.91 (0.44, 1.89) 0.93 (0.39, 2.22)
Kobylecki	2015	Denmark	Copen-hagen General Populat-ion Study (CGPS)	Both	20–100	87,030	2,823	FFQ	IHD	Danish Patient Registry	Fruits	Age, sex, smoking, alcohol intake, BMI, income, use of vitamin supplementation, PA at work and in leisure time, and C-reactive protein, possible mediators and SBP. LDL cholesterol, TG, HDL-cholesterol, FEV1 in % of predicted and FEV1/FVC	2003-2013	Times/d 0 <1 1 ≥2	HR 1.00 0.90 (0.78, 1.03) 0.79 (0.69, 0.91) 0.87 (0.76, 1.00)
Larsson	2009	Finland	ATBC	Men, smokers	50-69	26,556	702 / 383 / 196	FFQ, validated self-administered	Cerebral infarctions / Intracerebral haemorrhagic / Subarachnoid haemorrhagic	Record linkage with the National Hospital Discharge Register and the National Register of Causes of Death	Fruits	Age, supplementation group, number of cigarettes smoked daily, BMI, systolic and diastolic blood pressures, serum total cholesterol, serum HDL, cholesterol, histories of diabetes and coronary heart disease, leisure-time PA, and intakes of alcohol and total energy, intakes of folate and magnesium	13.6	g/d 11.6 40.7 74.0 113.5 192.9	RR 1.00 0.90 (0.80, 1.02) / 1.14 (0.84, 1.55) / 0.64 (0.40, 1.04) 0.91 (0.81, 1.02) / 1.04 (0.75, 1.43) / 0.98 (0.63, 1.50) 0.85 (0.76, 0.96) / 1.14 (0.83, 1.57) / 0.98 (0.64, 1.51) 0.82 (0.73, 0.93) / 0.84 (0.59, 1.20) / 0.80 (0.51, 1.26)
Larsson	2013	Sweden	Swedish Mammography Cohort	Both	45-83	74,961	4,089 / 3,159 / 435 /	FFQ, validated	Stroke (nonfatal and fatal) / Cerebral	Swedish Hospital Discharge Registry,	Fruits	Age, sex, smoking status and pack-years of smoking, education, BMI, total PA, aspirin	10.2	Servings/d 0.4 0.9	RR 1.00 0.94 (0.85, 1.04) / 0.91 (0.81, 1.02) /

Author	Year	Country	Study	Sex	Age	N	Cases	Diet	Outcome	Ascertainment	Exposure	Adjustments	FU	Categories	Risk estimate
			Cohort of Swedish Men				148			infarction / Intracerebral Haemorrhagic / Subarachnoid haemorrhagic	Swedish Death Register		use, history of hypertension, diabetes, family history of MI, and intakes of total energy, alcohol, coffee, fresh red meat, processed meat, and fish		1.2 1.8 3.1	1.11 (0.83, 1.47) / 0.77 (0.47, 1.29) 0.95 (0.86, 1.05) / 0.98 (0.88, 1.10) / 0.90 (0.66, 1.23) / 0.63 (0.37, 1.05) 0.92 (0.83, 1.01) / 0.96 (0.86, 1.08) / 1.00 (0.74, 1.34) / 0.43 (0.24, 0.76) 0.87 (0.78, 0.97) / 0.91 (0.80, 1.03) / 0.67 (0.47, 0.96) / 0.73 (0.43, 1.25)
Lin	2013	China	Cardio-Vascular Disease risk FACtor Two-township Study (CVDFACTS)	Both	45,8± 14,2	2,061	123 / 97	FFQ	Stroke (nonfatal and fatal) / Ischemic stroke	Self-reported and cross-confirmed by medical records or death certificate. After 1996: death certificate data, insurance claim records of the NHI database, self-reported disease history collected in medical records	Fruits	Sex, baseline age, urinary sodium/creatinine, smoking status, drinking status, PA, BMI, SBP change, DBP change, and hypertension medication	12	Servings of intake Tertile1 Tertile 2 Tertile 3	HR 1.00 1.10 (0.72, 1.70) / 1.01 (0.63, 1.65) 0.90 (0.58, 1.42) / 0.79 (0.48, 1.31)
Liu	2000	USA	Women's Health Study	Women	45-75	39,876	126	SFFQ, validated	MI	Self-reported/ questionnaire; confirmed through physicians; medical records, autopsy reports, and death certificates	Fruits	Age, BMI, smoking, alcohol, postmenopausal status, postmenopausal hormone use, multivitamin use, vitamin C supplement use, history of diabetes, hypertension, high cholesterol, parental	5	Servings/d 0.6 1.3 1.9 2.6 3.9	RR 1.00 0.76 (0.44, 1.34) 0.58 (0.32, 1.09) 0.82 (0.46, 1.47) 0.66 (0.36, 1.22)

										history of MI				
Mizrahi	2009	Finland	Finnish Mobile Clinic Health Examin ation Survey	Both	40-74	3932	625 / 342 / 64	1-year dietary history interview	Cerebrovascul ar disease (nonfatal and fatal) / Ischaemic stroke / Intracerebral haemorrhage	Finnish Hospital Discharge Register; Statistics Finland	Fruits and berries	Age, sex, BMI, smoking, PA, serum cholesterol level, blood pressure and EI	24	g/d (m/w) 0-47/0-81 48-101/ 82-151 102-174/ 152-238 175-1094/ 239-1325	RR 1.00 0.79 (0.64, 0.98) / 0.77 (0.57, 1.03)/ 0.43 (0.22, 086) 0.77 (0.61, 0.96)/ 0.70 (0.52, 0.96)/ 0.40 (0.19, 0.82) 0.81 (0.64, 1.02) / 0.84 (0.62, 1.14) / 0.55 (0.28, 1.08)
Neelakan-tan	2016	China	Singapo re Chinese Health Study nested case-control study	Both	45-75	1,443	751	SFFQ	AMI (nonfatal and fatal)	Electronic record linka-ges of the SCHS cohort database with a centralized, population-based Singa-pore MI Registry or a nationwide hospital discharge database	Fruits	Age, sex, dialect group, year of interview, and year blood was drawn, age at interview, total EI, education, smoking, PA, BMI, history of diabetes and/or hypertension	NA	Per 2 point increment	0.94 (0.86, 1.03)
Oude Griep	2012	Netherlan ds	MORG EN Study	Both	20-65	20,069	245	FFQ, validated	CHD (nonfatal and fatal)	Municipal population Register; Statistics Netherlands; hospital discharge register	Fruits	Age, sex, EI, alcohol intake, smoking status, educational level, dietary supplement use, use of HRT, family history of acute MI, BMI, intakes of wholegrain foods, processed meat and fish and quantity of fruit and vegetable consumption	10	g/d 67±60 144±101 248±131	HR 1.00 0.81 (0.58, 1.13) 0.80 (0.50, 1.29)
Oude Griep	2012	Netherlan ds	MORG EN Study	Both	20-65	20,069	233	FFQ, validated	Stroke (nonfatal and fatal)	Municipal population Register; Statistics Netherlands; hospital	Fruits	Age, sex, EI, alcohol intake, smoking status, educational level, dietary supplement use, use of HRT, family history of acute MI,	10	g/d 67±60 144±101 248±131	HR 1.00 0.94 (0.67, 1.33) 0.99 (0.62, 1.58)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet method	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Intake	RR/HR (95% CI)
										discharge register		BMI, intakes of wholegrain foods, processed meat and fish and quantity of fruit and vegetable consumption			
Rautiai-nen	2015	Sweden	Swedish Mammography Cohort	Wo-men	49-83	34,319	3,051	FFQ, validated	HF	Linkage via the national registration number to the National Patient Registry and the Cause of Death Registry	Fruits	Age, education, smoking, BMI, PA, hypertension, diabetes, family history of MI, alcohol consumption, EI, dietary supplement use, and consumption of meat, fish, and whole grains	12.9	Servings/d ≤0.6 1.2 1.7 2.4 3.8	RR 1.00 0.96 (0.86, 1.07) 0.93 (0.83, 1.04) 0.92 (0.82, 1.03) 0.94 (0.83, 1.07)
Sonested	2015	Sweden	Malmö Diet and Cancer Study cohort	Both	44-74	26,445	1,344	Modified diet history method, FFQ, validated	Coronary event (nonfatal or fatal MI or death due to IHD)	Linkage with Swedish Hospital Discharge Registry and Cause-of-death Registry	Fruits and berries	Age, sex, season, diet method version, EI, BMI, smoking, alcohol consumption, leisure-time PA, and education.	14	g/d 53 120 173 242 387	HR 1.00 1.06 (0.92, 1.22) 1.09 (0.94, 1.26) 0.91 (0.78, 1.07) 1.00 (0.85, 1.18)
Sonested	2015	Sweden	Malmö Diet and Cancer Study cohort	Both	44-74	26,445	1,176	Modified diet history method, FFQ, validated	Stroke (nonfatal and fatal)	Linkage with Swedish Hospital Discharge Registry and Cause-of-death Registry	Fruits and berries	Age, sex, season, diet method version, EI, BMI, smoking, alcohol consumption, leisure-time PA, and education.	14	g/d 53 120 173 242 387	HR 1.00 0.97 (0.81, 1.15) 1.00 (0.84, 1.19) 0.94 (0.78, 1.13) 0.96 (0.79, 1.16)
Tognon	2014	Denmark	1982–83 Danish MON-ICA	Both	30-60	1,849	161	7 d food record, validated	MI (nonfatal and fatal)	National Patient Registry of Hospital Discharges, the Cause of Death Register and the Central Person Register	Fruits	Sex, BMI, education, PA and cigarette smoking	11	g/d <109.8 >109.8	HR 1.00 1.01 (0.73, 1.38)
Tognon	2014	Denmark	1982–83 Danish MONICA	Both	30-60	1,849	167	7 d food record, validated	Stroke (nonfatal and fatal)	National Patient Registry of Hospital Discharges, the	Fruits	Sex, BMI, education, PA and cigarette smoking	11	g/d <109.8 >109.8	HR 1.00 0.87 (0.64, 1.18)

										Cause of Death Register and the Central Person Register					
Yamada	2011	Japan	The Jichi Medical School Cohort Study	Men / Wo-men	~55	4,147 / 6,476	201 /182	FFQ, validated	Stroke (all)	Self-reported, death certificate	Citrus fruits	Age, study area, BMI, SBP, total cholesterol concentration, PA index, smoking status, alcohol consumption, education level, and marital status	10.7	Times/wk infrequent 0.25-0.5 1-2 3-4 ~7	HR 1.00 0.61 (0.39, 0.96) / 0.84 (0.47, 1.49) 0.68 (0.45, 1.03) / 0.67 (0.39, 1.14) 0.57 (0.35, 0.92) / 0.73 (0.42, 1.25) 0.40 (0.20, 0.81) / 0.47 (0.26, 0.87)
Yamada	2011	Japan	The Jichi Medical School Cohort Study	Men / Wo-men	~55	4,147 / 6,476	146 / 103	FFQ, validated	Cerebral infarction	Self-reported, death certificate	Citrus fruits	Age, study area, BMI, SBP, total cholesterol concentration, PA index, smoking status, alcohol consumption, education level, and marital status	10.7	Times/wk infrequent 0.25-0.5 1-2 3-4 ~7	HR 1.00 0.65 (0.38, 1.11) / 1.04 (0.47, 2.33) 0.73 (0.45, 1.18) / 0.80 (0.37, 1.73) 0.62 (0.35, 1.08)/ 1.02 (0.48, 2.20) 0.28 (0.11, 0.72) / 0.39 (0.15, 1.00)
Yamada	2011	Japan	The Jichi Medical School Cohort Study	Men / Wo-men	~55	4,147 / 6,476	64 / 78	FFQ, validated	Haemorrhagic stroke	Self-reported, death certificate	Citrus fruits	Age, study area, BMI, SBP, total cholesterol concentration, PA index, smoking status, alcohol consumption, education level, and marital status	10.7	Times/wk infrequent 0.25-0.5 1-2 3-4 ~7	HR 1.00 0.52 (0.22, 1.25) / 0.66 (0.29, 1.52) 0.57 (0.26, 1.25) / 0.53 (0.25, 1.13) 0.45 (0.17, 1.20) / 0.49 (0.22, 1.08) 0.71 (0.24, 2.11) / 0.55 (0.24, 1.23)
Yamada	2011	Japan	The Jichi Medical School Cohort Study	Men / Wo-men	~55	4,147 / 6,476	53 / 23	FFQ, validated	MI	Self-reported, death certificate	Citrus fruits	Age, study area, BMI, SBP, total cholesterol concentration, PA index, smoking status, alcohol consumption, education level, and marital status	10.7	Times/wk infrequent 0.25-0.5 1-2 3-4	HR 1.00 0.60 (0.25, 1.49) / 0.83 (0.14, 4.98) 0.62 (0.27, 1.43) / 1.47 (0.32, 6.84) 0.75 (0.30, 1.86) / 0.84 (0.16, 4.46)

														~7	0.99 (0.34, 2.80) / 0.67 (0.11, 4.15)
Yoko-yama	2000	Japan	NA	Men / Wo-men	≥40	880 / 1,241	91 / 105	SFFQ	Stroke	Annual follow-up examinations and registry	Fruits	(Sex), age, MBP, TC, BMI, presence of atrial fibrillation, use of antihypertensive medication, personal history of IHD, PA, smoking, and alcohol drinking	20	d/wk 0-2 3-5 6-7	HR 1.00 0.68 (0.38, 1.22)/ 0.88 (0.49, 1.58) 1.14 (0.69, 1.91) / 0.70 (0.40, 1.20)
							58 / 51		Cerebral infarction					d/wk 0-2 3-5 6-7	HR 1.00 0.63 (0.31, 1.28)/ 0.78 (0.35, 1.70) 0.98 (0.52, 1.86) / 0.51 (0.24, 1.10)
							18 / 36		Haemorrhagic stroke					d/wk 0-2 3-5 6-7	HR 1.00 0.15 (0.02, 1.28)/ 0.72 (0.27, 1.94) 1.53 (0.55, 4.27)/ 0.71 (0.28, 1.76)
Yu	2014	China	Shang-hai Wo-men's Health Study	Wo-men	40-70	67,211	148	FFQ, validated	Coronary events (nonfatal MI or fatal CHD)	Biennial home visits, further confirmed by medical record review	Fruits	Stratified by birth cohort (5-year interval) and adjusted for baseline age, BMI, income, education, smoking, alcohol consumption, PA, use of aspirin and vitamin E and multivitamin supplements, menopause and HRT, total energy, and red meat and fish/shellfish intake, history of diabetes, hypertension or dyslipidaemia	9.8	g/d 83 188 287 449	HR 1.00 0.87 (0·57, 1.33) 0.87 (0.56, 1.36) 0.77 (0.45, 1.31)
Yu	2014	China	Shang-hai Men's Health Study	Men	40-74	55,474	217	FFQ, validated	Coronary events (nonfatal MI or fatal CHD)	Biennial home visits, further confirmed by medical record review	Fruits	Stratified by birth cohort (5-year interval) and adjusted for baseline age, BMI, income, education, smoking, alcohol consumption, PA, use	5.4	g/d 23 90 162 285	HR 1.00 1.01 (0.69, 1.47) 0.93 (0.62, 1.38) 0.96 (0.63, 1.44)

												of aspirin and vitamin E and multivitamin supplements, total energy, and red meat and fish/shellfish intake, history of diabetes, hypertension or dyslipidaemia			
Zhang	2011	Finland	NA	Both	25-74	36,686	1,478 / 1,168 / 311	Self-administered questionnaire	Stroke (nonfatal and fatal) / Ischemic stroke / Haemorrhagic stroke	National Hospital Discharge Register, Statistics Finland	Fruits	Age, study year, sex, smoking, PA, vegetable consumption, fruit consumption, education, alcohol consumption, family history of stroke, history of diabetes mellitus, BMI, SBP, and total cholesterol level, other than the variable in the analytic model	13.7	times/wk <1 1-2 3-6 ≥7	HR 1.00 0.93 (0.79, 1.11)/ 0.90 (0.74, 1.08)/ 1.07 (0.73, 1.58) 0.95 (0.80, 1.14)/ 0.89 (0.73, 1.09)/ 1.21 (0.81, 1.81) 0.99 (0.82, 1.20) / 0.99 (0.80, 1.22) / 1.04 (0.67, 1.59)

Supplemental Table 5: General study characteristics of the included studies investigating the association between fruit intake and risk of coronary heart disease, stroke, and heart failure

Author	Year	Country	Cohort name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of nuts	Adjustment factors	Follow up years	Consumption frequency or amount	RR/HR/OR (95% confidence intervals)
Albert	2002	USA	PHS	Men	40-84	21,454	1,037	FFQ	MI (nonfatal)	Self-reported/questionnaire; deaths were generally reported by postal authorities or next of kin; medical records	Nuts	Age, aspirin and beta carotene treatment assignment, evidence of CVD before 12-month questionnaire, BMI, Smoking, history of diabetes, of hypertension, of hyper-cholesterolemia, alcohol, vigorous exercise, vitamin E, Vitamin C, multi-vitamin use at baseline, fish consumption, red meat, fruit and vegetable, dairy intake	17	Frequency <1/month 1-3/month 1/wk ≥2/wk	RR 1.00 1.22 (1.00, 1.51) 1.20 (0.96, 1.50) 1.04 (0.82, 1.33)
Bernstein	2012	USA	HPFS	Men	40-75	43,150	1,397 / 829 / 218	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medical records/interview or letter; medical or autopsy record/death certificate	Nuts	Age and time period, BMI, cigarette smoking, PA, parental history of early MI (before age 60), multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	22	Servings/d 0.00 0.07 0.14 0.25 0.60	RR 1.00 0.94 (0.79, 1.12) / 1.04 (0.83,1.31) / 0.76 (0.45,1.28) 0.95 (0.80, 1.13) / 1.02 (0.81,1.28) / 0.84 (0.50,1.41) 1.01 (0.86, 1.20) / 1.06 (0.85,1.32) / 0.93 (0.57,1.52) 0.92 (0.77, 1.09) / 0.97 (0.77,1.22) / 0.79 (0.47,1.31)
Bernstein	2012	USA	NHS	Women	30-55	84,010	2,633 / 1383 / 475	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medical records/interview or letter; medical or autopsy record/death certificate	Nuts	Age and time period, BMI, cigarette smoking, PA, parental history of early MI (before age 60), menopausal status, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total	26	Servings/d 0.00 0.04 0.07 0.12	RR 1.00 0.94 (0.83, 1.06) / 0.92 (0.77,1.10) / 1.24 (0.84,1.85) 0.91 (0.80, 1.04) / 0.98 (0.81,1.18) / 0.78 (0.49,1.22) 0.97 (0.85, 1.10) /

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Outcome assessment	Exposure	Adjustments	Follow-up	Intake category	RR (95% CI)
												energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources		0.34	1.01 (0.84,1.21) / 0.80 (0.51,1.27) 0.86 (0.75, 0.98) / 0.96 (0.80,1.16) / 0.86 (0.55,1.35)
Bernstein	2010	USA	NHS	Women	30-55	84,136	3,162	FFQ, validated	CHD (nonfatal and fatal)	Medical records; state vital records and the National Death Index or were reported by next of kin or the postal system	Nuts	Age, time period, total energy, cereal fiber alcohol, trans-fat, BMI, cigarette smoking, menopausal status , parental history of early MI (before age 65 for mother or age 55 for father), multivitamin use, vitamin E supplement use, aspirin use at least once per week, physical exercise	26	Servings/d 0.00 0.04 0.07 0.12 0.40	RR 1.00 0.73 (0.65, 0.82) 0.91 (0.82, 1.00) 0.76 (0.67, 0.84) 0.68 (0.60, 0.76)
del Gobbo	2015	USA	Cardiovascular Health Study	Both	≥65	4,490	1,380	FFQ, validated	HF	Medical records, diagnostic tests, clinical consultations, and interviews	Nuts/ seeds	Age, sex, race, enrolment site, education, annual income, total kcal expended, walking pace, smoking, alcohol intake, BMI, prevalent treated hypertension, prevalent diabetes mellitus, prevalent CHD, polyunsaturated fat to saturated fat ratio	21.5	Quintiles of intake Q1 Q2 Q3 Q4 Q5	RR 1.00 0.87 (0.74, 1.03) 0.87 (0.73, 1.03) 0.91 (0.77, 1.07) 0.88 (0.74, 1.04)
Djousse	2008	USA	PHS	Men	40.7-87.1	20,976	1,093	FFQ (validated in other cohorts)	HF	Self-reported/questionnaire	Nuts	Age, BMI, smoking, valvular heart disease, atrial fibrillation, history of diabetes, hypertension, coronary heart disease, aspirin arm, multivitamin use, history of hyper-cholesterolemia, alcohol consumption, fruit and vegetable consumption, exercise	19.6	Servings/wk 0 <1 1 ≥2	RR 1.00 0.98 (0.83, 1.15) 1.06 (0.89, 1.27) 1.01 (0.84, 1.22)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Exposure	Adjustments		Category	Risk estimate
Djoussé	2010	USA	PHS	Men	40.7-86.7	21,078	1,424 / 1,189 / 219	SFFQ, validated	Stroke (nonfatal and fatal) / Ischemic stroke / Haemorrhagic stroke	Self-reported/questionnaire; medical records; autopsy reports, death certificates, information from the next of kin or family members	Nuts	Age, aspirin assignment, BMI, alcohol consumption, smoking, fruit and vegetable intake, regular exercise, breakfast cereal, red meat, fish, dairy consumption, and prevalent hypertension, diabetes, atrial fibrillation, CHD	21.1	Times/wk 0 <1 1 2-4 5-6 ≥7	RR 1.00 0.91 (0.79, 1.05) / 0.86 (0.74, 1.01) / 1.13 (0.78, 1.62) 0.95 (0.81, 1.11) / 0.94 (0.79, 1.11) / 1.05 (0.70, 1.58) 0.90 (0.75, 1.08) / 0.97 (0.80, 1.18) / 0.49 (0.27, 0.89) 1.11 (0.85, 1.46) / 1.06 (0.79, 1.43) / 1.50 (0.79, 2.84) 1.07 (0.79, 1.46) / 0.93 (0.65, 1.34) / 1.84 (0.95, 3.57)
Fraser	1992	USA	Adventist Health Study	Both	≥ 25	26,743	134	SFFQ	Definite MI (nonfatal)	Self-reported/questionnaire, medical records review	Nuts	Stratified on age, sex, smoking, exercise, relative weight, and high blood pressure	6	Times/wk <1 1-4 ≥5	RR 1.00 0.74 (0.49, 1.11) 0.52 (0.30, 0.87)
di Giuseppe	2015	Germany	EPIC-Potsdam	Both	~50	26,285	288 / 235	SFFQ, validated	Stroke / Ischemic stroke	General follow-up and stroke-specific questionnaires, systematic medical verification of self-reports and death certificates by clinical records	Nuts	Age, sex, BMI, waist circumference, prevalent hypertension, hyperlipidaemia, diabetes, smoking status, educational attainment and sport activity, intakes in g per day of alcohol, red meat, whole-grain breads, fruit, vegetable, fish, cakes and cookies, confectionary, fried potatoes, other beverages and total energy	8.3	Portions/wk 0 0.5 0.5-1 >1	HR 1.56 (1.17, 2.08) / 1.50 (1.09, 2.07) 1.00 1.06 (0.75, 1.52) / 1.16 (0.79, 1.72) 1.37 (0.92, 2.05) / 1.62 (1.05, 2.49)
Haring	2015	USA	ARIC	Both	45–64	11,601	699 / 598 / 114	FFQ validated, interviewer-administered	Stroke (nonfatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Hospital discharge codes and stroke deaths and physician-adjudicated	Nuts and peanut butter	Age, sex, race, study centre, total EI, smoking, cigarette years, education, SBP, use of antihypertensive medication, HDL-cholesterol, total cholesterol,	22.7	Servings/d 0 0.07 0.21	HR 1.00 0.83 (0.65, 1.05) / 0.75 (0.58, 0.98) / 1.38 (0.78, 2.46) 1.03 (0.81, 1.32) / 1.09 (0.84, 1.42) /

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet assessment	Outcome	Outcome ascertainment	Exposure	Adjustments		Category	Risk estimate
												use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-related PA, carbohydrate intake, fibre intake, fat intake, and magnesium intake		0.43 1.00	0.79 (0.39, 1.57) 1.04 (0.81, 1.33) / 1.00 (0.76, 1.31) / 1.44 (0.78, 2.68) 1.00 (0.77, 1.31) / 1.01 (0.76, 1.34) / 1.17 (0.59, 2.31)
Haring	2014	USA	ARIC	Both	45–64	12,066	1,147	FFQ, interviewer-administered	CHD (nonfatal and fatal)	Information from study visits, yearly telephone follow-up calls, review of hospital discharge lists and medical charts, death certificates, next-of-kin interviews, physician-completed questionnaires	Nuts	Age, sex, race, study centre, total EI, smoking, education, SBP, use of antihyper-tensive medication, HDL-cholesterol, total cholesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-related PA, carbohydrate intake, fibre intake, and magnesium intake	22	Servings/d 0 0.1 0.2 0.4 1.0	HR 1.00 0.89 (0.75, 1.06) 0.86 (0.71, 1.05) 0.83 (0.68, 1.01) 0.91 (0.74, 1.12)
Nettleton	2008	USA	ARIC	Both	45-64	15,143	1,140	SFFQ	HF (hospitalization or death)	County death certificates, local hospital discharge lists	Nuts	EI, age, sex, race/centre, education level, PA, smoking, drinking status, CVD, diabetes, and hypertension	13	Per 1 serving/d	RR 1.09 (0.97, 1.23)
Yaemsiri	2012	USA	WHI-OS	Women	50-79	87,025	1,049	FFQ, validated	Ischaemic stroke (non-fatal and fatal)	Self-report during annual medical history; medical charts, brain imaging, or death certificates	Nuts	Age, race, education, family income, years as a regular smoker, HRT use, total MET-hours per week, alcohol intake, history of CHD, history of atrial fibrillation, history of diabetes, aspirin use, use of anti-hypertensive medication, use of cholesterol-lowering medication, BMI, SBP, total EI, dietary vitamin E, fruits &	7.6	Per 1 medium serving/d	HR 0.89 (0.66, 1.20)

											vegetable intake, fibre			

Supplemental Table 6: General study characteristics of the included studies investigating the association between nut intake and risk of coronary heart disease, stroke, and heart failure

Author	Year	Country	Cohort name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of legumes	Adjustment factors	Follow up years	Consumption frequency or amount	RR/HR/OR (95% confidence intervals)
Bazzano	2001	USA	NHEFS	Both	25-74	9,078	1,802	FFQ	CHD (nonfatal and fatal)	Interview, records, death certificate report	Legumes	Age, sex, race, diabetes, PA, education, alcohol, smoking, total EI, serum cholesterol level, SBP, BMI, SFA, frequency of meat and poultry intake and of fruit and vegetable intake	19	Times/wk <1 1 2-3 ≥4	RR 1.00 0.93 (0.81, 1.07) 0.90 (0.81, 1.01) 0.79 (0.69, 0.91)
Bernstein	2012	USA	HPFS	Men	40-75	43,150	1,397 / 829 / 218	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medical records/interview or letter; medical or autopsy record/death certificate	Legumes	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	22	Servings/d 0.07 0.14 0.21 0.32 0.57	RR 1.00 1.03 (0.86, 1.23) / 0.93 (0.74,1.16) / 0.84 (0.49,1.45) 1.06 (0.89, 1.26) / 0.89 (0.70,1.12) / 1.18 (0.71,1.96) 1.04 (0.87, 1.24) / 1.03 (0.82,1.30) / 0.88 (0.51,1.53) 1.07 (0.89, 1.29) / 1.11 (0.88,1.41) / 1.29 (1.75,2.20)
Bernstein	2012	USA	NHS	Women	30-55	84,010	2,633 / 1383 / 475	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medical records/interview or letter; medical or autopsy record/death certificate	Legumes	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, menopausal status, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	26	Servings/d 0.07 0.14 0.17 0.24 0.43	RR 1.00 0.99 (0.87, 1.13) / 0.98 (0.82,1.18) / 0.80 (0.52,1.24) 1.19 (1.04, 1.36) / 1.14 (0.95,1.37) / 1.31 (0.85,2.01) 1.05 (0.92, 1.19) / 1.04 (0.87,1.25) / 0.96 (0.63,1.47) 1.06 (0.93, 1.22) / 1.16 (0.96,1.40) / 1.07 (0.69,1.66)
Bernstein	2010	USA	NHS	Wo-	30-55	84,136	3,162	FFQ,	CHD	Medical	Beans	Age, time period, total	26	Servings/d	RR

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Units/Category	Risk estimate
				men				validated	(nonfatal and fatal)	records; state vital records and the National Death Index or were reported by next of kin or the postal system		energy, cereal fibre alcohol, trans-fat, BMI, cigarette smoking, menopausal status , parental history of early MI, multivitamin use, vitamin E supplement use, aspirin use at least once per week, physical exercise		0.00 0.02 0.05 0.07 0.14	1.00 0.68 (0.58, 0.81) 0.89 (0.78, 1.00) 0.92 (0.84, 1.01) 0.89 (0.80, 0.99)
Buckland	2009	Spain	EPIC	Men / Wo-men	29-69	15,335 / 25,422	480 / 126	FFQ validated	CHD (nonfatal and fatal)	Self-reported/questionnaire, record linkage	Legumes	Stratified by centre and age and were adjusted for education; PA; BMI; smoking status; diabetes, hypertension, and hyperlipidaemia status; and total calorie intake	10.4	g/1,000 kcal /d 0-16 >16-27 >27-193	HR 1.00 1.07 (0.84, 1.36) / 1.16 (0.76, 1.76) 1.01 (0.80, 1.27) / 0.94 (0.60, 1.46)
Dilis	2012	Greece	EPIC	Men / Wo-men	20-86	9,740 / 14,189	426 / 210	SFFQ, validated	CHD incidence	Self-reported/confirmed through medical records	Legumes	Age, BMI, height, PA, years of schooling, EI, alcohol consumption, smoking, arterial blood pressure, other nutritional variables	10	Per 1 SD increment	HR 0.96 (0.86, 1.07) / 0.83 (0.67, 1·03)
Fraser	1992	USA	Adventist Health Study	Both	≥ 25	26,743	134	SFFQ	Definite MI (nonfatal)	Self-reported/questionnaire, medical records review	Legumes (beans and peas)	Stratified on age, sex, smoking, exercise, relative weight, and high blood pressure	6	Times/wk <1 1-2 ≥3	RR 1.00 0.90 (0.58, 1.40) 1.16 (0.72, 1.85)
Haring	2015	USA	ARIC	Both	45–64	11,601	699 / 598 / 114	FFQ validated, interviewer-administered	Stroke (nonfatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Hospital discharge codes and stroke deaths and physician-adjudicated	Legumes	Age, sex, race, study centre, total EI, smoking, cigarette years, education, SBP, use of antihyper-tensive medication, HDL-cholesterol, total cholesterol, use of lipid lowering	22.7	Servings/d 0.07 0.14 0.21 0.28	HR 1.00 1.07 (0.84, 1.37) / 1.07 (0.82, 1.40) / 1.08 (0.61, 1.92) 1.16 (0.89, 1.51) / 1.15 (0.86, 1.53) / 1.18 (0.63, 2.23) / 1.18 (0.91, 1.53) /

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Exposure	Adjustments		Units	Risk estimate
												medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-related PA, carbo-hydrate intake, fibre intake, fat intake, and magnesium intake		0.57	1.24 (0.94, 1.64) / 0.79 (0.41, 1.52) 1.29 (0.98, 1.70) / 1.33 (0.99, 1.80) / 0.98 (0.50, 1.95)
Haring	2014	USA	ARIC	Both	45–64	12,066	1,147	FFQ, interviewer-administered	CHD (nonfatal and fatal)	Information from study visits, yearly telephone follow-up calls, review of hospital discharge lists and medical charts, death certificates, next-of-kin interviews, and physician-completed questionnaires	Legumes	Age, sex, race, study centre, total EI, smoking, education, SBP, use of antihypertensive medication, HDL-cholesterol, total cholesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-related PA, carbohydrate intake, fibre intake, and magnesium intake	22	Servings/d 0.1 0.1 0.2 0.3 0.6	HR 1.00 1.07 (0.89, 1.27) 1.16 (0.92, 1.46) 1.05 (0.87, 1.27) 1.16 (0.93, 1.44)
Kokubo	2007	Japan	JPHC Study	Men / Wo-men	40-59	40,462	242/ 66	FFQ	MI (nonfatal and fatal)	Medical records, death certificates	Soy	Age; sex; smoking; alcohol use; BMI; history of hyper-tension or diabetes mellitus; medication use for hyper-cholesterolemia; education level; sports; dietary intake of fruits, vegetables, fish, salt, and energy; menopausal status for women; and public health center	13	d/wk 0-2 3-4 ≥5	HR 1.00 1.26 (0.76, 2.07) / 0.63 (0.31, 1.25) 1.23 (0.72, 2.07) / 0.55 (0.26, 1.09)
											Beans			d/wk 0 1-2 ≥3	HR 1.00 0.92 (0.67, 1.26) / 1.10 (0.62, 1.97) 0.98 (0.60, 1.62) / 0.69 (0.26, 1.84)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Food	Adjustments	FU	Exposure	Risk estimate
Kokubo	2007	Japan	JPHC Study	Men / Wo-men	40-59	40,462	387 / 200	FFQ	Cerebral infarction (nonfatal and fatal)	Medical records, death certificates	Soy	Age; sex; smoking; alcohol use; BMI; history of hyper-tension or diabetes mellitus; medication use for hyper-cholesterolemia; education level; sports; dietary intake of fruits, vegetables, fish, salt, and energy; menopausal status for women; and public health center	13	d/wk 0-2 3-4 ≥5	HR 1.00 1.00 (0.80, 1.24) / 0.81 (0.57, 1.16) 0.95 (0.72, 1.26) / 0.64 (0.43, 0.95)
											Beans			d/wk 0 1-2 ≥3	HR 1.00 0.89 (0.71, 1.12) / 0.78 (0.57, 1.06) 1.25 (0.91, 1.71) / 0.68 (0.42, 1.09)
Martínez-González	2011	Spain	The SUN Project	Both	38	13,609	68	SFFQ validated	CHD	Follow-up questionnaire and review of medical records	Legumes	Age, sex, family history of CHD, total EI, PA, smoking, BMI, diabetes at baseline, use of aspirin, history of hypertension and history of hypercholesterolemia	4.9	g/d (m/w) <21/21 ≥21/21	HR 1.00 0.70 (0.43, 1.15)
Misirli	2012	Greece	EPIC	Both	NA	23,601	395	SFFQ, validated	Cerebrovascular disease incidence	Medical records	Legumes	Sex, BMI, age, education, smoking status, PA, diabetes, EI	10.6	Increment 6.5 g/d	HR 0.86 (0.75, 0.99)
Mizrahi	2009	Finland	Finnish Mobile Clinic Health Examination Survey	Both	40-74	3,932	625 / 342 / 64	1-year dietary history interview	Cerebrovascular disease (nonfatal and fatal) / Ischaemic stroke / Intracerebral haemorrhage	Finnish Hospital Discharge Register; Statistics Finland	Legumes	Age, sex, BMI, smoking, PA, serum cholesterol level, blood pressure and EI	24	g/d (m/w) 0-2/0-1 3-5/2-3 6-9/4-6 10-101/ 7-43	RR 1.00 0.89 (0.72, 1.12) / 0.79 (0.59, 1.06)/ 1.34 (0.64, 2.79) 0.81 (0.64, 1.01)/ 0.74 (0.55, 1.00)/ 1.31 (0.62, 2.74) 0.86 (0.69, 1.07) / 0.72 (0.54, 0.96) / 1.44 (0.70, 2.96)
Yu	2014	China	Shang-hai Women's Health Study	Wo-men	40-70	67,211	148	FFQ, validated	Coronary events (nonfatal MI or fatal CHD)	Biennial home visits, further confirmed by medical record review	Legumes	Stratified by birth cohort (5-year interval) and adjusted for baseline age, BMI, income, education,	9.8	g/d 8.5 17.7 28.5 50.7	HR 1.00 0.80 (0.51, 1.26) 0.88 (0.56, 1.36) 0.69 (0.44, 1.09)

												smoking, alcohol consumption, PA, use of aspirin and vitamin E and multivitamin supplements meno-pause and HRT, total energy, and red meat and fish/shellfish intake, history of diabetes, hypertension or dyslipidaemia				
Yu	2014	China	Shang-hai Men's Health Study	Men	40-74	55,474	217	FFQ, validated	Coronary events (nonfatal MI or fatal CHD)	Biennial home visits, further confirmed by medical record review	Legumes	Stratified by birth cohort (5-year interval) and adjusted for baseline age, BMI, income, education, smoking, alcohol consumption, PA, use of aspirin and vitamin E and multivitamin supplements, total energy, and red meat and fish/shellfish intake, history of diabetes, hypertension or dyslipidaemia	5.4		g/d 10.8 22.8 35.8 62.8	HR 1.00 0.78 (0.53, 1.15) 1.00 (0.70, 1.44) 0.94 (0.65, 1.37)

Supplemental Table 7: General study characteristics of the included studies investigating the association between legume intake and risk of coronary heart disease, stroke, and heart failure

Author	Year	Country	Cohort name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of eggs	Adjustment factors	Follow up years	Consumption frequency or amount	RR/HR/OR (95% confidence intervals)
Bernstein	2012	USA	HPFS	Men	40-75	43,150	1,397 / 829 / 218	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medical records/interview or letter; medical or autopsy record/death certificate	Eggs	Age and time period, BMI, cigarette smoking, PA, parental history of early MI (before age 60), multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	22	Servings/d 0.02 0.07 0.17 0.43 0.79	RR 1.00 0.80 (0.66, 0.97) / 0.74 (0.58,0.93) / 1.39 (0.76,2.55) 0.88 (0.73, 1.05) / 0.75 (0.59,0.94) / 2.05 (1.15,3.62) 0.80 (0.66, 0.96) / 0.67 (0.53,0.85) / 1.55 (0.86,2.79) 0.84 (0.68, 1.04) / 0.79 (0.61,1.04) / 0.53 (0.22,1.25)
Bernstein	2012	USA	NHS	Women	30-55	84,010	2,633 / 1383 / 475	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medical records/interview or letter; medical or autopsy record/death certificate	Eggs	Age and time period, BMI, cigarette smoking, PA, parental history of early MI (before age 60), menopausal status, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	26	Servings/d 0.07 0.18 0.31 0.43 0.67	RR 1.00 0.90 (0.80, 1.01) / 0.89 (0.75,1.04) / 0.98 (0.67,1.45) 0.94 (0.83, 1.05) / 0.92 (0.78,1.08) / 1.17 (0.79,1.73) 0.86 (0.76, 0.99) / 0.90 (0.74,1.08) / 0.98 (0.63,1.52) 0.91 (0.80, 1.04) / 0.95 (0.79,1.14) / 0.76 (0.47,1.23)
Bernstein	2010	USA	NHS	Women	30-55	84,136	3,162	FFQ, validated	CHD (nonfatal and fatal)	Medical records; state vital records and the National Death Index or were reported by next of kin or the postal system	Eggs	Age, time period, total energy, cereal fiber alcohol, trans-fat, BMI, cigarette smoking, menopausal status , parental history of early MI (before age 65 for mother or age 55 for father), multivitamin use, vitamin E supple-	26	Servings/d 0.07 0.15 0.33 0.43 0.79	RR 1.00 0.96 (0.85, 1.07) 0.83 (0.72, 0.96) 1.11 (1.00, 1.23) 0.96 (0.85, 1.09)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet	Outcome	Ascertainment	Exposure	Adjustments	FU	Category	Risk estimate
												ment use, aspirin use at least once per week, physical exercise			
Burke	2007	Australia	NA	Both	15–88	514	130	FFQ	CHD (non-fatal and fatal)	Hospital separation records and death records	Eggs	Age, sex, mean arterial pressure, total cholesterol, waist girth, smoking, alcohol drinking, PA	14	>8/mo	HR 2.59 (1.11, 6.04)
Dilis	2012	Greece	EPIC	Men / Wo-men	20-86	9,740 / 14,189	426 / 210	SFFQ, validated	CHD incidence	Self-reported/ confirmed through medical records	Eggs	Age, BMI, height, PA, years of schooling, EI, alcohol consumption, smoking, arterial blood pressure, other nutritional variables	10	Per 1 SD increment	HR 1.00 (0.91, 1.11) / 1.02 (0.85, 1.23)
Djoussé	2008	USA	PHS I	Men	40-85	21,275	1,084	SFFQ, validated	HF	Self-reported/ questionnaire	Eggs	Age, BMI, smoking, alcohol consumption, diabetes mellitus, atrial fibrillation, hyperten-sion, PA, valvular heart disease, treatment for cholesterol	20.4	<1/wk 1/wk 2-4/wk 5-6/wk 1/d ≥2/d	RR 1.00 0.93 (0.78, 1.12) 1.03 (0.86, 1.22) 1.01 (0.78, 1.32) 1.28 (1.02, 1.61) 1.64 (1.08, 2.49)
Djoussé	2008	USA	PHS I	Men	40-85	21,327	1,550	SFFQ, validated	MI (nonfatal and fatal)	Self-reported/ questionnaire	Eggs	Age, BMI, smoking, hypertension, vitamin intake, alcohol consumption, vegetable consumption, breakfast cereal, PA, treatment arm atrial fibrillation, diabetes mellitus, hypercholesterolemia, parental history of premature MI	20	<1/wk 1/wk 2-4/wk 5-6/wk ≥7/wk	HR 1.00 1.12 (0.96, 1.31) 1.16 (1.00, 1.36) 1.18 (0.93, 1.49) 0.90 (0.72, 1.14)
Djoussé	2008	USA	PHS I	Men	40-85	21,327	1,342	SFFQ, validated	Stroke (nonfatal and fatal)	Self-reported/ questionnaire	Eggs	Age, BMI, smoking, hypertension, vitamin intake, alcohol consumption, vegetable consumption, breakfast cereal, PA, treatment arm atrial fibrillation, diabetes mellitus, hypercholesterolemia, parental history of premature MI	20	<1/wk 1/wk 2-4/wk 5-6/wk ≥7/wk	HR 1.00 0.96 (0.82, 1.13) 1.06 (0.91, 1.24) 1.13 (0.89, 1.42) 0.99 (0.80, 1.23)

Goldberg	2014	USA	Nor-thern Man-hattan Study	Both	>40	1,429	266	FFQ, validated	Stroke	Detected through ongoing hospital surveillance of admission and discharge data from all area hospitals	Eggs	Age, sex, race/ethnicity, MI, diabetes, hypertension, LDL, HDL, TG, cholesterol lowering medication, moderate alcohol use, moderate-heavy PA, smoking, high-school completion, EI, Mediterranean diet score, family history of stroke in siblings, family history of MI in siblings, consumption of saturated and unsaturated fats, carbohydrates, and protein	11	Frequency 0<1/mo 1/mo 2-3/mo 1/wk ≥2/wk	RR 1.00 0.97 (0.69, 1.37) 0.76 (0.50, 1.14) 0.83 (0.60, 1.16) 1.18 (0.60, 2.30)
Goldberg	2014	USA	Northern Manhattan Study	Both	>40	1,430	226	FFQ, validated	MI	Detected through ongoing hospital surveillance of admission and discharge data from all area hospitals	Eggs	Age, sex, race/ethnicity, MI, diabetes, hypertension, LDL, HDL, TG, cholesterol lowering medication, moderate alcohol use, moderate-heavy PA, smoking, high-school completion, EI, Mediterranean diet score, family history of stroke in siblings, family history of MI in siblings, consumption of saturated and unsaturated fats, carbohydrates, and protein	11	Frequency 0<1/mo 1/mo 2-3/mo 1/wk ≥2/wk	RR 1.00 0.83 (0.57, 1.22) 0.66 (0.40, 1.06) 1.09 (0.77, 1.55) 0.81 (0.34, 1.93)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet assessment	Outcome	Outcome ascertainment	Exposure	Adjustments	FU	Intake	Risk estimate
Haring	2015	USA	ARIC	Both	45–64	11,601	699 / 598 / 114	FFQ validated, interviewer-administered	Stroke (nonfatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Hospital discharge codes and stroke deaths and physician-adjudicated	Eggs	Age, sex, race, study centre, total EI, smoking, cigarette years, education, SBP, use of antihypertensive medication, HDL-cholesterol, total cho-lesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-related PA, carbo-hydrate intake, fiber intake, fat intake, and magnesium intake	22.7	Servings/d 0 0.07 0.14 0.43 1.00	HR 1.00 0.79 (0.60, 1.04) / 0.82 (0.61, 1.09) / 0.72 (0.35, 1.48) 1.05 (0.83, 1.33) / 1.06 (0.82, 1.37) / 0.97 (0.52, 1.79) 1.03 (0.80, 1.32) / 0.97 (0.74, 1.28) / 1.47 (0.80, 2.67) 1.08 (0.84, 1.39) / 1.05 (0.80, 1.38) / 1.41 (0.77, 2.57)
Haring	2014	USA	ARIC	Both	45–64	12,066	1,147	FFQ, interviewer-administered	CHD (nonfatal and fatal)	Information from study visits, yearly telephone follow-up calls, review of hospital discharge lists and medical charts, death certificates, next-of-kin interviews, and physician-completed questionnaires	Eggs	Age, sex, race, study center, total EI, smoking, education, SBP, use of antihypertensive medication, HDL-cholesterol, total cholesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-related PA, carbohydrate intake, fiber intake, and magnesium intake	22	Servings/d 0 0.1 0.1 0.4 1.0	HR 1.00 0.92 (0.76, 1.12) 0.88 (0.73, 1.06) 0.83 (0.69, 0.99) 0.96 (0.77, 1.19)
Hu	1999	USA	HPFS	Men	40-75	37,851	866	FFQ, validated	CHD	Self-reported/ questionnaire/ review of medical records	Eggs	Age, BMI, 2-year time periods, smoking, parental history of MI, multivitamin supple-mentation, vitamin E	8	<1/wk 1/wk 2-4/wk 5-6/wk	RR 1.00 1.06 (0.88, 1.27) 1.12 (0.95, 1.33) 0.90 (0.63, 1.27)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Exposure	Adjustments	Quality	Category	Risk estimate
												supplementation, alcohol consumption, hypertension, PA, EI		≥1/d	1.08 (0.79, 1.48)
Hu	1999	USA	NHS	Wo-men	40-75	80,082	939	FFQ, validated	CHD	Self-reported/ questionnaire/ review of medical records	Eggs	Age, BMI, 2-year time periods, smoking, parental history of MI, multivitamin supple-mentation, vitamin E supplementation, alcohol consumption, hypertension, PA, EI	14	<1/wk 1/wk 2-4/wk 5-6/wk ≥1/d	RR 1.00 0.82 (0.67, 1.00) 0.99 (0.82, 1.18) 0.95 (0.70, 1.29) 0.82 (0.60-1.13)
Larsson	2015	Sweden	Cohort of Swedish Men	Men	~60	37,766	1,628	SFFQ, validated	HF	Linkage with the Swedish National Patient and Cause of Death Registers	Eggs	Age and includes education; family history of MI before 60 y of age; smoking status and pack-years of smoking; aspirin use; walking/bicycling; exercise; BMI; history of hypertension, hypercholesterolemia, and diabetes; and total EI, alcohol, fruit and vegetables, and processed meat. Multivariable RRs for men and women combined are further adjusted for sex through stratification	13	0–3/mo 1–2/wk 3–6/wk ≥1/d	RR 1.00 1.03 (0.93, 1.17) 0.99 (0.84, 1.19) 1.30 (1.01, 1.67)
Larsson	2015	Sweden	Cohort of Swedish Men	Men	~60	37,766	3,262	SFFQ, validated	MI	Linkage with the Swedish National Patient and Cause of Death	Eggs	Stratified by age and includes education; family history of MI before 60 y of age; smoking status and	13	0–3/mo 1–2/wk 3–6/wk ≥1/d	RR 1.00 0.98 (0.90, 1.05) 0.95 (0.84, 1.08) 1.03 (0.84, 1.27)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Exposure	Adjustments		Exposure categories	RR
										Registers		pack-years of smoking; aspirin use; walking/bicycling; exercise; BMI; history of hypertension, hypercholesterolemia, and diabetes; and total EI, alcohol, fruit and vegetables, and processed meat. Multivariable RRs for men and women combined are further adjusted for sex through stratification			
Larsson	2015	Sweden	Cohort of Swedish Men	Men	~60	37,766	2,039 / 405	SFFQ, validated	Ischemic Stroke / Haemorrhagic stroke	Linkage with the Swedish National Patient and Cause of Death Registers	Eggs	Stratified by age and includes education; family history of MI before 60 y of age; smoking status and pack-years of smoking; aspirin use; walking/bicycling; exercise; BMI; history of hypertension, hypercholesterolemia, and diabetes; and total EI, alcohol, fruit and vegetables, and processed meat. Multivariable RRs for men and women combined are further adjusted for sex through stratification	13	0–3/mo 1–2/wk 3–6/wk ≥1/d	RR 1.00 0.91 (0.83, 1.00) / 0.91 (0.73, 1.14) 1.07 (0.92, 1.24) / 1.04 (0.74, 1.45) 0.87 (0.66, 1.14) / 1.05 (0.59, 1.88)

Larsson	2015	Sweden	Swedish Mammography Cohort	Wo-men	~60	32,805	1,207	SFFQ, validated	HF	Linkage with the Swedish National Patient and Cause of Death Registers	Eggs	Stratified by age and includes education; family history of MI before 60 y of age; smoking status and pack-years of smoking; aspirin use; walking/bicycling; exercise; BMI; history of hypertension, hypercholesterolemia, and diabetes; and total EI, alcohol, fruit and vegetables, and processed meat. Multivariable RRs for men and women combined are further adjusted for sex through stratification	13	0–3/mo 1–2/wk 3–6/wk ≥1/d	RR 1.00 0.92 (0.81, 1.04) 0.82 (0.66, 1.01) 1.06 (0.74, 1.52)
Larsson	2015	Sweden	Swedish Mammography Cohort	Wo-men	~60	32,805	1,504	SFFQ, validated	MI	Linkage with the Swedish National Patient and Cause of Death Registers	Eggs	Stratified by age and includes education; family history of MI before 60 y of age; smoking status and pack-years of smoking; aspirin use; walking/bicycling; exercise; BMI; history of hypertension, hypercholesterolemia, and diabetes; and total EI, alcohol, fruit and vegetables, and processed meat. Multivariable RRs for men and women	13	0–3/mo 1–2/wk 3–6/wk ≥1/d	RR 1.00 0.94 (0.84, 1.05) 1.03 (0.86, 1.24) 0.85 (0.59, 1.23)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Category	RR
												combined are further adjusted for sex through stratification			
Larsson	2015	Sweden	Swedish Mammography Cohort	Wo-men	~60	32,805	1,561 / 294	SFFQ, validated	Ischemic Stroke / Haemorrhagic stroke	Linkage with the Swedish National Patient and Cause of Death Registers	Eggs	Stratified by age and includes education; family history of MI before 60 y of age; smoking status and pack-years of smoking; aspirin use; walking/bicycling; exercise; BMI; history of hypertension, hypercholesterolemia, and diabetes; and total EI, alcohol, fruit and vegetables, and processed meat. Multivariable RRs for men and women combined are further adjusted for sex through stratification	13	0–3/mo 1–2/wk 3–6/wk ≥1/d	RR 1.00 1.06 (0.95, 1.19) / 1.06 (0.82, 1.36) 1.07 (0.90, 1.28) / 0.80 (0.52, 1.25) 1.06 (0.76, 1.47) / 0.96 (0.44, 2.12)
Misirli	2012	Greece	EPIC	Both	NA	23,601	395	SFFQ, validated	Cerebrovascular disease incidence	Medical records	Eggs	Sex, BMI, age, education, smoking status, PA, diabetes, EI	10.6	Increment 11 g/d	HR 1.07 (0.98, 1.18)
Nettleton	2008	USA	ARIC	Both	45-64	15,143	1,140	SFFQ	HF (hospitalization or death)	County death certificates, local hospital discharge lists	Eggs	EI, age, sex, race/ centre, education level, PA, smoking, drinking status, CVD, diabetes, and hypertension	13	Per 1 serving/d	RR 1.23 (1.08, 1.41)
Qureshi	2007	USA	NHEFS	Both	25-74	9,734	655	Questionnaire	Stroke total (non-fatal and fatal) / Ischemic stroke	Hospitalization or death	Eggs	Age, sex, race, serum cholesterol, BMI, diabetes mellitus, SBP, education, smoking	15.9	Eggs/wk 0<1 1-6 >6	RR 1.00 0.9 (0.7, 1.0) / 0.8 (0.7, 1.0) 0.9 (0.7, 1.1) / 0.9 (0.7–1.1)

Qureshi	2007	USA	NHEFS	Both	25-74	9,734	1,584	Questionnaire	CAD	Hospitalization or death	Eggs	Age, sex, race, serum cholesterol, BMI, diabetes mellitus, SBP, education, smoking	15.9	Eggs/wk 0<1 1-6 >6	RR 1.00 1.0 (0.9, 1.1) 1.1 (0.9, 1.3)
Virtanen	2016	Finland	Kuopio Ischaemic Heart Disease Risk Factor Study	Men	42-60	1,032	230	Guided 4-d food records	CAD (nonfatal and fatal)	Computer linkage to the national hospital discharge and death certificate registers	Eggs	Age, examination year, and EI, smoking, BMI, diabetes, hypertension, leisure-time PA, coronary artery disease history in close relatives, education, and intakes of alcohol, fruit, berries, vegetables, fiber, PUFAs, and SFAs	20.8	g/d <19 19-36 (26) >36 (52)	HR 1.00 0.96 (0.69, 1.34) 1.18 (0.85, 1.66)
Yaemsiri	2012	USA	WHI-OS	Wo-men	50-79	87,025	1,049	FFQ, validated	Ischaemic stroke (non-fatal and fatal)	Self-report during annual medical history; medical charts, brain imaging, or death certificates	Eggs	Age, race, education, family income, years as a regular smoker, HRT use, total MET-hours per week, alcohol intake, history of CHD, history of atrial fibrillation, history of diabetes, aspirin use, use of antihypertensive medication, use of cholesterol-lowering medication, BMI, SBP, and total EI, dietary vitamin E, fruits and vegetable intake, fiber	7.6	Per 1 medium serving/d	HR 0.86 (0.55, 1.33)

Supplemental Table 8: General study characteristics of the included studies investigating the association between egg intake and risk of coronary heart disease, stroke, and heart failure

Author	Year	Country	Cohort name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of dairy	Adjustment factors	Fol-low up years	Consump-tion frequency or amount	RR/HR/OR (95% confidence intervals)
Avalos	2012	USA	NA	Men / Wo-men	50-93	751 / 1,008	451	FFQ	CHD (nonfatal and fatal)	Standard questionnaires at research clinic visits; death certificates	Whole milk	Age, BMI, diabetes, hypertension, LDL-cholesterol, women: oestrogen use	16.2	Times Never/rarely (0-11/y) Sometimes/ often (1-3/mo-7/wk)	HR 1.00 0.99 (0.71, 1.38) / 1.01 (0.68, 1.49)
Bergholdt	2015	Denmark	Copen-hagen General Pop-ulation Study	Both	20-100	70,709	2,777	Questionnaire	IHD (nonfatal and fatal)	National Da-nish registries, Danish Causes of Death Registry	Milk	Sex, age, PA in leisure time and at work, smoking, alcohol intake and use of lipid-lowering therapy	5.4	Glasses/wk 0 1-3 4-7 8-10 ≥11	HR 1.00 0 95(0 84 1 06) 0.91(0.82, 1.01) 0.96(0.84, 1.10) 0 96(0 86 1 07)
Bernstein	2012	USA	HPFS	Men	40-75	43,150	1,397 / 829 / 218	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medi cal records/inter-view or letter; medical or autopsy record/death certificate	Low-fat dairy	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	22	Servings/d 0.11 0.47 0.89 1.3 2.64	RR 1.00 0.87 (0.72, 1.03) / 0.88 (0.69,1.11) / 0.93 (0.55,1.57) 0.92 (0.77, 1.10) / 0.97 (0.78,1.22) / 0.90 (0.53,1.52) 0.91 (0.76, 1.08) / 0.92 (0.73,1.16) / 0.63 (0.36,1.11) 0.94 (0.78, 1.12) / 0.96 (0.76,1.22) / 1.10 (0.65,1.85)
Bernstein	2012	USA	NHS	Wo-men	30-55	84,010	2,633 / 1383 / 475	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medi cal records/intervi ew or letter; medical or autopsy record/death certificate	Low-fat dairy	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, menopausal status, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	26	Servings/d 0.07 0.43 0.79 1.20 2.20	RR 1.00 0.95 (0.84, 1.08) / 0.94 (0.78,1.12) / 0.69 (0.45,1.05) 0.94 (0.82, 1.07) / 0.98 (0.81,1.18) / 0.74 (0.49,1.14) 0.96 (0.84, 1.10) / 0.95 (0.79,1.15) / 0.89 (0.58,1.36) 0.91 (0.79, 1.04) / 0.93 (0.76,1.13) /

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Intake	RR
															0.73 (0.45,1.16)
Bernstein	2012	USA	HPFS	Men	40-75	43,150	1,397 / 829 / 218	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medical records/interview or letter; medical or autopsy record/death certificate	Whole-fat dairy	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	22	Servings/d 0.21 0.55 0.86 1.32 2.55	RR 1.00 0.85 (0.71, 1.01) / 0.85 (0.68,1.07) / 0.69 (0.41,1.17) 0.84 (0.70, 1.01) / 0.86 (0.68,1.09) / 0.77 (0.46,1.30) 0.92 (0.77, 1.11) / 0.98 (0.78,1.25) / 0.85 (0.51,1.43) 0.87 (0.72, 1.06) / 0.92 (0.72,1.19) / 0.65 (0.36,1.15)
Bernstein	2012	USA	NHS	Wo-men	30-55	84,010	2,633 / 1383 / 475	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medical records/interview or letter; medical or autopsy record/death certificate	Whole-fat dairy	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, menopausal status, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	26	Servings/d 0.34 0.65 1.00 1.52 2.81	RR 1.00 0.94 (0.84, 1.06) / 0.93 (0.79,1.09) / 0.78 (0.52,1.18) 0.95 (0.84, 1.07) / 0.87 (0.73,1.03) / 0.91 (0.60,1.37) 0.88 (0.77, 1.00) / 0.83 (0.69,0.99) / 0.73 (0.46,1.14) 0.90 (0.79, 1.03) / 0.85 (0.70,1.03) / 1.23 (0.80,1.88)
Bernstein	2010	USA	NHS	Wo-men	30-55	84,136	3,162	FFQ	CHD (nonfatal and fatal)	Medical records; state vital records and the National Death Index or were reported by next of kin or the postal system	Low-fat dairy	Age, time period, total energy, cereal fibre alcohol, trans-fat, BMI, cigarette smoking, menopausal status, parental history of early MI, multivitamin use, vitamin E supplement use, aspirin use at least once per week, physical exercise	26	Servings/d 0.07 0.32 0.69 1.14 2.32	RR 1.00 0.79 (0.71, 0.89) 0.81 (0.73, 0.91) 0.83 (0.75, 0.93) 0.90 (0.80, 1.01)
Bernstein	2010	USA	NHS	Wo-men	30-55	84,136	3,162	FFQ	CHD (nonfatal and fatal)	Medical records; state vital records	High fat dairy	Age, time period, total energy, cereal fibre alcohol, trans-fat, BMI,	26	Servings/d 0.33 0.69	RR 1.00 0.86 (0.77, 0.96)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Exposure category	Risk estimate (95% CI)
										and the National Death Index or were reported by next of kin or the postal system		cigarette smoking, menopausal status , parental history of early MI, multivitamin use, vitamin E supplement use, aspirin use at least once per week, physical exercise		1.07 1.57 3.00	0.91 (0.81, 1.02) 0.93 (0.83, 1.04) 1.09 (0.97, 1.22)
Buckland	2009	Spain	EPIC	Men / Wo-men	29-69	15,335 / 25,422	480 / 126	FFQ validated	CHD (nonfatal and fatal)	Self-reported/quest ionnaire, record linkage	Dairy products	Stratified by centre and age and were adjusted for education; PA; BMI; smoking status; diabe-tes, hypertension, and hyperlipidaemia status; and total calorie intake	10.4	g/1,000 kcal /d 0-95 >95-170 >170-1.141	HR 1.00 1.47 (1.20, 1.80) / 1.29 (0.76, 2.20) 1.62 (1.26, 2.08) / 1.19 (0.72, 1.99)
Dalmeijer	2013	Nether-lands	EPIC-NL	Both	21-70	33,625	1,648	FFQ, validated	CHD (nonfatal and fatal)	Linkage to the national registers	Total dairy intake	Gender, age and total EI, PA, smoking, education and BMI, intake of ethanol, coffee, fruit, vegetables, fish, meat and bread	13	Per SD of the mean in g/d; mean ±SD 392 (234-574)	HR 0.99 (0.94, 1.05)
											High-fat dairy			Per SD of the mean in g/d; mean ±SD 46 (30-67)	HR 0.97 (0.92, 1.02)
											Low-fat dairy			Per SD of the mean in g/d; mean ±SD 230 (106–385)	HR 1.01 (0.96, 1.06)
Dalmeijer	2013	Nether-lands	EPIC-NL	Both	21-70	33,625	531	FFQ, validated	Stroke (nonfatal and fatal)	Linkage to the national registers	Total dairy intake	Gender, age and total EI, PA, smoking, education and BMI, intake of ethanol, coffee, fruit, vegetables, fish, meat and bread	13	Per SD of the mean in g/d; mean ±SD 392 (234–574)	HR 0.95 (0.85, 1.05)
											High-fat dairy			Per SD of the mean in g/d; mean ±SD 46 (30–67)	HR 0.99 (0.91, 1.09)

											Low-fat dairy			Per SD of the mean in g/d; mean ±SD 230 (106–385)	HR 0.94 (0.85, 1.03)
Dilis	2012	Greece	EPIC	Men / Wo-men	20-86	9,740 / 14,189	426 / 210	SFFQ, validated	CHD incidence	Self-reported/confirmed through medical records	Dairy foods	Age, BMI, height, PA, years of schooling, EI, alcohol consumption, smoking, arterial blood pressure, other nutritional variables	10	Per 1 SD increment	HR 1.04 (0.90, 1.19) / 1.08 (0.87, 1.33)
Elwood	2004	South Wales	Caerphilly Cohort Study	Men	45-59	2,512	493	SFFQ	IHD (nonfatal and fatal)	Self-reported, details reported by general practitioner and hospital records	Milk	Age, total EI, smoking, social class, BMI, SBP, consumption of alcohol and fat, plus, for all men, prior vascular disease	20-24	Pint 0 ≤0.5 0.5-1 ≥1	HR 1.00 0.94 (0.65, 1.37) 0.96 (0.65, 1.41) 0.71 (0.40, 1.26)
Elwood	2004	South Wales	Caerphilly Cohort Study	Men	45-59	2,512	185	SFFQ	Ischemic stroke (nonfatal and fatal)	Self-reported, details reported by general practitioner and hospital records	Milk	Age, total EI, smoking, social class, BMI, SBP, consumption of alcohol and fat, plus, for all men, prior vascular disease	20-24	Pint 0 ≤0.5 0.5-1 ≥1	HR 1.00 1.24 (0.62, 2.48) 1.07 (0.53, 2.16) 0.66 (0.24, 1.81)
Fraser	1992	USA	Adventist Health Study	Both	≥ 25	26,743	134	SFFQ	Definite MI (nonfatal)	Self-reported/questionnaire, medical records review	Cheese	Stratified on age, sex, smoking, exercise, relative weight, and high blood pressure	6	Times/wk <1 1-2 ≥3	RR 1.00 1.97 (1.27, 3.04) 1.23 (0.71, 2.12)
Haring	2015	USA	ARIC	Both	45–64	11,601	699 / 598 / 114	FFQ validated, interviewer-administered	Stroke (nonfatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Hospital discharge codes and stroke deaths and physician-adjudicated	Dairy	Age, sex, race, study centre, total EI, smoking, cigarette years, education, SBP, use of antihypertensive medication, HDL-cholesterol, total cholesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-	22.7	Servings/d 0.14 0.57 1.07 1.50 2.86	HR 1.00 1.12 (0.89, 1.40) / 1.07 (0.83, 1.36) / 1.14 (0.67, 1.94) 0.78 (0.61, 1.00) / 0.79 (0.60, 1.04) / 0.72 (0.39, 1.33) 0.93 (0.73, 1.20) / 0.98 (0.75, 1.29) / 0.65 (0.33, 1.28) 0.86 (0.65, 1.15) /

												Adjustments		Servings/d	HR
												related PA, carbohydrate intake, fibre intake, fat intake, and magnesium intake			0.80 (0.58, 1.09) / 1.16 (0.59, 2.28)
											High-fat dairy			Servings/d	HR
														0.07	1.00
														0.14	1.05 (0.82, 1.33) / 1.07 (0.83, 1.39) / 0.89 (0.50, 1.57)
														0.43	1.17 (0.92, 1.49) / 1.20 (0.92, 1.56) / 0.90 (0.50, 1.62)
														0.80	1.06 (0.82, 1.36) / 1.07 (0.81, 1.41) / 0.88 (0.49, 1.60)
														1.23	0.92 (0.71, 1.20) / 1.00 (0.75, 1.33) / 0.53 (0.28, 1.03)
											Low-fat dairy			Servings/d	HR
														0	1.00
														0.07	1.26 (1.00, 1.58) / 1.23 (0.96, 1.58) / 1.22 (0.72, 2.06)
														0.43	1.01 (0.79, 1.28) / 1.05 (0.81, 1.36) / 0.75 (0.41, 1.39)
														1.00	1.04 (0.81, 1.33) / 1.09 (0.83, 1.42) / 0.85 (0.45, 1.60)
														2.50	0.91 (0.68, 1.21) / 0.90 (0.66, 1.23) / 1.05 (0.53, 2.09)
Haring	2014	USA	ARIC	Both	45–64	12,066	1,147	FFQ, interviewer-administered	CHD (nonfatal and fatal)	Information from study visits, yearly telephone follow-up calls, review of hospital discharge lists and medical charts, death certificates, next-of-kin	Dairy	Age, sex, race, study centre, total EI, smoking, education, SBP, use of antihypertensive medication, HDL-cholesterol, total cholesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-	22	Servings/d	HR
														0.1	1.00
														0.6	0.96 (0.80, 1.16)
														1.1	1.14 (0.95, 1.37)
														1.5	0.85 (0.69, 1.04)
														2.9	1.04 (0.84, 1.29)
											High-fat dairy			Servings/d	HR
														0.1	1.00
														0.1	1.16 (0.96, 1.39)
														0.4	1.03 (0.86, 1.25)
														0.8	1.13 (0.93, 1.38)
														1.2	1.14 (0.93, 1.39)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Dairy type	Adjustments	Follow-up	Intake	Risk (95% CI)
										interviews, and physician-completed questionnaires	Low-fat dairy	related PA, carbohydrate intake, fibre intake, and magnesium intake		Servings/d 0 0.1 0.4 1 2.5	HR 1.00 1.04 (0.86, 1.25) 0.86 (0.72, 1.03) 0.90 (0.75, 1.08) 0.91 (0.74, 1.12)
Larsson	2009	Finland	ATBC	Men, smokers	50-69	26,556	2,702	FFQ validated self-administered	Cerebral infarction / Intracerebral Haemorrhagic / Subarachnoid Haemorrhagic	Record linkage with the National Hospital Discharge Register and the National Register of Causes of Death	Total dairy	Age, supplementation group, education, cigarettes smoked daily, BMI, serum total cholesterol, serum HDL-cholesterol, histories of diabetes and heart disease, leisure-time PA, and intakes of total energy, alcohol, caffeine, sugar, red meat, poultry, fish, fruit, fruit juices, vegetables, potatoes, whole grains, and refined grains	13.6	g/d 286.5 560.4 756.2 968.0 1295.6	RR 1.00 1.23 (1.09, 1.39) / 1.19 (0.86, 1.63) / 1.13 (0.70, 1.83) 1.10 (0.97, 1.25) / 1.06 (0.76, 1.48) / 1.13 (0.69, 1.84) 1.22 (1.07, 1.39) / 1.21 (0.86, 1.71) / 1.12 (0.68, 1.86) 1.14 (0.99, 1.32) / 1.32 (0.89, 1.94) / 1.35 (0.80, 2.29)
											Low-fat milk	and refined grains		g/d 64 148 244 418 783	RR 1.00 0.97 (0.86, 1.10) 1.09 (0.96, 1.24) 1.00 (0.88, 1.13) 1.04 (0.92, 1.18)
											High-fat milk			g/d 0 170 340 510 850	RR 1.00 0.98 (0.86, 1.12) 1.17 (1.03, 1.33) 1.20 (1.05, 1.37) 1.08 (0.95, 1.23)
Larsson	2012	Sweden	Swedish Mammography Cohort and the Cohort of Swedish Men	Both	~60	74,961	4,089	FFQ self-administered, validated	Stroke total / Cerebral infarction / Haemorrhagic stroke	Swedish Hospital Discharge Registry	Total dairy	Age, sex, smoking status, and pack-y of smoking, education, BMI, total PA, aspirin use, history of hypertension, diabetes, family history of MI, and intakes of total energy, alcohol, coffee, fresh red meat, processed meat, fish,	10.2	Servings/d 2.3 3.7 5.0 6.4	RR 1.00 0.88 (0.79, 0.97) / 0.90 (0.80, 1.01) / 0.74 (0.56, 0.98) 0.96 (0.86, 1.06) / 1.01 (0.90, 1.14) / 0.86 (0.65, 1.12) 0.93 (0.84, 1.04) / 0.98 (0.87, 1.11) / 0.84 (0.63, 1.12)

Author	Year	Country	Disease	Sex	Age	N	Cases	Diet	Outcome	Outcome assessment	Exposure	Adjustments	FU	Serving	RR/HR
												fruits, and vegetables. Low-fat dairy and full-fat dairy were mutually adjusted by including both variables in the same multivariable model. Similarly, the individual dairy foods, including milk, sour milk/yogurt, cheese, and cream/ crème fraiche, were mutually adjusted. Total dairy is not adjusted for individual dairy foods		9.3	0.91 (0.80, 1.03) / 0.91 (0.79, 1.05) / 1.03 (0.75, 1.42)
											Full-fat dairy			Servings/d 0.8 2.2 3.2 4.5 7.0	RR 1.00 0.98 (0.88, 1.08) / 0.98 (0.87, 1.11) / 0.96 (0.73, 1.26) 0.97 (0.87, 1.07) / 1.00 (0.88, 1.12) / 0.90 (0.68, 1.19) 0.97 (0.87, 1.08) / 1.04 (0.92, 1.17) / 0.81 (0.61, 1.09) 0.94 (0.83, 1.07) / 0.97 (0.84, 1.12) / 0.99 (0.72, 1.37)
											Low-fat dairy			Servings/d 0 0.4 1.0 2.0 4.0	RR 1.00 0.91 (0.82, 1.02) / 0.94 (0.83, 1.06) / 0.87 (0.65, 1.16) 0.92 (0.84, 1.02) / 0.92 (0.82, 1.02) / 0.91 (0.71, 1.17) 0.91 (0.82, 1.00) / 0.90 (0.81, 1.00) / 0.97 (0.75, 1.24) 0.88 (0.80, 0.97) / 0.87 (0.78, 0.98) / 0.96 (0.74, 1.25)
Lin	2013	China	Cardio-Vascular Disease risk	Both	45.8± 14.2	2,061	123 / 97	FFQ	Stroke (nonfatal and fatal) / Ischemic stroke	Self-reported and cross-confirmed by medical re-cords or death	Dairy	Sex, baseline age, urinary sodium/creatinine, smoking status, drinking status, PA,	12	Serving Tertile1 Tertile 2 Tertile 3	HR 1.00 1.03 (0.66, 1.60) / 0.93 (0.56, 1.54) 0.74 (0.48, 1.14) /

Author	Year	Country	Study	Sex	Age	N	Cases	Diet	Outcome	Ascertainment	Exposure	Adjustments	FU	Category	Estimate
			FACtor Two town-ship Study (CVDF ACTS							certificate. After 1996: death certi-ficate data, insurance claim records of the NHI database, self-reported di-sease history collected in medical records		BMI, SBP change, DBP change, and hypertension medication			0.67 (0.41, 1.09)
Martínez-González	2011	Spain	The SUN Project	Both	38	13,609	68	SFFQ validated	CHD only	Follow-up questionnaire and review of medical records	Dairy	Age, sex, family history of CHD, total EI, PA, smoking, BMI, diabetes at baseline, use of aspirin, history of hypertension and history of hypercholesterolemia	4.9	g/d (m/w) <182/143 ≥182/143	HR 1.00 1.51 (0.91, 2.49)
Misirli	2012	Greece	EPIC	Both	NA	23,601	395	SFFQ, validated	Cerebrovascular disease incidence	Medical records	Dairy products	Sex, BMI, age, education, smoking status, PA, diabetes, EI	10.6	Increment g/d 147	HR 1.12 (1.00, 1.25)
Nettleton	2008	USA	ARIC	Both	45-64	15,143	1,140	SFFQ	HF (hospitalization or death)	County death certificates, local hospital discharge lists	High-fat dairy	EI, age, sex, race/ center, education level, PA, smoking, drinking status, CVD, diabetes, and hypertension	13	Per 1 serving/d	RR 1.08 (1.01, 1.16)
Patterson	2013	Sweden	Swedish Mammography Cohort	Wo-men	48-83	33,636	1,392	SFFQ, validated, self-administered	MI (nonfatal and fatal)	Cause of Death Registry, National Hospital Discharge Registry	Total dairy foods	Smoking status, PA, waist-to-hip ratio, alco-hol consumption, diag-nosis of hypertension, diagnosis of high chole-sterol, family history of MI, education, aspirin usage, hormone therapy usage, and EI, consumption of fruit and vegetables and whole-grain foods	11.6	Servings/d 2.2 3.5 4.5 6.0 8.4	HR 1.00 0.82 (0.69, 0.97) 0.94 (0.80, 1.12) 0.88 (0.73, 1.05) 0.77 (0.63, 0.95)
											Low-Fat milk			Servings/d 0 0.43 1.43	HR 1 1.00 (0.84, 1.19) 1.03 (0.89, 1.18)
											Full-fat milk			Servings/d 0 0.29	HR 1 0.99 (0.80, 1.22)

Author	Year	Country	Study	Sex	Age	N	Cases	Dietary assessment	Outcome	Outcome ascertainment	Dairy type	Adjustments	Follow-up	Intake	HR (95% CI)
														1	1.10 (0.92, 1.31)
Praagman	2015	Nether-lands	Rotter-dam Study	Both	≥55	4,235	564	Self-administered questionnaire and SFFQ, validated	Stroke (nonfatal and fatal)	Municipality records, medical records, digital record linkage with general practitioners (GP) and medical specialists	Total dairy	Age, sex, and total EI, BMI, smoking, education level, and alcohol intake, vegetables, fruit, meat, bread, fish coffee, and tea	17.3	g/d <200 200-400 >400	HR 1.00 1.11 (0.86, 1.43) 0.99 (0.76, 1.27)
											High-fat dairy			g/d <50 50-100 >100	HR 1.00 0.93 (0.74, 1.17) 0.83 (0.66, 1.04)
											Low-fat dairy			g/d <200 200-400 >400	HR 1.00 1.07 (0.88, 1.30) 1.05 (0.85, 1.30)
Praagman	2015	Nether-lands	Rotter-dam Study	Both	≥55	4,235	567	Self-administered questionnaire and SFFQ, validated	CHD (nonfatal and fatal MI and fatal CHD)	Municipality records, medical records, digital record linkage with general practitioners (GP) and medical specialists	Total dairy	Age, sex, and total EI, BMI, smoking, education level, and alcohol intake, vegetables, fruit, meat, bread, fish coffee, and tea	17.3	g/d <200 200-400 >400	HR 1.00 0.88 (0.68, 1.12) 0.98 (0.77, 1.25)
											High-fat dairy			g/d <50 50-100 >100	HR 1.00 1.05 (0.83, 1.33) 1.01 (0.80, 1.27)
											Low-fat dairy			g/d <200 200-400 >400	HR 1.00 1.04 (0.85, 1.27) 1.14 (0.93, 1.40)
Soeda-mah-Muthu	2012	UK	White-hall II study	Both	56 ± 6	4,255	323	FFQ	CHD (nonfatal and fatal)	Twelve-lead electrocardiograms; questionnaire; doctor's diagnosis (nonfatal); National Health Service Central Registry (fatal)	Total dairy intake	Age, ethnicity, employment grade, smoking, alcohol intake, BMI, PA, family history of CHD/hypertension, fruit and vegetables, bread, meat, fish, coffee, tea and total energy intake	10.8	g/d 246 371 575	HR 1.00 1.03 (0.78, 1.35) 0.91 (0.68, 1.22)
											High-fat dairy			g/d 27 67 182	HR 1.00 1.06 (0.80, 1.39) 1.02 (0.77, 1.34)
											Low-fat dairy			g/d 28 294 458	HR 1.00 0.79 (0.60, 1.04) 0.87 (0.67, 1.14)
Sonestedt	2011	Sweden	Swedish Malmö	Both	44-74	26,445	1,344	Dietary history	Coronary event	Swedish Hospital	Total dairy	Age, sex, season, method, EI, BMI,	12	Portions/d (m/w)	HR

Author	Year	Country	Cohort	Sex	Age	N	Cases	Dietary method	Outcome	Ascertainment	Dairy type	Adjustments	FU	Intake	HR
			Diet and Cancer cohort					method		Discharge Register and the Cause-of-death Register		smoking, alcohol consumption, leisure-time PA, education		3.4/3.8	1.00
														4.3/4.9	0.97 (0.82, 1.15)
														5.3/6.0	0.90 (0.76, 1.07)
														6.6/7.7	0.92 (0.78, 1.10)
														10.2/12.5	0.86 (0.73, 1.02)
											Low-fat milk			Quintiles of intake	HR
														Q1	1
														Q2	0.93 (0.79, 1.09)
														Q3	0.86 (0.73, 1.09)
														Q4	0.91 (0.77, 1.08)
														Q5	0.84 (0.71, 1.00)
											High-fat milk			Quintiles of intake	HR
														Q1	1
														Q2	1.02 (0.85, 1.21)
														Q3	0.93 (0.78, 1.11)
														Q4	1.00 (0.84, 1.18)
														Q5	0.94 (0.79, 1.11)
Sonestedt	2011	Sweden	Swedish Malmö Diet and Cancer cohort	Both	44-74	26,445	1,176	Dietary history method	Stroke	Swedish Hospital Discharge Register and the Cause-of-death Register	Total dairy	Age, sex, season, method, EI, BMI, smoking, alcohol consumption, leisure-time PA, education	12	Portions/d (m/w)	HR
														3.4/3.8	1.00
														4.3/4.9	0.89 (0.74, 1.06)
														5.3/6.0	0.93 (0.78, 1.12)
														6.6/7.7	0.85 (0.71, 1.02)
														10.2/12.5	0.91 (0.75, 1.09)
											Low-fat milk			Quintiles of intake	HR
														Q1	1
														Q2	0.95 (0.79, 1.14)
														Q3	0.93 (0.78, 1.12)
														Q4	0.83 (0.69, 1.00)
														Q5	0.76 (0.63, 0.91)
											High-fat milk			Quintiles of intake	HR
														Q1	1
														Q2	1.10 (0.91, 1.33)
														Q3	1.11 (0.92, 1.33)
														Q4	1.14 (0.94, 1.37)
														Q5	1.17 (0.97, 1.40)
Tektonidis	2015	Sweden	Swedish Mammo	48-83	Wo-men	32,921	1,648	FFQ, validated	HF	Linkage of the study cohort	Fermented dairy	Education level, family history of MI, cigarette	10.4	Servings/d <median	RR 1.00

Author	Year	Country	Cohort	Age	Sex	N	Cases	Dietary assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Exposure category	Risk estimate
			graphy Cohort							to the Swedish Inpatient Register and the Swedish Cause of Death Register	products	smoking, >40 min of walking or/and cycling per day, >1 h of exercise per week, BMI, history of hypertension), of hypercholesterolemia, of diabetes, aspirin use, total EI		>median	0.96 (0.86, 1.07)
Tektonidis	2016	Sweden	Cohort of Swedish Men	45-79	Men	37,308	1,269	SFFQ, validated	HF	Linkage to the Swedish National Patient and the Cause of Death Registers	Fermented dairy products	Education level, family history of MI, cigarette smoking, >40 minutes of walking or/and cycling per day, >1 h of exercise per week, BMI, history of hypertension, of hypercholesterolemia, of diabetes, aspirin use, total EI	10.9	Servings/d <median >median	RR 1.00 0.93 (0.82, 1.06)
Yaemsiri	2012	USA	WHI-OS	50-79	Wo-men	87,025	1,049	FFQ, validated	Ischaemic stroke (non-fatal and fatal)	Self-report during annual medical history; medical charts, brain imaging, or death certificates	Dairy	Age, race, education, family income, years as a regular smoker, HRT use, total MET-hours per week, alcohol intake, history of CHD, history of atrial fibrillation, history of diabetes, aspirin use, use of antihypertensive medication, use of cholesterol-lowering medication, BMI, SBP, and total EI, dietary vitamin E (quintiles), fruits and vegetable intake, fibre	7.6	Per 1 medium serving/d	HR 0.94 (0.87, 1.00)

Supplemental Table 9: General study characteristics of the included studies investigating the association between dairy intake and risk of coronary heart disease, stroke, and heart failure

Author	Year	Country	Cohort name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of fish	Adjustment factors	Follow up years	Consumption frequency or amount	RR/HR/OR (95% confidence intervals)
Albert	1998	USA	PHS	Men	40-84	20,551	133	SFFQ, validated	MI	Self-report on follow-up questionnaires deaths were generally reported by postal authorities or next of kin; medical record review	Fish	Age, aspirin and beta carotene treatment assignment, evidence of CVD prior to 12-month questionnaire, BMI, smoking, history of diabetes, history of hypertension, history of hypercholesterolemia, alcohol consumption, vigorous exercise, vitamin E, vitamin C, and multivitamin use	11	Servings <1/mo 1-3/mo 1<2/wk 2<5/wk ≥5/wk	RR 1.00 0.91 (0.55, 1.53) 0.99 (0.64, 1.54) 1.03 (0.67, 1.58) 1.00 (0.62, 1.60)
Amiano	2016	Spain	EPIC-Spain	Men / Women	20-69	15,490 / 25,530	373 / 301	Validated dietary history	Stroke total	Record linkage with hospital discharge databases, primary-care records and regional mortality registries	Total fish	Age, centre, total EI, BMI, waist circumference, smoking status, smoking before 20 years of age, total PA, educational level, alcohol consumption, use of vitamin supplements, use of antithrombotic and anti-haemorrhagic agents, use of cardiovascular drugs, use of salicylic acid or derivate, incident ischaemic heart attack, percentage of energy from carbohydrate, from protein and from fats, and intakes of vegetables, fruit, dairy products and meat	13.8	g/d (m) <38.6 38.6-58.7 58.7-80.3 80.3-111 ≥111 g/d (w) <26.1 26.1-40.4 40.4-55.4 55.4-77.8 ≥77.8	HR (m) 1.00 0.82 (0.57, 1.17) 0.84 (0.59, 1.20) 0.76 (0.52, 1.10) 0.77 (0.51, 1.16) HR (w) 1.00 0.96 (0.64, 1.44) 1.06 (0.71, 1.58) 0.98 (0.64, 1.50) 1.07 (0.68, 1.69)
Amiano	2016	Spain	EPIC-Spain	Men / Women	20-69	15,490 / 25,530	302 / 229	Validated dietary history	Ischemic stroke	Record linkage with hospital discharge databases,	Total fish	Age, centre, total EI, BMI, waist circumference, smoking status, smoking before 20 years of age, total PA,	13.8	g/d (m) <38.6 38.6-58.7 58.7-80.3 80.3-111	HR (m) 1.00 1.74 (1.10, 2.76) 1.00 (0.64, 1.57) 1.23 (0.77, 1.96)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet method	Outcome	Outcome ascertainment	Exposure	Adjustments	Follow-up	Intake	Risk estimate
										primary-care records and regional mortality registries		educational level, alcohol consumption, use of vitamin supple-ments, use of antithrom-botic and anti-hae-morrhagic agents, use of cardiovascular drugs, use of salicylic acid or derivate, incident ischaemic heart attack, percentage of energy from carbohydrate, from protein and from fats, and intakes of vegetables, fruit, dairy products and meat		≥111 g/d (w) <26.1 26.1- 40.4 40.4- 55.4 55.4- 77.8 ≥77.8	1.13 (0.68, 1.88) HR (w) 1.00 1.47 (0.84, 2.59) 1·13 (0.64, 1.98) 1·13 (0.63, 2.04) 1.31 (0.69, 2.47)
Ascherio	1995	USA	HPFS	Men	40-75	44,895	547	FFQ, validated	MI nonfatal	Self-reported/quest ionnaire; medical records	Fish	Age, BMI, smoking status, alcohol consumption, history of hypertension, diabetes, hypercholesterolemia; family history of MI before 60 years of age; profession	6	g/d 0 7 18 37 69 119	RR 1.00 0.62 (0.39, 1.00) 0.80 (0.55, 1.17) 0.67 (0.46, 0.97) 0.69 (0.46, 1.04) 0.96 (0.63, 1.47)
Atkinson	2011	Wales	Caerp-hilly Prospect ive Study	Men	45-59	2,710	225	SFFQ	Stroke	Self-report and inspection of clinical records	White fish	Age, total EI, smoking status, adult social class, marital status, alcohol intake, vitamin C intake, vegetable fibre intake, blood pressure, cholesterol, BMI, fasting glucose, diabetes, atrial fibrillation	18	Quintiles of intake Q1 Q2 Q3 Q4 Q5	HR 1.00 1.05 (0.66, 1.68) 1.15 (0.73, 1.83) 1.22 (0.77, 1.91) 0.92 (0.57, 1.51)
											Oily fish			Quintiles of intake Q1 Q2 Q3 Q4 Q5	HR 1.00 0.86 (0.54, 1.35) 1.01 (0.66, 1.55) 0.80 (0.51, 1.26) 0.66 (0.41, 1.05)
Belin	2011	USA	WHI-OS	Women	50-79	84,493	1,858	FFQ	HF	Self-report at contacts; linkage with the National	Baked/ broiled fish	Age, ethnicity, education, PA, smoking, alcohol, diabetes, hypertension,	10	Frequency <1/mo 1-3/mo 1-2/wk	HR 1.00 1.03 (0.89, 1.18) 0.89 (0.77, 1.02)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Exposure	Adjustments		Exposure category	RR
										Death Index of the National Centre for Health Statistics		AF, MI/CABG/PTCA, BMI, time-dependent MI, fibre, fruit/vegetable servings, fried fish servings, saturated fat intake (%), DHA+EPA (%), linolenic acid (ALA, %), linoleic acid (%),fried food servings, sodium intake (mg)		3-4/wk ≥5/wk	0.99 (0.80, 1.21) 0.70 (0.51, 0.95)
Bernstein	2012	USA	HPFS	Men	40-75	43,150	1,397 / 829 / 218	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/ medical records/ interview or letter; medical or autopsy record/death certificate	Fish	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	22	Servings/d 0.07 0.18 0.28 0.39 0.64	RR 1.00 1.10 (0.92, 1.30) / 0.91 (0.73,1.13) / 1.18 (0.72,1.94) 0.94 (0.78, 1.14) / 0.90 (0.71, 1.15) / 0.92 (0.53, 1.61) 1.00 (0.83, 1.20) / 0.92 (0.73, 1.17) / 0.88 (0.50, 1.55) 1.03 (0.84, 1.25) / 0.96 (0.74, 1.23) / 1.08 (0.60, 1.94)
Bernstein	2012	USA	NHS	Women	30-55	84,010	2,633 / 1383 / 475	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/ medical records/ interview or letter; medical or autopsy record/death certificate	Fish	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, menopausal status, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	26	Servings/d 0.07 0.14 0.18 0.28 0.45	RR 1.00 0.91 (0.80, 1.03) / 1.03 (0.86,1.23) / 0.61 (0.40,0.92) 0.93 (0.82, 1.06) / 0.98 (0.82,1.19) / 0.61 (0.40,0.93) 0.98 (0.86, 1.12) / 1.09 (0.90,1.31) / 0.63 (0.41,0.96) 0.87 (0.75, 1.01) / 0.94 (0.76,1.15) / 0.65 (0.41,1.02)
Bernstein	2010	USA	NHS	Women	30-55	84,136	3,162	FFQ, validated	CHD (nonfatal and fatal)	Medical records; state vital records and the	Fish	Age, time period, total energy, cereal fibre alcohol, trans-fat, BMI, cigarette smoking,	26	Servings/d 0.07 0.11 0.14	RR 1.00 0.76 (0.65, 0.87) 0.94 (0.85, 1.03)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet method	Outcome	Ascertainment	Exposure	Adjustments	FU	Intake	HR/RR
										National Death Index or were reported by next of kin or the postal system		menopausal status , parental history of early MI (before age 65 for mother or age 55 for father), multivitamin use, vitamin E supplement use, aspirin use at least once per week, physical exercise		0.25 0.43	0.76 (0.68, 0.86) 0.81 (0.72, 0.90)
Bjerre-gaard	2010	Denmark	NA	Men / Women	50-64	25,573 / 28,653	854 / 268	FFQ, validated	Acute coronary syndrome (ACS)	Danish National Patient Registry	Fish, total	Education, smoking, alcohol intake, BMI, history of diabetes mellitus, SBP, serum cholesterol, PA, dietary intake of fruits and vegetables, total EI, dietary intake of saturated fat, monounsaturated fat, and polyunsaturated fat	7.6	g/d 0-24/ 0-22 25-35/ 23-31 36-47/ 32-41 48-64/ 42-54 >64/ >55	HR 1.00 0.96 (0.77, 1.19) / 1.06 (0.72, 1.56) 0.98 (0.78, 1.22) / 1.16 (0.78, 1.73) 0.98 (0.78, 1.23) / 1.14 (0.76, 1.71) 0.87 (0.69, 1.10) / 0.85 (0.55, 1.32)
Buckland	2009	Spain	EPIC	Men / Women	29-69	15,335 / 25,422	480 / 126	FFQ, validated	CHD (nonfatal and fatal)	Self-reported/questionnaire, record linkage	Fish (fresh)	Stratified by centre and age and were adjusted for education; PA; BMI; smoking status; diabetes, hypertension, and hyperlipidaemia status; and total calorie intake	10.4	g/1,000 kcal /d 0-17 >17-31 >31-267	HR 1.00 0.89 (0.71, 1.12) / 0.92 (0.58, 1.45) 0.78 (0.62, 0.98) / 0.98 (0.63, 1.52)
de Goede	2010	Nether-lands	MOR-GEN study	Both	20-65	21,342	252	FFQ, validated	MI (non-fatal)	Several registries	Fish	Age, sex, BMI, total EI, ethanol intake, cigarette smoking, social economic status, vitamin or mineral supplement use, use of drugs for hypertension or hypercholesterolemia, family history of cardio-vascular disease, SFA, fruit, and vegetables	11.3	g/d <3.3 3.3-7.3 7.4-14.0 >14	HR 1.00 0.96 (0.67, 1.39) 1.07 (0.75, 1.54) 1.01 (0.71, 1.45)
de Goede	2012	Nether-lands	MOR-GEN Study	Men / Women	20-65	8,988 / 11,081	221 / 116	FFQ, validated	Stroke (nonfatal and fatal)	National hospital discharge register;	Fish	Age, smoking, BMI, educational level, parental history of MI, alcohol intake, total EI,	10.5	g/d <3.3 3.3-7.3	HR 1.00 1.04 (0.63, 1.72) / 1.25 (0.75, 2.08)

									Statistics Netherlands			dietary fibre, vitamin C, beta-carotene, SFA, trans fatty acids, monounsaturated fatty acids, linoleic acid, and alpha-linolenic acid		7.4-14.0 >14	0.73 (0.42, 1.24) / 1.00 (0.59, 1.71) 0.75 (0.44, 1.26) / 0.49 (0.26, 0.94)
de Goede	2012	Nether-lands	MOR-GEN Study	Men / Women	20-65	8,988 / 11,081	80 / 64	FFQ, validated	Ischemic stroke	National hospital discharge register; Statistics Netherlands	Fish	Age, smoking, BMI, educational level, parental history of MI, alcohol intake, total EI, dietary fibre, vitamin C, beta-carotene, SFA, trans fatty acids, mono-unsaturated fatty acids, linoleic acid, and alpha-linolenic acid	10.5	g/d <3.3 3.3-7.3 7.4-14.0 >14	HR 1.00 1.05 (0.57, 1.93) / 1.25 (0.65, 2.41) 0.77 (0.40, 1.47) / 1.14 (0.58, 2.24) 0.79 (0.42, 1.48) / 0.54 (0.24, 1.23)
de Goede	2012	Nether-lands	MOR-GEN Study	Men / Women	20-65	8,988 / 11,081	16 / 31	FFQ, validated	Haemorrhagic stroke	National hospital discharge register; Statistics Netherlands	Fish	Age, smoking, BMI, educational level, parental history of MI, alcohol intake, total EI, dietary fibre, vitamin C, beta-carotene, SFA, trans fatty acids, monounsaturated fatty acids, linoleic acid, and alpha-linolenic acid	10.5	g/d <3.3 3.3-7.3 7.4-14.0 >14	HR 1.00 1.52 (0.48, 4.85) / 1.97 (0.73, 5.31) 0.57 (0.13, 2.44) / 1.19 (0.41, 3.52) 0.17 (0.02, 1.50) / 0.67 (0.19, 2.29)
del Gobbo	2015	USA	Cardio-vascular Health Study	Both	≥65	4,490	1,380	FFQ, validated	HF	Medical records, diagnostic tests, clinical consultations, and interviews	Fish	Age, sex, race, enrolment site, education, annual income, total kcal expended, walking pace, smoking, alcohol intake, BMI, prevalent treated hypertension, prevalent diabetes mellitus, prevalent CHD, polyunsaturated fat to saturated fat ratio	21.5	Quintiles of intake Q1 Q2 Q3 Q4 Q5	RR 1.00 1.07 (0.90, 1.26) 1.11 (0.94, 1.31) 1.06 (0.89, 1.26) 0.98 (0.82, 1.18)
Dijkstra	2009	Nether-lands	Rotter-dam Study	Both	≥55	5,299	669	SFFQ	HF	Medical re-cords, pre-scription for a loop diuretic or an angio-	Fish	Age, sex, EI, smoking, BMI, education, and intake of alcohol, total fat, saturated fat, trans-fat and meat	11.4	g/d 0 1-19 ≥20	HR 1.00 1.15 (0.96, 1.39) 0.96 (0.78, 1.18)

										tensin-conver-ting enzyme inhibitor					
Dilis	2012	Greece	EPIC	Men / Women	20-86	9,740 / 14,189	426 / 210	SFFQ, validated	CHD incidence	Self-reported/ confirmed through medical records	Fish	Age, BMI, height, PA, years of schooling, EI, alcohol consumption, smoking, arterial blood pressure, other nutritional variables	10	Per 1 SD increment	HR 1.02 (0.93, 1.11) / 1.08 (0.94, 1·26)
Fraser	1992	USA	Adven-tist Health Study	Both	≥ 25	26,743	134	SFFQ	Definite MI (nonfatal)	Self-reported/quest ionnaire, medical records review	Fish	Stratified on age, sex, smoking, exercise, relative weight, and high blood pressure	6	Times/wk 0 <1 ≥1	RR 1.00 1.11 (0.75, 1.66) 1.04 (0.55, 1.96)
Gammel-mark	2016	Denmark	NA	Men / Women	50-64	25,913 / 28,991	2,136 / 892	SFFQ, validated	MI (nonfatal and fatal)	National registries	Fatty fish	traditional risk factors including smoking, BMI, waist circumference, PA, alcohol intake, educational level and menopausal status, total EI, intake of fruits and vegetables and intake of nuts	17	g/d 0≤8/0-6 8≤13/ 6≤10 13≤18/ 10≤15 18≤28/ 15≤23 >28/ >23	HR 1.00 0.91 (0.80, 1.04) / 0.96 (0.78, 1.18 0.90 (0.79, 1.03) / 0.98 (0.80, 1.21 0.92 (0.80, 1.06) / 1.11 (0·90, 1.36 0.93 (0.81, 1.07)/ 0.86 (0.69, 1.08)
											Lean fish			g/d 0-14/0-13 14≤21/ 13≤18 21≤28/ 18≤24 28≤39/ 24≤33 >39/ >33	HR 1.00 1.14 (1.00, 1.31) / 1.03 (0.84, 1.27) 1.14 (0.99, 1.30) / 0.98 (0.79, 1.21) 1.12 (0.97, 1.29) / 1.04 (0.84, 1.29) 1.12 (0.97, 1.29) / 0.99 (0.79, 1.24)
Gillum	1996	USA	NHA-NES I	45-74	Both	5,192	620	FFQ	Stroke (non-fatal or fatal)	Death certificate, hospital and/or nursing home stay	Fish	Age, BMI, smoking, history of diabetes, history of heart disease, education less than high school graduate, SBP, serum albumin concentration, serum cholesterol concentra-	12	Fish intake frequency Never <1/wk 1/wk >1/wk	RR 1.00 0.94 (0.77, 1.15) 0.93 (0.76, 1.14) 0.67 (0.51, 0.88)

Author	Year	Country	Cohort	Age	Sex	N	Cases	Diet assessment	Outcome	Outcome ascertainment	Exposure	Adjustments	Follow-up	Intake categories	Risk estimate
												tion, alcohol intake, and PA			
Gillum	2000	USA	NHA-NES I	25–74	Both	8,825	2,007	FFQ	CHD	NA	Fish	Age, smoking, history of diabetes, education, high school graduate, SBP, serum cholesterol concentration, BMI, alcohol intake, PA	18.8	Fish intake frequency Never <1/wk 1/wk >1/wk	RR 1.00 0.91 (0.78, 1.06) 0.91 (0.78, 1.06) 0.92 (0.77, 1.10)
Hansen	2017	Denmark	Danish Diet, Cancer and Health cohort	50-64	Both	55,338	2,283	SFFQ, validated	Stroke (nonfatal and fatal) /ischemic stroke / haemorrhagic stroke	Danish National Patient Register, verified by review of records	Fish	total EI, alcohol intake, PA, smoking, education, BMI-adjusted waist circumference, atrial fibrillation, hypertension, hypercholesterolemia and diabetes	13.5	g/d (m/w) <41/35 ≥41/35	RR 1.00 1.06 (0.97, 1.16) / 1.06 (0.96, 1.17) / 1.02 (0.82, 1.26)
Haring	2015	USA	ARIC	Both	45–64	11,601	699 / 598 / 114	FFQ validated, interviewer-administered	Stroke (nonfatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Hospital discharge codes and stroke deaths and physician-adjudicated	Fish and seafood	Age, sex, race, study centre, total EI, smoking, cigarette years, education, SBP, use of antihypertensive medication, HDL-cholesterol, total cholesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-related PA, carbo-hydrate intake, fibre intake, fat intake, and magnesium intake	22.7	Servings/d 0 0.14 0.21 0.28 0.57	HR 1.00 1.08 (0.86, 1.36) / 1.07 (0.84, 1.37) / 1.07 (0.61, 1.87) 0.97 (0.75, 1.26) / 0.96 (0.72, 1.26) / 0.94 (0.50, 1.76) 0.98 (0.76, 1.26) / 1.00 (0.77, 1.32) / 0.87 (0.47, 1.64) 0.95 (0.73, 1.24) / 0.95 (0.71, 1.26) / 0.85 (0.44, 1.66)
Haring	2014	USA	ARIC	Both	45–64	12,066	1,147	FFQ, interviewer-administered	CHD (nonfatal and fatal)	Information from study visits, yearly telephone follow-up calls, review of hospital discharge lists and medical charts, death certificates,	Fish and seafood	Age, sex, race, study centre, total EI, smoking, education, SBP, use of antihypertensive medication, HDL-cholesterol, total cholesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-	22	Servings/d 0 0.1 0.2 0.3 0.6	HR 1.00 1.04 (0.87, 1.25) 1.17 (0.95, 1.44) 1.07 (0.87, 1.32) 1.06 (0.86, 1.31)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Outcome ascertainment	Exposure	Adjustments	Follow-up	Units	Risk estimate
										next-of-kin interviews, and physician-completed questionnaires		related PA, leisure-related PA, carbohydrate intake, fibre intake, and magnesium intake			
Holmberg	2009	Sweden	NA	Men	39-62	1,663	138	15-item questionnaire	CHD (non-fatal or fatal)	Hospital Patient Register, National Cause of Death Register	Fish	Food choices adjusted for each other, age, BMI, low density lipoprotein, SBP, physical workload, and smoking	12	Times/wk <2 ≥2	OR 1.00 1.00 (0.49, 2.06)
Iso	2006	Japan	NA	Both	40-59	41,578	196	FFQ, validated	Coronary events nonfatal	Self-reported (letter, telephone), medical records	Fish	Age; sex; cigarette smoking; alcohol intake; BMI; histories of hypertension and diabetes; medication use for hyper-cholesterolemia; educa-tion level; sports at leisure time; quintiles of dietary intake of fruits, vegetables, saturated fat, monounsaturated fat, n6 polyunsaturated fat, cholesterol, and total energy; and public health center	11	g/d 23 51 78 114 180	HR 1.00 0.77 (0.51, 1.16) 0.79 (0.50, 1.24) 0.70 (0.42, 1.18) 0.43 (0.23, 0.81)
Keli	1994	Nether-lands	The Zutphen Study	Men	50-69	552	42	Dietary history method	Stroke (nonfatal and fatal)	Questionnaire/ confirmed in a letter from a neurologist	Fish	Age, SBP, cigarette smoking, serum total cholesterol, EI, alcohol consumption, and prescribed diet	15	g/d 8 27	HR 1.00 0.71 (0.38, 1.33)
Kühn	2013	Germany	EPIC-Ger-many	Both	35-65	48,315	488	FFQ, validated	MI (nonfatal)	Medical verification of self-reports of incident disease from questionnaires	Fish	Stratified by age at baseline and study centres, adjusted for sex, EI, alcohol intake, BMI, waist circumference, PA, educational attainment, smoking and prevalent diabetes mellitus	8.1	g/d 2.7 11.0 18.0 25.6 40.4	HR 1.00 0.91 (0.69, 1.21) 0.87 (0.66, 1.16) 0.80 (0.60, 1.06) 0.78 (0.59, 1.03)
Kühn	2013	Germany	EPIC-	Both	35-	48,315	525 /	FFQ,	Stroke	Medical	Fish	Stratified by age at	8.1	g/d	HR

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Category	Risk
		Ger-many			65		407 / 95	validated	(nonfatal and fatal) / Ischemic stroke / Haemorrhagic stroke	verification of self-reports of incident disease from questionnaires		baseline and study centres, adjusted for sex, EI, alcohol intake, BMI, waist circumference, PA, educational attainment, smoking and prevalent diabetes mellitus		2.7 11.0 18.0 25.6 40.4	1.00 0.87 (0.65, 1.16) / 0.88 (0.64, 1.22) / 1.0 (0.49, 2.04 0.93 (0.70, 1.23) / 0.92 (0.67, 1.26 / 1.23 (0.62, 2.43 1.05 (0.80, 1.38) / 1.03 (0·75, 1.40 / 1.27 (0·65, 2.51 0,96 (0.73, 1.26) / 0.87 (0.64, 1.19) / 1.46 (0.77, 2.78)
Larsson	2011	Sweden	Swedish Mammography Cohort	Women	49-83	34,670	1,680	FFQ	Stroke (non-fatal or fatal) / Cerebral infarction / Haemorrhagic stroke	Swedish Hospital Discharge Registry	Fish	Age, smoking history, education, BMI, total PA, history of diabetes, history of hypertension, aspirin use, family history of MI, and intakes of total energy, alcohol, processed meat, unprocessed red meat, fruit, and vegetables	10.4	Servings/wk <1.0 1.0-1.4 1.5-2.0 2.1-3.0 >3.0	RR 1.00 0.87 (0.75, 1.01) / 0.85 (0.71, 1.02) / 1.11 (0.76, 1.62) 0.95 (0.82, 1.09) / 0.93 (0.78, 1.09) / 1.00 (0.67, 1.50) 0.88 (0.76, 1.02) / 0.88 (0.75, 1.04) / 0.94 (0.64, 1.39) 0.84 (0.71, 0.98) / 0.87 (0.73, 1.04) /0.67 (0.42, 1.08)
Levitan	2010	Sweden	Swedish Mammography Cohort	Women	48–83	36,234	651	FFQ	HF (hospitalization or mortality)	Record linkage to the Swedish inpatient and cause-of-death registers	Fatty fish	Age, BMI, additionally adjusted for education, PA, cigarette smoking, living alone, postmenopausal hormone use, total EI, alcohol intake, fibre intake, sodium intake, intake of red or processed meat, family history of MI before 60 years, self-reported history of hypertension, self-reported history of high cholesterol	9	Servings/wk 0 <1 1 2 ≥3	1.00 0.86 (0.67, 1.10) 0.80 (0.63, 1.01) 0.70 (0.53, 0.94) 0.91 (0.59, 1.40)
Levitan	2009	Sweden	Cohort	Men	45-	39,367	597	FFQ	HF (non-fatal	Swedish	Fatty	Age, BMI, PA, energy,	7	Servings/wk	HR

Author	Year	Country	Study	Sex	Age	N	Cases	Diet method	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Categories	Risk estimate
			of Swedish Men		79				or fatal)	inpatient and cause-of-death registers	fish	alcohol, fibre, sodium, and red or processed meat consumption, education, family history of MI at,60 years, cigarette smoking, marital status, self-reported history of hypertension, and high cholesterol		0 <1 1 2 ≥3	1.00 0.93 (0.72, 1.21) 0.88 (0.68, 1.13) 0.99 (0.73, 1.33) 0.97 (0.61, 1.55)
Martínez-González	2011	Spain	The SUN Project	Both	38	13,609	68	SFFQ validated	CHD only	Follow-up questionnaire and review of medical records	Fish	Age, sex, family history of CHD, total EI, PA, smoking, BMI, diabetes at baseline, use of aspirin, history of hypertension and history of hypercholesterolemia	4.9	g/d (m/w) <87/86 ≥87/86	HR 1.00 0.75 (0.46, 1.24)
Misirli	2012	Greece	EPIC	Both	NA	23,601	395	SFFQ, validated	Cerebrovascular disease incidence	Medical records	Fish	Sex, BMI, age, education, smoking status, PA, diabetes, EI	10.6	Increment g/d 17	HR 0.99 (0.89, 1.10)
Montonen	2009	Finland	The Finnish Mobile Clinic Health Examination Survey	Both	40–79	3,958	659	Dietary history interview	Cerebrovascular disease / Intracerebral haemorrhage	Finnish Hospital Discharge Register, death certificates	Fish, total	Age, BMI, sex, EI, smoking (non-smokers, ex-smokers, smokers of pipes or cigars only, smokers of fewer than fifteen cigarettes/d, and smokers of fifteen or more cigarettes/d), PA (inactive, occasionally or regularly active), geographic area (six areas), occupation, diabetes, use of post-menopausal hormones, hypertension (four categories according to measured systolic and diastolic pressure and use of antihypertensive medication), serum cholesterol , and consumptions of butter,	28	g/d 6 18 32 72	RR 1.00 1.02 (0.82, 1.26) / 1.00 (0.51, 1.96) 1.07 (0.86, 1.34) / 1.30 (0.68, 2.48) 1.01 (0.81, 1.27) / 1.23 (0.63, 2.42)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Categories	Risk
												vegetables, fruits and berries			
Morris	1995	USA	PHS	Men	40-84	21,185	173	SFFQ, validated	Stroke	Self-reported/ questionnaire, medical records	Fish	Each level of fish consumption, age, aspirin and beta-carotene assignment, smoking, alcohol, obesity, diabetes, vigorous exercise, parental history of MI bevor age 60, hypertension, hypercholesterolemia, vitamin supplement use, SFA intake	4	Meals/wk <1 1 2-4 ≥5	RR 1.00 0.9 (0.6, 1.3) 0.8 (0.5, 1.2) 0.6 (0.3, 1.6)
Mozaffa-rian	2003	USA	The Cardiovascular Health Study	Both	≥65	3,910	363	FFQ, validated	MI (nonfatal)	Annual examinations and interim 6-month telephone interviews, with review and adjudication by a centralized committee composed of internists using interviews, medical records, death certificates, medical examiner forms, and Health Care Financing Administration hospitalizations	Tuna/Other Fish	Age, BMI, sex, education, diabetes, current smoking, pack-years of smoking, and tuna/other fish and fried fish/fish sandwich consumption, SBP, LDL cholesterol, HDL-cholesterol, triglycerides, C-reactive protein, and intake of saturated fat, alcohol, beef/pork, fruits, and vegetables	9.3	Frequency <1/mo 1-3/mo 1/wk 2/wk ≥3/wk	HR 1.00 0.81 (0.51, 1.26) 0.71 (0.44, 1.15) 0.75 (0.46, 1.21) 0.67 (0.42, 1.07)
Mozaffa-rian	2005	USA	The Cardiovascular Health	Both	65–98	4,775	626	FFQ, validated	Stroke (non-fatal or fatal) / Ischemic stroke /	Annual examinations and interim 6-month tele-	Tuna/Other Fish	Age, BMI, sex, education, diabetes, prevalent CHD, smoking status, pack-	12	Frequency <1/mo 1-3/mo	HR 1.00 0.88 (0.66, 1.17) / 0.89 (0.65, 1.21) /

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Fish type	Adjustments	Follow-up	Intake	RR/HR
			Study						Haemorrhagic stroke	phone contacts, with centralized adjudication using interviews, medical records, physician questionnaires, death certificates, medical examiner forms, Centres for Medicare and Medicaid Services hospitalizations, and available computed tomographic scans or magnetic resonance images		years of smoking, aspirin use, leisure-time PA, alcohol use, and total caloric intake, SBP and low-density lipoprotein cholesterol, HDL-cholesterol, triglyceride, and C-reactive protein levels		1--4/wk ≥5/wk	0.58 (0.23, 1.46) 0.74 (0.56, 0.98) / 0.73 (0.54, 0.98) / 0.84 (0.38, 1.89) 0.77 (0.56, 1.07) / 0.72 (0.51, 1.03) / 0.98 (0.39, 2.46)
Mozaffa-rian	2005	USA	The Cardiovascular Health Study	Both	≥65	4,738	955	FFQ, validated	CHF (congestive heart failure)	Annual examinations, six-month phone contacts, and hospitalization discharge summaries	Tuna/other fish	Age, BMI, sex, race, enrolment site, education, diabetes, prevalent CHD, prevalent stroke/transient ischemic attack, total caloric intake, and intake of either fried fish or tuna/other fish (categories of intake), smoking, leisure-time PA (kcal/day), and intakes of saturated fat, fruits, vegetables, and alcohol	12	Frequency <1/mo 1-3/mo 1-2/wk 3-4/wk ≥5/wk	HR 1.00 0.84 (0.67, 1.06) 0.80 (0.64, 0.99) 0.69 (0.52, 0.91) 0.68 (0.45, 1.03)
Myint	2006	UK	EPIC–Norfolk	Men / Women	40-79	10,972	217 / 204	FFQ, validated	Stroke (nonfatal or	Death certificats, hospital	Fish, total	Increasing age, increasing SBP, BMI,	8.5	Portions/wk <1	RR 1.00

Author	Year	Country	Study	Sex	Age	N	Cases	Dietary assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Category	Risk estimate
									fatal)	record linkage system (ENCORE)		smoking, cholesterol and diabetes, fish oil supplement use, PA, alcohol consumption and total EI		1-2 >2	1.12 (0.76, 1.63) / 0.74 (0.51, 1.08) 1.34 (0.93, 2.93) / 0.86 (0.60, 1.24)
Nahab	2016	USA	REGARDS study	Both	40 - ≥75	16,479	440	FFQ, validated	MI (nonfatal or fatal)	Interviews; medical records	Non-fried fish	Age, race, region, sex, income, education, exercise, smoking status, Mediterranean diet score, regular aspirin use and total energy intake, current use of hypertensive medication, diabetes status, SBP, BMI, dyslipidaemia	5.1	Servings <1/mo 1-3/mo 1-2/wk ≥2/wk	HR 1.00 1.05 (0.82, 1.35) 0.93 (0.65, 1.32) 0.87 (0.56, 1.35)
Nahab	2016	USA	REGARDS study	Both	40 - ≥75	16,479	265	FFQ, validated	Ischaemic stroke (fatal or nonfatal)	Interviews; medical records	Non-fried fish	Age, race, region, sex, income, education, exercise, smoking status, Mediterranean diet score, regular aspirin use and total energy intake, current use of hypertensive medication, diabetes status, SBP, BMI, dyslipidaemia	5.1	Servings <1/mo 1-3/mo 1-2/wk ≥2/wk	HR 1.00 1.24 (0.89, 1.74) 1.41 (0.90, 2.21) 1.58 (0.95, 2.63)
Nettleton	2008	USA	ARIC	Both	45-64	15,143	1,140	SFFQ	HF (hospitalization or death)	County death certificates, local hospital discharge lists	Fish	EI, age, sex, race/centre, education level, PA, smoking, drinking status, CVD, diabetes, and hypertension	13	Per 1 serving/d	RR 0.99 (0.81, 1.22)
Orencia	1996	USA	Chicago Western Electric Study	Men	40-55	1,847	222	Dietary histories; food profile scores	Stroke (nonfatal or fatal)	Interview, National Death Index	Fish	Age, SBP, cigarette smoking, serum cholesterol, diabetes, ECG abnormalities, table salt use, alcohol intake (mL/d), iron, thiamine, riboflavin, niacin, vitamin C, beta-carotene, and retinol (U/d) and for total energy, PUFA,	30	g/d 0 1-17 18-34 ≥35	HR 1.00 0.94 (0.58, 1.51) 0.89 (0.57, 1.43) 1.28 (0.76, 2.14)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet method	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Category	Estimate
												carbohydrates, and total protein (% kcal)			
Osler	2003	Denmark	MONICA and others	Men / Women	30-70	4,513 / 3,984	349 / 142	FFQ	CHD (nonfatal or fatal)	National Board of Health's Register of Cause of Death and the National Patient Register	Fish	Familial predisposition, smoking status, PA, alcohol, educational status, healthy diet score, total cholesterol, BMI	1982–1992 until 2000	Frequency ≤1/mo 2/mo 1/wk ≥2/wk	HR 1.03 (0.76, 1.38) / 1.02 (0.67, 1.57) 0.95 (0.73, 1.23) / 0.69 (0.45, 1.07) 1.00 1.05 (0.73, 1.51) / 0.64 (0.32, 1.24)
Salonen	1995	Finland	Kuopio Ischaemic Heart Disease Risk Factor Study (KIHD)	Men	42-60	1,833	73	4-day food recording	AMI (nonfatal and fatal)	AMI registry	Fish	Age, examination years, ischemic exercise ECG, maximal oxygen uptake	1984-1991	g/d <30 g/d ≥30 g/d	RR: 1.00 2.08 (1.26, 3.43)
Tektonidis	2015	Sweden	Swedish Mammography Cohort	Wo-men	48-83	32,921	1,109	FFQ, validated	MI	Linkage of the study cohort to the Swedish Inpatient Register and the Swedish Cause of Death Register	Fish	Education level, family history of MI, cigarette smoking, >40 min of walking or/and cycling per day, >1 h of exercise per week, BMI, history of hypertension), of hypercholesterolemia, of diabetes, aspirin use, total EI	10.4	Servings/d <median >median	RR 1.00 1.11 (0.98, 1.26)
Tognon	2014	Denmark	1982–83 Danish MONICA	Both	30-60	1,849	161	7 d food record, validated	MI (nonfatal and fatal)	National Patient Registry of Hospital Discharges, the Cause of Death Register and the Central Person Register	Fish and shellfish	Sex, BMI, education, PA and cigarette smoking	11	g/d <25.2 >25.2	HR 1.00 1.02 (0.75, 1.39)
Tognon	2014	Denmark	1982–83 Danish	Both	30-60	1,849	167	7 d food record,	Stroke (nonfatal and	National Patient	Fish and shellfish	Sex, BMI, education, PA and cigarette	11	g/d <25.2	HR 1.00

Author	Year	Country / Study design	Cohort	Sex	Age	N	Cases	Method	Outcome	Outcome source	Exposure	Adjustments	Years	Category	OR (CI)
			MONICA					validated	fatal)	Registry of Hospital Discharges, the Cause of Death Register and the Central Person Register		smoking		>25.2	1.01 (0.74, 1.37)
Wennberg	2007	Sweden nested case–control study	Väster-botten Inter-vention Programme, MONICA	Men / Women	~55	1,107	189 / 128	FFQ	Stroke	Northern Sweden MONICA incidence registry	Fish total	Diabetes, hypertension, BMI and smoking are included in the model, in addition to fish intake	1985-2000	Per unit increase for the (non-categorical) risk determinant of fish intake	OR 1.24 (1.01, 1.51) / 0.90 (0.73, 1.12)
Wennberg	2007	Sweden nested case–control study	Västerbotten Intervention Programme, MONICA Programme	Men / Women	~55	1,107	147 / 111	FFQ	Ischemic stroke	Northern Sweden MONICA incidence registry	Fish total	Diabetes, hypertension, BMI and smoking are included in the model, in addition to fish intake	1985-2000	Per unit increase for the (non-categorical) risk determinant of fish intake	OR 1.25 (1.00, 1.56) / 0.93 (0.74, 1.17)
Wennberg	2007	Sweden nested case–control study	Västerbotten Intervention Programme, MONICA Programme	Men / Women	~55	1,107	39 / 15	FFQ	Haemorrhagic stroke	Northern Sweden MONICA incidence registry	Fish total	Diabetes, hypertension, BMI and smoking are included in the model, in addition to fish intake	1985-2000	Per unit increase for the (non-categorical) risk determinants of fish intake	OR 1.14 (0.69, 1.88) / 0.61 (0.23, 1.57)
Wennberg	2011	Sweden nested case–control study	Northern Sweden Health and Disease	Both	~55	930	431	FFQ	MI	Northern Sweden MONICA incidence registry	Fish	Apolipoprotein B/apolipoprotein A-I, smoking, SBP, diabetes, educational level, consumption of fruit and vegetables,	1987-1999	Meals/wk <1/mo 1/mo<1/wk 1-2/wk >2/wk	OR 1.00 0.88 (0.40, 1.94) 1.09 (0.55, 2.15) 1.21 (0.43, 3.33)

			Study									consumption of wine, consumption of strong beer, and level of PA		
Wilk	2012	USA	PHS	Men	58.7	18,968	695	FFQ	HF	Self-reported at annual follow-up questionnaires medical records review	Fish	Age, atrial fibrillation, valvular heart disease, hypertension, BMI, alcohol, current smoking, former smoking, exercise, and quintiles of ALA	1997-2010	Frequency <1/mo 1-3/mo 1/wk ≥2/wk	HR 1.00 0.70 (0.52, 0.94) 0.73 (0.55, 0.97) 0.72 (0.54, 0.95)
Würtz	2016	Denmark	Danish Diet, Cancer and Health study	Men/Women	50–64	26,029/ 29,142	1,694/ 656	FFQ, validated	MI (nonfatal and fatal)	Danish National Patient Register, Danish Cause of Death Register, Central Population Register	Fish	Age, EI, alcohol abstinence, alcohol intake, BMI, waist circumference, smoking status, PA, duration of schooling, menopausal status and use of HRT, fruits, sweets, soft drinks, lean dairy products, fatty dairy products, potato chips, refined cereals, wholegrain cereals, nuts	13.6	Per 150 g/wk higher intake	HR 1.01 (0.97, 1.06) / 0.96 (0.88, 1.03)

Supplemental Table 10: General study characteristics of the included studies investigating the association between fish intake and risk of coronary heart disease, stroke, and heart failure

Author	Year	Country	Cohort name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of red meat	Adjustment factors	Follow up years	Consumption frequency or amount	RR/HR/OR (95% confidence intervals)
Amiano	2016	Spain	EPIC	Men / Women	29-69	15,490 / 25,530	373 / 301	Validated dietary history questionnaire	Stroke, total	Record linkage with hospital discharge databases and primary care records; crossing data with the National Institute of Statistics; validation process by a team of trained health professionals	Red meat, unprocessed	Age at baseline, centre and total EI, BMI, waist circumference, smoking status, smoking before 20 years of age, recreational PA, educational level, alcohol consumption, use of vitamin supplements, use of antithrombotic or anti-haemorrhagic agents, use of cardiovascular drugs, use of salicylic acid or derivatives, incident acute MI cases, diabetes, self-reported diseases (hypertension, hyperlipidaemia), menopausal status, HRT and oral contraceptives, % of energy from carbohydrates, protein and fats, and intakes of vegetables, fruit, dairy products and fish	13.8	g/d (m) <24.3 24.3-43.4 43.4-61.9 61.9-86 ≥86 g/d (w) <11.1 11.1-23.2 23.2-35.8 35.8-52.4 ≥52.4	HR (m) 1.00 0.87 (0.60, 1.25) 1.00 (0.70, 1.43) 0.88 (0.61, 1.29) 0.81 (0.54, 1.21) HR (w) 1.00 0.82 (0.56, 1.22) 0.79 (0.52, 1.20) 1.07 (0.71, 1.62) 1.21 (0.79, 1.85)
Amiano	2016	Spain	EPIC	Men / Women	29-69	15,490 / 25,530	302 / 229	Validated dietary history questionnaire	Ischemic Stroke	Record linkage with hospital discharge databases and primary care records; crossing data with the National Institute of Statistics;	Red meat, unprocessed	Age at baseline, centre and total EI, BMI, waist circumference, smoking status, smoking before 20 years of age, recreational PA, educational level, alcohol consumption, use of vitamin supplements, use of antithrombotic or anti-haemorrhagic agents, use of	13.8	g/d (m) <24.3 24.3-43.4 43.4-61.9 61.9-86 ≥86 g/d (w) <11.1 11.1-23.2 23.2-35.8 35.8-52.4	HR (m) 1.00 0.72 (0.47, 1.10) 0.99 (0.67, 1.48) 0.84 (0.55, 1.28) 0.80 (0.51, 1.25) HR (w) 1.00 0.85 (0.54, 1.33) 0.86 (0.53, 1.39) 1.10 (0.68, 1.78)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet	Outcome	Outcome assessment	Exposure	Adjustments	Intake	Category	Risk estimate
										validation process by a team of trained health professionals		cardiovascular drugs, use of salicylic acid or derivatives, incident acute MI cases, diabetes, self-reported diseases (hypertension, hyperlipidaemia), menopausal status, HRT and oral contraceptives, % of energy from carbohydrates, protein and fats, and intakes of vegetables, fruit, dairy products and fish		≥52.4	1.24 (0.74, 2.05)
Ashaye	2011	USA	PHS	Men	54.6	21,120	1,012	SFFQ	HF	Annual follow-up questionnaire medical records review	Red meat	Age, aspirin assignment, smoking, alcohol consumption, cereal consumption, BMI, parental history of MI prior to age 60 y, and prevalence of diabetes mellitus, CHD, atrial fibrillation, and hypertension at the time of red meat assessment	19.9	Quintile of intake Q1 Q2 Q3	HR 1.00 1.05 (0.90, 1.23) 1.17 (1.01, 1.36)
Bernstein	2012	USA	HPFS	Men	40-75	43,150	1,397 / 829 / 218	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medical records/interview or letter; medical or autopsy record/death certificate	Total red meat	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	22	Servings/d 0.30 0.68 1.03 1.46 2.29	RR 1.00 0.98 (0.81, 1.18) / 1.03 (0.81,1.31) / 1.03 (0.61,1.73) 1.08 (0.89, 1.32) / 1.09 (0.85,1.41) / 0.93 (0.53,1.63) 1.24 (1.01, 1.52) / 1.34 (1.03,1.75) / 1.14 (0.63,2.06) 1.28 (1.02, 1.61) / 1.31 (0.97,1.77) / 1.07 (0.55,2.08)
Bernstein	2012	USA	NHS	Wo-men	30-55	84,010	2,633 / 1383 / 475	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke /	Self-reported/ medical records/ interview or	Total red meat	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, menopausal	26	Servings/d 0.44 0.74	RR 1.00 1.12 (0.99, 1.26) / 1.09 (0.92,1.29) /

Author	Year	Country	Study	Sex	Age	N	Cases	Dietary assessment	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Exposure category	RR/HR
									Hemorrhagic stroke	letter; medical or autopsy record/death certificate		status, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources		1.00 1.32 1.92	1.46 (0.97,2.22) 1.11 (0.97, 1.27) / 1.09 (0.91,1.31) / 1.49 (0.94,2.34) 1.17 (1.01, 1.36) / 1.10 (0.90,1.35) / 1.54 (0.94,2.51) 1.19 (1.00, 1.41) / 1.16 (0.92,1.48) / 1.30 (0.72,2.34)
Bernstein	2010	USA	NHS	Women	30-55	84,136	3,162	FFQ	CHD (nonfatal and fatal)	Medical records; state vital records and the National Death Index or were reported by next of kin or the postal system	Red meat, excluding processed meat	Age, time period, total energy, cereal fibre alcohol, trans-fat, BMI, cigarette smoking, menopausal status, parental history of early MI, multivitamin use, vitamin E supplement use, aspirin use at least once per week, physical exercise	26	Servings/d 0.28 0.45 0.64 0.84 1.17	RR 1.00 0.91 (0.81, 1.03) 0.99 (0.88, 1.12) 0.93 (0.81, 1.06) 1.13 (0.99, 1.30)
del Gobbo	2015	USA	Cardiovascular Health Study	Both	≥65	4,490	1,380	FFQ, validated	HF	Medical records, diagnostic tests, clinical consultations, and interviews	Red meat unprocessed	Age, sex, race, enrolment site, education, annual income, total kcal expended, walking pace, smoking, alcohol intake, BMI, prevalent treated hypertension, prevalent diabetes mellitus, prevalent CHD, polyunsaturated fat to saturated fat ratio	21.5	Quintiles of intake Q1 Q2 Q3 Q4 Q5	RR 1.00 0.77 (0.65, 0.91) 0.92 (0.78, 1.09) 0.91 (0.77, 1.07) 0.94 (0.80, 1.10)
Fraser	1992	USA	Adventist Health Study	Both	≥ 25	26,743	134	SFFQ	Definite MI (nonfatal)	Self-reported/ questionnaire, medical records review	Beef index	Stratified on age, sex, smoking, exercise, relative weight, and high blood pressure	6	Times/wk 0 <3 ≥3	RR 1.00 1.14(0.74, 1.75) 0.98(0.64, 1.50)
Haring	2015	USA	ARIC	Both	45–64	11,601	699 / 598 / 114	FFQ validated, interviewer-administered	Stroke (nonfatal and fatal) / Ischemic stroke /	Hospital discharge codes and stroke deaths and physician-	Red meat	Age, sex, race, study centre, total EI, smoking, cigarette years, education, SBP, use of antihypertensive	22.7	Servings/d 0.14 0.28	HR 1.00 1.13 (0.87, 1.47) / 1.13 (0.85, 1.49) / 1.12 (0.60, 2.09)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet	Outcome	Outcome assessment	Meat type	Adjustments		Intake	Risk estimate
									Hemorrhagic stroke	adjudicated		medication, HDL-cholesterol, total cholesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-related PA, carbhydrate intake, fibre intake, fat intake, and magnesium intake		0.50 0.65 1.08	1.37 (1.06, 1.77) / 1.44 (1.09, 1.90) / 1.00 (0.52, 1.92) 1.38 (1.05, 1.81) / 1.33 (0.99, 1.79) / 1.50 (0.79, 2.83) 1.41 (1.04, 1.92) / 1.47 (1.06, 2.05) / 1.13 (0.53, 2.45)
Haring	2014	USA	ARIC	Both	45–64	12, 066	1, 147	FFQ, interviewer-administered	CHD (nonfatal and fatal)	Information from study visits, yearly telephone follow-up calls, review of hospital discharge lists and medical charts, death certificates, next-of-kin interviews, and physician-completed questionnaires	Red meat	Age, sex, race, study centre, total EI, smoking, education, SBP, use of antihypertensive medication, HDL-cholesterol, total cholesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-related PA, carbohydrate intake, fibre intake, and magnesium intake	22	Servings/d 0.1 0.3 0.5 0.6 1.1	HR 1.00 0.92 (0.76, 1.12) 1.02 (0.85, 1.24) 1.10 (0.90, 1.35) 1.13 (0.89, 1.44)
Kaluza	2014	Sweden	Cohort of Swedish Men	Men	45-79	37,035	2,891	FFQ	HF incidence	Swedish Patient Register	Total red meat	Age, BMI, education, smoking status, pack-years of smoking, PA, aspirin use, supplement use, family history of MI at <60 y, EI, alcohol consumption, whole grain products, fruit, vegetable, fish	11.8	g/d 37.2 50.0-99.9 100-149.9 175	HR 1.00 1.00 (0.90, 1.11) 1.00 (0.89, 1.13) 1.20 (1.03, 1.41)
Kaluza	2015	Sweden	Swedish Mammography Cohort	Wo-men	48-83	34,057	2,806	FFQ	HF incidence	Swedish Patient Register, Cause of Death Register	Total red meat	Age , education, smoking status and pack-years of smoking, BMI, total PA, aspirin use, family history of MI at b60 years and intake of energy and	13.2	g/d 34 50-99.9 117	HR 1.00 1.01 (0.93, 1.09) 1.23 (1.03, 1.48)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet	Outcome	Ascertainment	Exposure	Adjustments	Follow-up	Intake (g/d)	RR
												consumption of alcohol, whole grain products, fruit, vegetable and fish, unprocessed red meat and processed meat were included in the same multivariable model			
Larsson	2011	Sweden	Cohort of Swedish Men	Men	45-79	40,291	2,409 / 1,849 / 350	FFQ	Stroke (nonfatal and fatal) total / Cerebral infarction / Haemorrhagic stroke	Swedish Hospital Discharge Registry, Swedish Death Registry at Statistics Sweden	Total red meat	Age, smoking status, pack-years of smoking, education, BMI, total PA, histories of diabetes and hypertension, aspirin use, family history of MI, and intakes of total energy, alcohol, fish, fruit, and vegetables	10.1	g/d <62.5 62.5–88.3 88.4–110.3 110.4–136.1 ≥136.2	RR 1.00 1.06 (0.94, 1.19) / 1.01 (0.88, 1.15) / 1.38 (1.01, 1.88) 1.08 (0.95, 1.22) / 1.04 (0.90, 1.20) / 0.99 (0.69, 1.42) 1.02 (0.89, 1.17) / 1.00 (0.85, 1.17) / 1.14 (0.79, 1.65) 1.15 (1.00, 1.33) / 1.06 (0.90, 1.25) / 1.57 (1.09, 2.25)
											Fresh red meat			g/d <33.5 33.5–50.4 50.5–67.1 67.2–83.1 >83.1	RR 1.00 0.98 (0.87, 1.10) / 1.01 (0.88, 1.15) / 0.88 (0.64, 1.22) 0.99 (0.87, 1.12) / 0.99 (0.85, 1.14) / 0.93 (0.66, 1.31) 0.92 (0.81, 1.05) / 0.91 (0.78, 1.06) / 0.86 (0.61, 1.23) 1.07 (0.93, 1.24) / 1.02 (0.87, 1.20) / 1.27 (0.90, 1.80)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet method	Outcome	Outcome source	Exposure	Adjustments		Intake	RR
Larsson	2011	Sweden	Swedish Mammography Cohort	Wo-men	~60	34,670	1,680 / 1,310 / 154 / 79	FFQ	Stroke total (non-fatal and fatal) / Cerebral infarction / Intracerebral haemorrhagic / Subarachnoid haemorrhagic	Swedish Hospital Discharge Registry, Swedish Death Registry	Red meat	Age, smoking status and pack-years of smoking, education, BMI, total PA, history of diabetes, history of hypertension, aspirin use, family history of MI, and intake of total energy, alcohol, coffee, fish, fruits, and vegetables	10.4	g/d <36.5 36.5–53.6 53.7– 68.3 68.4–85.9 ≥86.0	RR 1.00 0.99 (0.86, 1.15) / 1.06 (0.90, 1.25) / 0.62 (0.39, 1.00) / 0.56 (0.24, 1.27) 0.97 (0.83, 1.13) / 0.99 (0.83, 1.18) / 0.74 (0.46, 1.18) / 1.10 (0.54, 2.22) 1.08 (0.92, 1.26) / 1.12 (0.93, 1.34) / 0.68 (0.41, 1.14) / 1.25 (0.62, 2.56) 1.12 (0.95, 1.32) / 1.22 (1.01, 1.46) / 0.59 (0.34, 1.04) / 1.02 (0.48, 2.16)
											Fresh meat (pork, beef, and veal)			g/d <16.5 16.5–29.0 29.1–36.4 36.5– 48.7 ≥48.8	RR 1.00 0.90 (0.78, 1.03) / 0.92 (0.79, 1.08) / 0.90 (0.59, 1.39) / 0.73 (0.36, 1.49) 0.90 (0.76, 1.06) / 0.87 (0.72, 1.06) / 0.67 (0.38, 1.18) / 1.02 (0.49, 2.14) 0.98 (0.84, 1.14) / 1.04 (0.87, 1.23) / 0.74 (0.44, 1.23) / 0.98 (0.49, 1.99) 1.07 (0.91, 1.23) / 1.12 (0.93, 1.34) / 0.83 (0.48, 1.42) / 0.90 (0.42, 1.91)
Nettleton	2008	USA	ARIC	Both	45-64	15, 143	1, 140	SFFQ	HF (hospitalizatio n or death)	County death certificates, local hospital discharge lists	Red meat or processe d meat	EI, age, sex, race/centre, education level, PA, smoking, drinking status, CVD, diabetes, and hypertension	13	Per 1 serving/d	RR 1.07 (0.97, 1.17)
Würtz	2016	Denmark	Danish Diet,	Men/ Wo-men	50–64	26, 029/ 29, 142	1,694/ 656	FFQ, validated	MI (nonfatal and fatal)	Danish National	Red meat,	Age, EI, alcohol abstinence, alcohol	13.6	Per 150 g/wk	HR 1.03 (1.01, 1.06) /

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Outcome assessment	Exposure	Adjustments	Follow-up	Comparison	Risk estimate
			Cancer and Health study	men						Patient Register, Danish Cause of Death Register, Central Population Register	total	intake, BMI, waist circumference, smoking status, PA, duration of schooling, menopausal status and use of HRT, fruits, sweets, soft drinks, lean dairy products, fatty dairy products, potato chips, refined cereals, wholegrain cereals, nuts		higher intake	1.06 (1.01, 1.11)
Yaemsiri	2012	USA	WHI-OS	Wo-men	50-79	87, 025	1, 049	FFQ, validated	Ischaemic stroke (non-fatal and fatal)	Self-report during annual medical history; medical charts, brain imaging, or death certificates	Red meat	Age, race, education, family income, years as a regular smoker, HRT use, total MET-hours per week, alcohol intake, history of CHD, history of atrial fibrillation, history of diabetes, aspirin use, use of antihypertensive medication, use of cholesterol-lowering medication, BMI, SBP, and total EI, dietary vitamin E, fruits and vegetable intake, fibre	7.6	Per 1 medium serving/d	HR 1.13 (0.95, 1.34)

Supplemental Table 11: General study characteristics of the included studies investigating the association between red meat intake and risk of coronary heart disease, stroke, and heart failure

Author	Year	Country	Cohort name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of processed meat	Adjustment factors	Follow up years	Consumption frequency or amount	RR/HR/OR (95% confidence intervals)
Amiano	2016	Spain	EPIC	Men / Women	29-69	15,490 / 25,530	373 /301	Validated dietary history questionnaire	Stroke, total	Record linkage with hospital discharge databases and primary care records; crossing data with the National Institute of Statistics; validation process by a team of trained health professionals	Processed meat	Age at baseline, centre and total EI, BMI, waist circumference, smoking status, smoking before 20 years of age, recreational PA, educational level, alcohol consumption, use of vitamin supplements, use of antithrombotic or anti-haemorrhagic agents, use of cardiovascular drugs, use of salicylic acid or derivatives, incident acute MI cases, diabetes, self-reported diseases (hypertension, hyperlipidaemia), menopausal status, HRT and oral contraceptives, % of energy from carbohydrates, protein and fats, and intakes of vegetables, fruit, dairy products and fish	13.8	g/d (m) <21.5 21.5–35.9 35.9–50.4 50.4–72.6 ≥72.6 g/d (w) <12 12.-21.1 21.1–31 31–46 ≥46	HR (m) 1.00 0.85 (0.61, 1.19) 0.77 (0.54, 1.10) 0.94 (0.66, 1.32) 0.92 (0.64, 1.32) HR (w) 1.00 1.26 (0.87, 1.83) 0.96 (0.64, 1.45) 1.10 (0.74, 1.64) 0.81 (0.51, 1.27)
Amiano	2016	Spain	EPIC	Men / Women	29-69	15,490 / 25,530	302 / 229	Validated dietary history questionnaire	Ischemic Stroke	Record linkage with hospital discharge databases and primary care records; crossing data with the National Institute of Statistics; validation	Processed meat	Age at baseline, centre and total EI, BMI, waist circumference, smoking status, smoking before 20 years of age, recreational PA, educational level, alcohol consumption, use of vitamin supplements, use of antithrombotic or anti-haemorrhagic agents, use of cardiovascular drugs,	13.6	g/d (m) <21.5 21.5–35.9 35.9–50.4 50.4–72.6 ≥72.6 g/d (w) <12 12-21.1 21.1–31 31–46 ≥46	HR (m) 1.00 0.81 (0.56, 1.19) 0.85 (0.58, 1.25) 0.99 (0.68, 1.45) 0.86 (0.57, 1.29) HR (w) 1.00 1.44 (0.92, 2.25) 1.18 (0.73, 1.91) 1.29 (0.80, 2.08) 0.82 (0.47, 1.42)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet assessment	Outcome	Outcome ascertainment	Exposure	Adjustments		Units	RR
										process by a team of trained health professionals		use of salicylic acid or derivatives, incident acute MI cases, diabetes, self-reported diseases (hypertension, hyperlipidaemia), menopausal status, HRT and oral contraceptives, % of energy from carbohydrates, protein and fats, and intakes of vegetables, fruit, dairy products and fish			
Ascherio	1994	USA	HPFS	Men	40-75	44,933	249	SFFQ, validated	MI	Self-reported/ questionnaire, medical records; deaths reported by next-of-kin, co-workers, postal authorities, or National Death Index	Processed meat	NA	4	g/d 16 145	RR 1.00 1.18 (0.78, 1.80)
Bernstein	2012	USA	HPFS	Men	40-75	43,150	1,397 / 829 / 218	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke / Hemorrhagic stroke	Self-reported/medical records/interview or letter; medical or autopsy record/death certificate	Processed red meat	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, menopausal status, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources	22	Servings/d 0.03 0.14 0.21 0.39 0.71	RR 1.00 1.01 (0.84, 1.21) / 1.07 (0.84,1.36) / 0.95 (0.55,1.67) 0.91 (0.75, 1.10) / 0.87 (0.67,1.12) / 1.04 (0.59,1.84) 1.12 (0.92, 1.36) / 1.10 (0.85,1.42) / 1.26 (0.72,2.21) 1.27 (1.03, 1.55) / 1.31 (1.00,1.71) / 1.47 (0.80,2.72)
Bernstein	2012	USA	NHS	Women	30-55	84,010	2,633 / 1383 / 475	FFQ, validated	Stroke (non-fatal and fatal) / Ischemic stroke /	Self-reported/medical records/ interview or	Processed red meat	Age and time period, BMI, cigarette smoking, PA, parental history of early MI, menopausal	26	Servings/d 0.05 0.14	RR 1.00 0.98 (0.87, 1.11) / 0.98 (0.83,1.16) /

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Outcome ascertainment	Exposure	Adjustments		Units	Risk estimate
									Hemorrhagic stroke	letter; medical or autopsy record/death certificate		status, multivitamin use, vitamin E supplement use, aspirin use at least once per week, total energy, cereal fibre, alcohol, trans-fat, fruit and vegetables, other protein sources		0.23 0.35 0.64	1.12 (0.74,1.68) 1.06 (0.93, 1.21) / 1.06 (0.89,1.27) / 1.09 (0.70,1.71) 1.09 (0.95, 1.24) / 0.98 (0.82,1.18) / 1.48 (0.97,2.27) 1.10 (0.95, 1.27) / 1.07 (0.87,1.31) / 0.94 (0.56,1.57)
Bernstein	2010	USA	NHS	Women	30-55	84,136	3,162	FFQ, validated	CHD (nonfatal and fatal)	Medical records; state vital records and the National Death Index or were reported by next of kin or the postal system	Processed meat	Age, time period, total energy, cereal fibre alcohol, trans-fat, BMI, cigarette smoking, menopausal status , parental history of early MI, multivitamin use, vitamin E supplement use, aspirin use at least once per week, physical exercise	26	Servings/d 0.00 0.04 0.07 0.14 0.43	RR 1.00 0.89 (0.79, 1.01) 0.98 (0.88, 1.08) 0.98 (0.88, 1.10) 1.05 (0.93, 1.17)
Burke	2007	Australia	NA	Both	15–88	514	130	FFQ	CHD (non-fatal and fatal)	Hospital separation records and death records	Processed meat	Age, sex, mean arterial pressure, total cholesterol, waist girth, smoking, alcohol drinking, PA	14	serves/mo >4	HR 2.21 (1.05, 4.63)
del Gobbo	2015	USA	Cardiovascular Health Study	Both	≥65	4,490	1,380	FFQ, validated	HF	Medical records, diagnostic tests, clinical consultations, and interviews	Processed meat	Age, sex, race, enrolment site, education, annual income, total kcal expended, walking pace, smoking, alcohol intake, BMI, prevalent treated hypertension, prevalent diabetes mellitus, prevalent CHD, polyunsaturated fat to saturated fat ratio	21.5	Quintiles of intake Q1 Q2 Q3 Q4 Q5	RR 1.00 1.01 (0.95, 1.27) 1.11 (0.84, 1.47) 1.12 (0.85, 1.48) 1.21 (0.92, 1.60)
Haring	2015	USA	ARIC	Both	45–64	11,601	699 / 598 / 114	FFQ validated, interviewer-administered	Stroke (nonfatal and fatal) / Ischemic stroke /	Hospital discharge codes and stroke deaths and physician-	Processed meat	Age, sex, race, study centre, total EI, smoking, cigarette years, education, SBP, use of antihypertensive	22.7	Servings/d 0 0.14	HR 1.00 1.06 (0.83, 1.36) / 1.03 (0.79, 1.35) / 1.56 (0.78, 3.12)

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet method	Outcome	Outcome assessment	Exposure	Adjustments	Col	Intake	Risk estimate
									Hemorrhagic stroke	adjudicated		medication, HDL-cholesterol, total cholesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-related PA, carbo-hydrate intake, fibre intake, fat intake, and magnesium intake		0.35 0.50 1.07	1.02 (0.78, 1.34) / 1.00 (0.75, 1.33) / 1.45 (0.69, 3.03) 0.86 (0.66, 1.13) / 0.80 (0.60, 1.06) / 1.54 (0.76, 3.12) 1.24 (0.94, 1.63) / 1.20 (0.90, 1.61) / 1.67 (0.80, 3.51)
Haring	2014	USA	ARIC	Both	45–64	12,066	1,147	FFQ, interviewer-administered	CHD (nonfatal and fatal)	Information from study visits, yearly telephone fol-low-up calls, review of hospital discharge lists and medical charts, death certificates, next-of-kin interviews, and physician-completed questionnaires	Pro-cessed meat	Age, sex, race, study centre, total EI, smoking, education, SBP, use of antihyper-tensive medication, HDL-cholesterol, total cholesterol, use of lipid lowering medication, BMI, waist-to-hip ratio, alcohol intake, sports-related PA, leisure-related PA, carbohydrate intake, fibre intake, and magnesium intake	22	Servings/d 0 0.1 0.4 0.5 1.1	HR 1.00 0.95 (0.78. 1.15) 1.02 (0.84, 1.24) 1.04 (0.85, 1.265) 1.04 (0.85, 1.29)
Kaluza	2014	Sweden	Cohort of Swedish Men	Men	45-79	37,035	2,891	FFQ	HF incidence	Swedish Patient Register	Pro-cessed red meat	Age, BMI, education, smoking status, pack-years of smoking, PA, aspirin use, supplement use, family history of MI at <60 y, EI, alcohol consumption, whole grain products, fruit, vegetable, fish	11.8	g/d 15.5 25.0-49.9 50.0-74.9 89.7	HR 1.00 1.09 (1.00, 1.19) 1.09 (0.97, 1.23) 1.28 (1.10, 1.48)
Kaluza	2015	Sweden	Swedish Mammo-graphy Cohort	Wo-men	48-83	34,057	2,806	FFQ	HF incidence	Swedish Patient Register, Cause of Death Register	Pro-cessed red meat	Age , education, smoking status and pack-years of smoking, BMI, total PA, aspirin use, family history of MI at 60 years and in-take of energy and con-	13.2	g/d 16 25-49.9 60	HR 1.00 1.09 (0.99, 1.19) 1.30 (1.05, 1.60)

												sumption of alcohol, whole grain products, fruit, vegetable and fish. b Unprocessed red meat and processed meat were included in the same multivariable model			
Larsson	2011	Sweden	Cohort of Swedish Men	Men	45-79	40,291	2,409 / 1,849 / 350	FFQ, validated	Stroke (non-fatal and fatal) total / Cerebral infarction / Haemorrhagic stroke	Swedish Hospital Discharge Registry, Swedish Death Registry at Statistics Sweden	Pro-cessed meat	Age, smoking status, pack-years of smoking, education, BMI, total PA, histories of diabetes and hypertension, aspirin use, family history of MI, and intakes of total energy, alcohol, fish, fruit, and vegetables	10.1	g/d <20.1 20.1–32.1 32.2–42.1 42.2–57.0 ≥57.1	RR 1.00 1.08 (0.95, 1.22) / 1.07 (0.93, 1.23) / 1.18 (0.84, 1.66) 1.17 (1.03, 1.33) / 1.09 (0.94, 1.26) / 1.53 (1.09, 2.13) 1.12 (0.98, 1.28) / 1.10 (0.94, 1.28) / 1.14 (0.79, 1.64) 1.23 (1.07, 1.40) / 1.18 (1.01, 1.38) / 1.39 (0.97, 1.99)
Larsson	2011	Sweden	Swedish Mammography Cohort	Wom-en	~60	34,670	1,680 / 1,310 / 154 / 79	FFQ, validated	Stroke total (non-fatal and fatal) / Cerebral infarction / Intracerebral haemorrhagic / Subarachnoid haemorrhagic	Swedish Hospital Discharge Registry, Swedish Death Registry	Pro-cessed meat	Age, smoking status and pack-years of smoking, education, BMI, total PA, history of diabetes, history of hypertension, aspirin use, family history of MI, and intake of total energy, alcohol, coffee, fish, fruits, and vegetables	10.4	g/d <12.1 12.1–21.5 21.6–30.8 30.9–41.2 ≥41.3	RR 1.00 1.20 (1.04–1.39) / 1.28 (1.08–1.51) / 0.63 (0.39–1.01) / 1.34 (0.64–2.81) 1.14 (0.98–1.34) / 1.23 (1.03–1.47) / 0.76 (0.47–1.22) / 1.05 (0.48–2.29) 1.03 (0.89–1.21) / 1.10 (0.91–1.32) / 0.59 (0.35–1.01) / 1.39 (0.66–2.93) 1.18 (1.00, 1.38) / 1.24 (1.04, 1.49) / 0.71 (0.42, 1.18) / 1.53 (0.73, 3.20)
Würtz	2016	Denmark	Danish Diet, Cancer	Men/ Wom-en	50–64	26,029/ 29,142	1,694/ 656	FFQ, validated	MI (nonfatal and fatal)	Danish National Patient	Pro-cessed red meat	Age, EI, alcohol abstinence, alcohol intake, BMI, waist	13.6	Per 150 g/wk higher	HR 1.07 (1.02, 1.11) / 1.02 (0.92, 1.13)

| | | | and Health study | | | | | | | Register, Danish Cause of Death Register, Central Population Register | | circumference, smoking status, PA, duration of schooling, menopausal status and use of HRT, fruits, sweets, soft drinks, lean dairy products, fatty dairy products, potato chips, refined cereals, wholegrain cereals, nuts | | intake | |

Supplemental Table 12: General study characteristics of the included studies investigating the association between processed meat intake and risk of coronary heart disease, stroke, and heart failure

Author	Year	Country	Cohort name	Sex	Age at entry	Sample size	Total cases	Dietary assessment	Outcome	Outcome assessment	Type of sugar sweetened beverages	Adjustment factors	Follow up years	Consumption frequency or amount	RR/HR/OR (95% confidence intervals)
Bernstein	2012	USA	HPFS	Men	40-75	43,371	1,416	FFQ, validated	Stroke / Ischemic stroke / Haemorrhagic stroke	Questionnaire, medical records	Sugar-sweetened soda	Stratified on age and calendar time and includes intakes of red meat, poultry, fish, nuts, whole- and low-fat dairy products, and fruit and vegetables; cereal fibre; alcohol intake; trans-fat intake; cigarette smoking; parental history of early MI; multivitamin use; aspirin use at least once per week; vitamin E supplement use; PA; both sugar-sweetened and low-calorie sodas are included in the model, BMI, EI	22	Servings 0 0-1/wk 1/wk-1/d ≥1/d	RR 1.00 0.93 (0.80, 1.08) / 0.90 (0.75, 1.08) / 0.75 (0.51, 1.11) 0.99 (0.86, 1.14) / 0.89 (0.74, 1.06) / 1.21 (0.86, 1.71) 1.08 (0.82, 1.41) / 1.02 (0.72, 1.45) / 0.82 (0.38, 1.77)
Bernstein	2012	USA	NHS	Women	30-55	84,085	2,938	FFQ, validated	Stroke / Ischemic stroke / Haemorrhagic stroke	Questionnaire, medical records	Sugar-sweetened soda	Stratified on age and calendar time and includes intakes of red meat, poultry, fish, nuts, whole- and low-fat dairy products, and fruit and vegetables; cereal fibre; alcohol intake; trans-fat intake; cigarette smoking; parental history of early MI; multivitamin use; aspirin use at least once per week; vitamin E supplement use; menopausal	22	Servings 0 0-1/wk 1/wk-1/d ≥1/d	RR 1.00 1.00 (0.91, 1.10) / 1.05 (0.92, 1.20) / 0.95 (0.75, 1.19) 1.11 (1.00, 1.22) / 1.18 (1.02, 1.35) / 1.00 (0.79, 1.26) 1.19 (1.00, 1.42) / 1.28 (0.99, 1.65) / 0.85 (0.56, 1.29)

											status; PA; both sugar-sweetened and low-calorie sodas are included in the model, BMI, EI			
de Koning	2012	USA	HPFS	Men	40-75	42,883	3,683	SFFQ, validated	CHD (MI fatal or nonfatal)	Follow-up questionnaire, medical records, National Death Index, family members' response to follow-up questionnaires, reports from participants' professional organizations, autopsy reports, death certificates	Sugar-sweetened beverages	Age, smoking, PA, alcohol intake, multivitamin use, and family history of CHD. Pre-enrolment weight change includes variables for weight gain and weight loss	22	Servings 0 1/mo 2/wk 6.5/wk	RR 1.00 1.03 (0.94, 1.13) 1.05 (0.95, 1.15) 1.18 (1.06, 1.31)
del Gobbo	2015	USA	Cardiovascular Health Study	Both	≥65	4,490	1,380	FFQ, validated	HF	Medical records, diagnostic tests, clinical consultations, and interviews	Sugar sweetened beverages	Age, sex, race, enrolment site, education, annual income, total kcal expended, walking pace, smoking, alcohol intake, BMI, prevalent treated hypertension, prevalent diabetes mellitus, prevalent CHD, polyunsaturated fat to saturated fat ratio	21.5	Quintiles of intake Q1 Q2 Q3 Q4 Q5	RR 1.00 0.92 (0.77, 1.09) 0.94 (0.79, 1.12) 0.96 (0.81, 1.14) 0.97 (0.81, 1.15)
Eshak	2012	Japan	Japan Public Health Centre–based prospective	Men / Women	40-59	18,874 / 20,911	1,133 / 789	FFQ, validated, self-administered	Stroke, total	Questionnaire, medical records	Soft drinks	Age, history of hypertension, history of diabetes, smoking status, ethanol intake, leisure-time sports activity, job status, and intakes of	18	Cups/wk 0.5 1-2 3-4 6	HR 1.00 0.89 (0.78, 1.05) / 1.07 (0.91, 1.25) 0.90 (0.76, 1.06) / 1.12 (0.87, 1.44) 0.76 (0.62, 1.06) /

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet	Outcome	Ascertainment	Exposure	Adjustments	FU	Units	Estimate (95% CI)
			study									seafood, meat, fruit, and sodium, BMI and total EI			1.21 (0.88, 1.68)
Eshak	2012	Japan	Japan Public Health Centre–based prospective study	Men / Women	40-59	18,874 / 20,911		FFQ, validated, self-administered	Ischemic stroke	Questionnaire, medical records	Soft drinks	Age, history of hypertension, history of diabetes, smoking status, ethanol intake, leisure-time sports activity, job status, and intakes of seafood, meat, fruit, and sodium, BMI and total EI	18	Cups/wk 0.5 1-2 3-4 6	HR 1.00 0.85 (0.71, 1.01) / 1.03 (0.82, 1.30) 0.68 (0.51, 0.89) / 1.12 (0.78, 1.63) 0.75 (0.53, 1.03) / 1.83 (1.22, 2.75)
Eshak	2012	Japan	Japan Public Health Centre–based prospective study	Men / Women	40-59	18,874 / 20,911		FFQ, validated, self-administered	Haemorrhagic stroke	Questionnaire, medical records	Soft drinks	Age, history of hypertension, history of diabetes, smoking status, ethanol intake, leisure-time sports activity, job status, and intakes of seafood, meat, fruit, and sodium, BMI and total EI	18	Cups/wk 0.5 1-2 3-4 6	HR 1.00 1.02 (0.82, 1.26) / 1.09 (0.87, 1.36) 1.03 (0.78, 1.35) / 1.13 (0.80, 1.58) 0.77 (0.55, 1.08) / 0.70 (0.40, 1.20)
Eshak	2012	Japan	Japan Public Health Centre–based prospective study	Men / Women	40-59	18,874 / 20,911	360 / 93	FFQ, validated, self-administered	IHD	Questionnaire, medical records	Soft drinks	Age, history of hypertension, history of diabetes, smoking status, ethanol intake, leisure-time sports activity, job status, and intakes of seafood, meat, fruit, and sodium, BMI and total EI	18	Cups/wk 0.5 1-2 3-4 6	HR 1.00 0.85 (0.66, 1.08) / 0.96 (0.59, 1.55) 0.85 (0.61, 1.18) / 1.52 (0.78, 2.95) 1.04 (0.74, 1.48) / 0.88 (0.30, 2.60)
Fung	2009	USA	NHS	Women	34-59	88,520	3,105	FFQ, validated	CHD (nonfatal MI and fatal CHD)	Questionnaire, medical records	Sugar-sweetened beverage	Age, smoking, alcohol intake, family history, PA, aspirin use, menopausal status and post-menopausal hormone use, and history of hypertension and high blood cholesterol, Alternate HEI	24	Servings/d 0 0.1 0.4 1.2 2.6	RR 1.00 0.96 (0.87, 1.06) 1.04 (0.95, 1.14) 1.23 (1.06, 1.43) 1.35 (1.07, 1.69)

Author	Year	Country	Study	Sex	Age	N	Cases	Diet assessment	Outcome	Ascertainment	Exposure	Adjustment	Follow-up	Category	Risk estimate
Gardener	2012	USA	Northern Manhattan Study	Men	~69	2,564	225	FFQ, validated	Stroke	Annually by telephone interview, continuous surveillance of local hospital admission and discharge ICD-9 codes; in addition, review of medical record, autopsy reports or death certificates	Soft drinks	Demographics, behavioural risk factors, daily diet, waist circumference, vascular risk factors (previous cardiac disease, peripheral vascular disease, blood sugar, HDL, LDL, triglycerides, SBP, diastolic blood pressure, anti-hypertensive medication use), and mutually adjusted for each type of soft drinks	10	<1/mo 1/mo-6/wk ≥1/d	HR 1.00 0.80 (0.59, 1.09) 1.00 (0.65, 1.54)
Gardener	2012	USA	Northern Manhattan Study	Men	~69	2,564	155	FFQ	MI, validated	Annually by telephone interview, continuous surveillance of local hospital admission and discharge ICD-9 codes; in addition, review of medical record, autopsy reports or death certificates	Soft drinks	Demographics, behavioural risk factors, daily diet, waist circumference, vascular risk factors (previous cardiac disease, peripheral vascular disease, blood sugar, HDL, LDL, triglycerides, SBP, diastolic blood pressure, anti-hypertensive medication use), and mutually adjusted for each type of soft drinks	10	<1/mo 1/mo-6/wk ≥1/d	HR 1.00 0.73 (0.50, 1.08) 1.04 (0.62, 1.74)
Larsson	2014	Sweden	Cohort of Swedish Men	Men	45-79	35,884	1,966	FFQ, validated	Stroke, total / Cerebral infarction / Haemorrhagic stroke	Swedish Inpatient Register and the Swedish Cause of Death Register	Sweetened beverage	Stratified on age and includes education, family history of MI before 60 y of age, smoking status and pack-years of smoking, PA, BMI, history of hypertension, aspirin	10.3	Servings/d 0 0.1<0.5 0.5<1.0 1.0<2.0	RR 1.11 (0.96, 1.27) / 1.03 (0.88, 1.21) / 1.16 (0.82, 1.63) 1.00 1.13 (0.92, 1.39) / 1.12 (0.88, 1.42) / 0.89 (0.53, 1.51) 1.17 (0.98, 1.39) /

Author	Year	Country	Cohort	Sex	Age	N	Cases	Diet method	Outcome	Registry	Exposure	Adjustments	Follow-up	Exposure level	Risk estimate
												use, total EI, and alcohol consumption, quartiles of coffee, tea, dairy products, fruits and vegetables, chocolate, fish, unprocessed red meat, and processed meat		≥2.0	1.12 (0.91, 1.36) / 1.25 (0.83, 1.89) 1.22 (1.02, 1.45) / 1.25 (1.02, 1.53) / 1.10 (0.71, 1.71)
Larsson	2014	Sweden	Swedish Mammography Cohort	Wo-men	49-83	32,575	1,544	FFQ, validated	Stroke, total / Cerebral infarction / Haemorrhagic stroke	Swedish Inpatient Register and the Swedish Cause of Death Register	Swee-tened beverage	Stratified on age and includes education, family history of MI before 60 y of age, smoking status and pack-years of smoking, PA, BMI, history of hypertension, aspirin use, total EI, and alcohol consumption, quartiles of coffee, tea, dairy products, fruits and vegetables, chocolate, fish, unprocessed red meat, and processed meat	10.3	Servings/d 0 0.1<0.5 0.5<1.0 1.0<2.0 ≥2.0	RR 1.02 (0.88, 1.17) / 1.02 (0.86, 1.21) / 1.03 (0.73, 1.46) 1.00 0.90 (0.69, 1.18) / 0.93 (0.68, 1.27) / 0.79 (0.39, 1.57) 1.06 (0.88, 1.30) / 1.11 (0.88, 1.39 / 0.76 (0.44, 1.31) 1.14 (0.92, 1.41) / 1.17 (0.91, 1.49) / 0.94 (0.54, 1.66)
Rahman	2015	Sweden	Cohort of Swedish Men	Men	45-79	42,400	4,113	FFQ	HF	Swedish National Patient Register and the Cause of Death Register	Swee-tened beverage	Age, educational attainment, smoking, alcohol consumption, total PA, family history of MI, history of stroke, history of angina, hypertension, diabetes, BMI, coffee consumption, fruit intake, vegetable intake, processed meat consumption, fish consumption and total EI	11.7	Servings/d 0 0.1<0.5 0.5<1.0 1.0<2.0 ≥2.0	HR 1.00 0.98 (0.88, 1.08) 1.08 (0.95, 1.23) 1.09 (0.99, 1.20) 1.23 (1.12, 1.35)
Sonested	2015	Sweden	Malmö Diet and Cancer Study	Both	44-74	26,445	1,344	Modified diet history method, FFQ, validated	Coronary event (nonfatal or fatal MI or	Linkage with Swedish Hospital Discharge	Sugar-sweetened beverage	Age, sex, season, diet method version, EI, BMI, smoking, alcohol consumption,	14	g/d 0 26 89	HR 1.00 0.98 (0.85, 1.12) 1.05 (0.92, 1.20)

			cohort						death due to IHD)	Registry and Cause-of-death Registry		leisure-time PA, and education			309	1.02 (0.89, 1.16)
Sonested	2015	Sweden	Malmö Diet and Cancer Study cohort	44-74	Both	26,445	1,176	Modified diet history method, FFQ, validated	Stroke (nonfatal and fatal)	Linkage with Swedish Hospital Discharge Registry and Cause-of-death Registry	Sugar-sweetened beverage	Age, sex, season, diet method version, EI, BMI, smoking, alcohol consumption, leisure-time PA, and education	14		g/d 0 26 89 309	HR 1.00 0.87 (0.74, 1.02) 1.06 (0.91, 1.24) 0.97 (0.83, 1.13)

Supplemental Table 13: General study characteristics of the included studies investigating the association between sugar sweetened beverages intake and risk of coronary heart disease, stroke, and heart failure

Abbreviations:

ALA   alpha-linolenic acid
AMI   acute myocardial infarction
ARIC   The Atherosclerosis Risk in Communities study
ATBC   Alpha-Tocopherol, Beta-Carotene Cancer Prevention study
BMI   body mass index
CAD   coronary artery disease
CHD   coronary heart disease
CVD   cardiovascular disease
d   day
DBP   diastolic blood pressure
DHA   docosahexaenoic acid
ECG   electrocardiography
EI   energy intake
EPA   eicosapentaenoic acid
EPIC   European Prospective Investigation into Cancer and Nutrition
FEV1   forced expiratory volume in the first second
FFQ   food frequency questionnaire
FVC   forced vital capacity
HDL   high-density lipoprotein
HEI   Healthy Eating Index
HF   heart failure
HR   hazard ratio
HRT   hormone replacement therapy
IHD   ischemic heart disease
JPHC   Japan Public Health based Cohort
LDL   low-density lipoprotein
m   men
MI   myocardial infarction
MBP   mean blood pressure
MET   metabolic equivalent of task

mo	month
MORGEN	Dutch Monitoring Project on Risk Factors for Chronic Diseases
NA	not applicable
NHEFS	National Health and Nutrition Examination Survey Epidemiologic Follow-up Study
NHI	National Health Insurance
NHS	Nurses' Health Study
PA	physical activity
PUFA	polyunsaturated fatty acids
PHS	Physicians' Health Study
RR	relative risk
SBP	systolic blood pressure
SFA	saturated fatty acids
SFFQ	semiquantitative food frequency questionnaire
SUN	Seguimiento Universidad de Navarra
TC	total cholesterol
TE	total energy
TG	triglycerides
w	women
WHI-OS	Women's Health Initiative Observational Study
wk	week
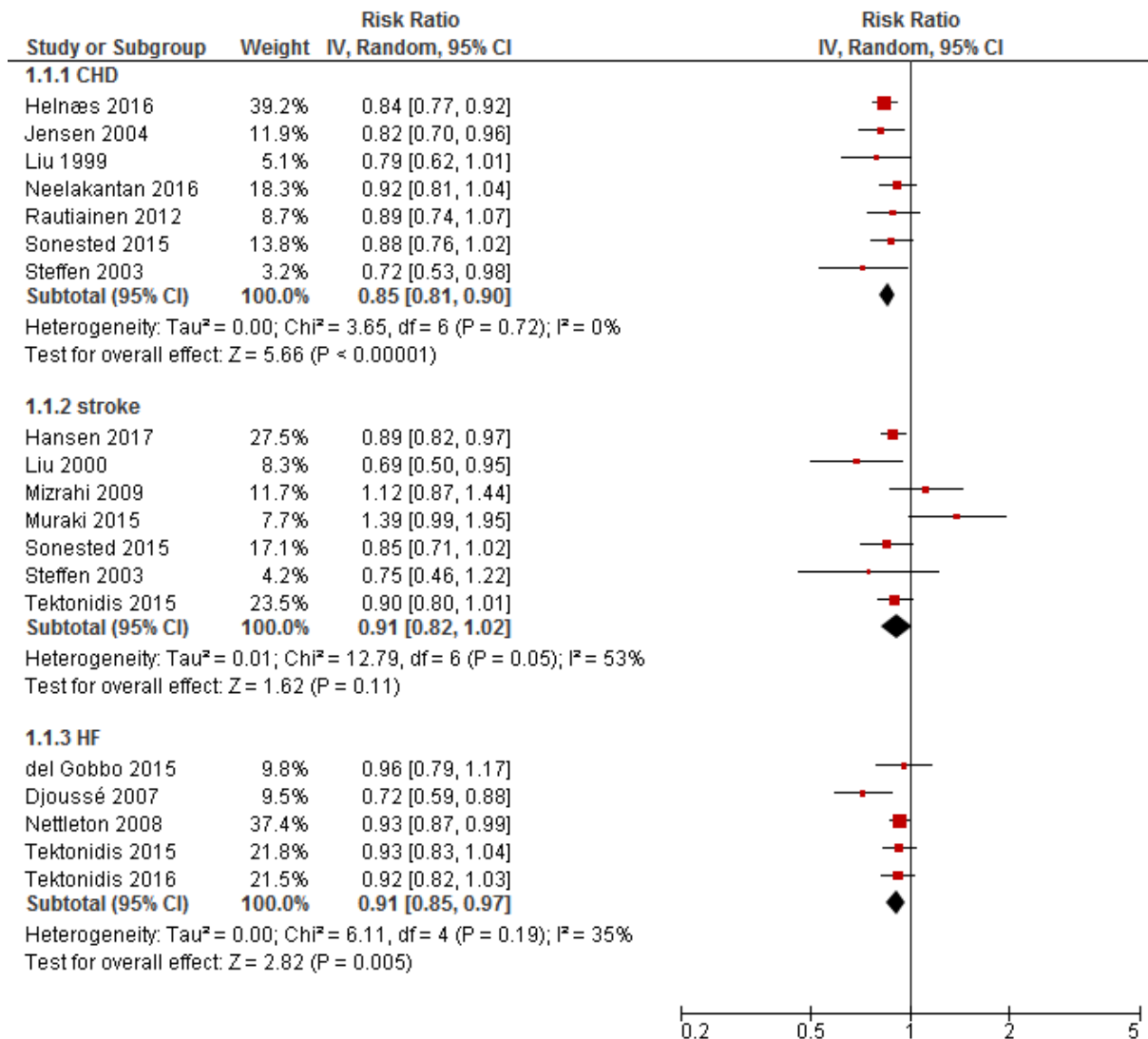
Supplemental Figure 1: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low whole grain intake. 95% CI, 95% confidence interval.

	Weight	Risk Ratio IV, Random, 95% CI
2.1.1 CHD		
Helnæs 2016	41.4%	0.96 [0.94, 0.98]
Jensen 2004	6.8%	0.86 [0.77, 0.96]
Liu 1999	9.9%	0.92 [0.84, 1.00]
Rautiainen 2012	32.8%	0.98 [0.94, 1.01]
Steffen 2003	9.1%	0.90 [0.82, 0.99]
Subtotal (95% CI)	**100.0%**	**0.95 [0.92, 0.98]**

Heterogeneity: Tau² = 0.00; Chi² = 7.46, df = 4 (P = 0.11); I² = 46%
Test for overall effect: Z = 3.38 (P = 0.0007)

	Weight	Risk Ratio IV, Random, 95% CI
2.1.2 stroke		
Liu 2000	10.5%	0.88 [0.78, 0.99]
Mizrahi 2009	47.8%	1.00 [0.99, 1.01]
Muraki 2015	35.1%	1.03 [0.99, 1.07]
Steffen 2003	6.7%	0.89 [0.76, 1.04]
Subtotal (95% CI)	**100.0%**	**0.99 [0.95, 1.03]**

Heterogeneity: Tau² = 0.00; Chi² = 8.54, df = 3 (P = 0.04); I² = 65%
Test for overall effect: Z = 0.48 (P = 0.63)

	Weight	Risk Ratio IV, Random, 95% CI
2.1.3 HF		
Djoussé 2007	97.6%	0.96 [0.95, 0.97]
Nettleton 2008	2.4%	0.93 [0.87, 0.99]
Subtotal (95% CI)	**100.0%**	**0.96 [0.95, 0.97]**

Heterogeneity: Tau² = 0.00; Chi² = 0.85, df = 1 (P = 0.36); I² = 0%
Test for overall effect: Z = 7.94 (P < 0.00001)

Supplemental Figure 2: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for each 30 g/d increase in whole grain intake. 95% CI, 95% confidence interval.

| | | Risk Ratio | Risk Ratio |
Study or Subgroup	Weight	IV, Random, 95% CI	IV, Random, 95% CI
1.2.1 CHD			
Eshak 2014	22.1%	1.08 [0.84, 1.39]	
Sonested 2015	62.4%	1.08 [0.93, 1.25]	
Steffen 2003	11.0%	1.17 [0.82, 1.67]	
Yu 2013 SMHS	2.6%	2.01 [0.96, 4.21]	
Yu 2013 SWHS	1.8%	1.53 [0.64, 3.66]	
Subtotal (95% CI)	**100.0%**	**1.11 [0.99, 1.25]**	

Heterogeneity: Tau² = 0.00; Chi² = 3.26, df = 4 (P = 0.52); I² = 0%
Test for overall effect: Z = 1.79 (P = 0.07)

1.2.2 stroke			
Eshak 2014	48.5%	1.01 [0.90, 1.13]	
Liu 2000	4.9%	0.97 [0.67, 1.40]	
Mizrahi 2009	11.4%	0.88 [0.69, 1.12]	
Muraki 2015	12.3%	1.25 [0.99, 1.58]	
Sonested 2015	20.5%	1.03 [0.86, 1.23]	
Steffen 2003	2.4%	0.82 [0.48, 1.40]	
Subtotal (95% CI)	**100.0%**	**1.02 [0.94, 1.11]**	

Heterogeneity: Tau² = 0.00; Chi² = 5.08, df = 5 (P = 0.41); I² = 2%
Test for overall effect: Z = 0.42 (P = 0.67)

1.2.3 HF			
Djoussé 2007	100.0%	0.83 [0.58, 1.19]	
Subtotal (95% CI)	**100.0%**	**0.83 [0.58, 1.19]**	

Heterogeneity: Not applicable
Test for overall effect: Z = 1.02 (P = 0.31)

Supplemental Figure 3: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low refined grain intake. 95% CI, 95% confidence interval.

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI	Risk Ratio IV, Random, 95% CI
2.2.1 CHD			
Eshak 2014	68.5%	1.00 [0.97, 1.03]	
Steffen 2003	17.0%	1.04 [0.98, 1.10]	
Yu 2013 SMHS	9.8%	1.04 [0.97, 1.13]	
Yu 2013 SWHS	4.7%	1.04 [0.93, 1.16]	
Subtotal (95% CI)	**100.0%**	**1.01 [0.99, 1.04]**	

Heterogeneity: Tau² = 0.00; Chi² = 2.30, df = 3 (P = 0.51); I² = 0%
Test for overall effect: Z = 1.03 (P = 0.31)

2.2.2 stroke			
Eshak 2014	57.6%	1.00 [0.98, 1.01]	
Mizrahi 2009	26.5%	0.99 [0.97, 1.01]	
Muraki 2015	14.6%	1.00 [0.97, 1.03]	
Steffen 2003	1.3%	0.93 [0.84, 1.03]	
Subtotal (95% CI)	**100.0%**	**1.00 [0.98, 1.01]**	

Heterogeneity: Tau² = 0.00; Chi² = 2.34, df = 3 (P = 0.51); I² = 0%
Test for overall effect: Z = 0.75 (P = 0.45)

2.2.3 HF			
Djoussé 2007	100.0%	0.86 [0.68, 1.09]	
Subtotal (95% CI)	**100.0%**	**0.86 [0.68, 1.09]**	

Heterogeneity: Not applicable
Test for overall effect: Z = 1.26 (P = 0.21)

Supplemental Figure 4: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for each 30 g/d increase in refined grain intake. 95% CI, 95% confidence interval.

		Risk Ratio	**Risk Ratio**
Study or Subgroup	**Weight**	**IV, Random, 95% CI**	**IV, Random, 95% CI**
1.3.1 CHD			
Bendinelli 2011	1.1%	0.62 [0.37, 1.04]	
Bhupathiraju 2013 HPFS	9.6%	0.92 [0.82, 1.03]	
Bhupathiraju 2013 NHS	8.1%	0.85 [0.74, 0.98]	
Buckland 2009	4.7%	0.77 [0.62, 0.96]	
Dauchet 2004	8.1%	1.01 [0.88, 1.16]	
Dilis 2012	6.5%	1.09 [0.92, 1.29]	
Hansen 2010	5.5%	0.97 [0.80, 1.18]	
Hirvonen 2001	5.2%	0.77 [0.63, 0.94]	
Kobylecki 2015	6.9%	0.88 [0.75, 1.03]	
Liu 2000	0.9%	0.88 [0.50, 1.55]	
Liu 2001	3.8%	0.77 [0.60, 0.99]	
Martinez-Gonzalez 2011	1.2%	0.82 [0.50, 1.34]	
Neelakantan 2016	8.4%	0.96 [0.84, 1.10]	
Oude Griep 2012	2.2%	1.26 [0.89, 1.78]	
Sonested 2015	7.3%	0.99 [0.85, 1.15]	
Tognon 2014	2.8%	0.73 [0.54, 0.99]	
Würtz 2016	14.5%	1.00 [0.95, 1.05]	
Yu 2014 SMHS	2.0%	1.02 [0.71, 1.47]	
Yu 2014 SWHS	1.3%	0.83 [0.52, 1.32]	
Subtotal (95% CI)	**100.0%**	**0.92 [0.87, 0.98]**	

Heterogeneity: Tau² = 0.00; Chi² = 30.94, df = 18 (P = 0.03); I² = 42%
Test for overall effect: Z = 2.81 (P = 0.005)

1.3.2 stroke			
Gillman 1995	3.3%	0.74 [0.54, 1.01]	
Hansen 2017	18.0%	0.95 [0.89, 1.01]	
Johnsen 2003	2.1%	1.00 [0.66, 1.52]	
Joshipura 1999 HPFS	1.9%	0.90 [0.58, 1.40]	
Joshipura 1999 NHS	2.9%	0.89 [0.63, 1.26]	
Keli 1996	0.5%	0.82 [0.35, 1.92]	
Larsson 2009	12.9%	0.75 [0.67, 0.84]	
Larsson 2013	12.5%	0.90 [0.80, 1.01]	
Lin 2013	1.9%	1.04 [0.67, 1.61]	
Misirli 2012	9.5%	0.84 [0.72, 0.98]	
Mizrahi 2009	5.5%	1.11 [0.88, 1.40]	
Oude Griep 2012	2.4%	0.76 [0.52, 1.11]	
Sonested 2015	15.8%	0.86 [0.79, 0.94]	
Tognon 2014	3.5%	0.94 [0.69, 1.28]	
Yokoyama 2000	0.8%	0.46 [0.23, 0.92]	
Zhang 2011	6.7%	0.82 [0.67, 1.00]	
Subtotal (95% CI)	**100.0%**	**0.87 [0.82, 0.93]**	

Heterogeneity: Tau² = 0.00; Chi² = 24.28, df = 15 (P = 0.06); I² = 38%
Test for overall effect: Z = 4.33 (P < 0.0001)

1.3.3 HF			
Belin 2011	37.3%	1.01 [0.91, 1.12]	
del Gobbo 2015	27.6%	1.19 [0.97, 1.46]	
Rautiainen 2015	35.1%	0.83 [0.73, 0.94]	
Subtotal (95% CI)	**100.0%**	**0.99 [0.82, 1.18]**	

Heterogeneity: Tau² = 0.02; Chi² = 10.07, df = 2 (P = 0.007); I² = 80%
Test for overall effect: Z = 0.15 (P = 0.88)

Supplemental Figure 5: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low vegetable intake. 95% CI, 95% confidence interval.

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
2.3.1 CHD		
Bendinelli 2011	0.8%	0.83 [0.70, 0.98]
Bhupathiraju 2013 HPFS	17.7%	0.98 [0.95, 1.01]
Bhupathiraju 2013 NHS	17.9%	0.95 [0.92, 0.98]
Buckland 2009	29.8%	0.98 [0.96, 1.00]
Dauchet 2004	2.2%	1.02 [0.92, 1.13]
Hansen 2010	4.1%	0.98 [0.91, 1.06]
Hirvonen 2001	2.1%	0.90 [0.81, 1.00]
Kobylecki 2015	3.7%	0.93 [0.86, 1.01]
Liu 2000	2.4%	0.97 [0.88, 1.07]
Liu 2001	2.2%	0.92 [0.83, 1.02]
Oude Griep 2012	1.1%	1.08 [0.93, 1.25]
Würtz 2016	8.6%	1.00 [0.95, 1.05]
Yu 2014 SMHS	5.5%	0.98 [0.92, 1.04]
Yu 2014 SWHS	1.9%	0.95 [0.85, 1.06]
Subtotal (95% CI)	**100.0%**	**0.97 [0.96, 0.99]**

Heterogeneity: Tau² = 0.00; Chi² = 14.75, df = 13 (P = 0.32); I² = 12%
Test for overall effect: Z = 3.67 (P = 0.0002)

2.3.2 stroke		
Gillman 1995	10.0%	0.88 [0.77, 1.01]
Johnsen 2003	10.5%	1.01 [0.89, 1.15]
Keli 1996	3.7%	0.89 [0.66, 1.20]
Larsson 2009	15.2%	0.83 [0.78, 0.88]
Larsson 2013	17.1%	0.98 [0.95, 1.00]
Misirli 2012	14.0%	0.93 [0.86, 1.01]
Mizrahi 2009	16.0%	1.03 [0.98, 1.08]
Oude Griep 2012	5.8%	0.89 [0.72, 1.11]
Yokoyama 2000	0.5%	0.35 [0.14, 0.88]
Zhang 2011	7.3%	0.78 [0.65, 0.94]
Subtotal (95% CI)	**100.0%**	**0.92 [0.86, 0.98]**

Heterogeneity: Tau² = 0.01; Chi² = 43.73, df = 9 (P < 0.00001); I² = 79%
Test for overall effect: Z = 2.54 (P = 0.01)

2.3.3 HF		
Rautiainen 2015	100.0%	0.96 [0.94, 0.98]
Subtotal (95% CI)	**100.0%**	**0.96 [0.94, 0.98]**

Heterogeneity: Not applicable
Test for overall effect: Z = 3.16 (P = 0.002)

Supplemental Figure 6: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for each 100 g/d increase in vegetable intake. 95% CI, 95% confidence interval.

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
1.4.1 CHD		
Bendinelli 2011	0.9%	1.24 [0.73, 2.11]
Bhupathiraju 2013 HPFS	13.6%	0.88 [0.78, 0.99]
Bhupathiraju 2013 NHS	11.3%	0.87 [0.76, 1.00]
Buckland 2009	4.9%	0.92 [0.74, 1.14]
Dauchet 2004	2.5%	0.90 [0.66, 1.23]
Du 2016	6.8%	0.66 [0.55, 0.79]
Hansen 2010	6.0%	0.90 [0.74, 1.09]
Hirvonen 2001	6.4%	0.87 [0.72, 1.05]
Kobylecki 2015	11.3%	0.87 [0.76, 1.00]
Liu 2000	0.7%	0.66 [0.36, 1.21]
Neelakantan 2016	21.0%	0.94 [0.86, 1.03]
Oude Griep 2012	1.1%	0.80 [0.50, 1.28]
Sonested 2015	8.3%	1.00 [0.85, 1.18]
Tognon 2014	2.3%	1.01 [0.73, 1.40]
Yamada 2011	0.3%	0.89 [0.36, 2.20]
Yu 2014 SMHS	1.4%	0.96 [0.63, 1.46]
Yu 2014 SWHS	0.9%	0.77 [0.45, 1.32]
Subtotal (95% CI)	**100.0%**	**0.89 [0.84, 0.93]**

Heterogeneity: Tau² = 0.00; Chi² = 17.79, df = 16 (P = 0.34); I² = 10%
Test for overall effect: Z = 4.61 (P < 0.00001)

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
1.4.2 stroke		
Du 2016	10.3%	0.71 [0.61, 0.83]
Gillman 1995	3.1%	0.81 [0.56, 1.17]
Hansen 2017	15.6%	0.91 [0.84, 0.99]
Johnsen 2003	2.1%	0.60 [0.38, 0.95]
Joshipura 1999 HPFS	2.0%	0.68 [0.42, 1.10]
Joshipura 1999 NHS	3.5%	0.69 [0.49, 0.97]
Keli 1996	1.3%	0.70 [0.38, 1.29]
Larsson 2009	12.8%	0.82 [0.73, 0.92]
Larsson 2013	13.3%	0.87 [0.78, 0.97]
Lin 2013	2.3%	0.90 [0.58, 1.40]
Mizrahi 2009	6.2%	0.81 [0.64, 1.03]
Oude Griep 2012	2.1%	0.99 [0.62, 1.58]
Sonested 2015	7.9%	0.96 [0.79, 1.17]
Tognon 2014	4.2%	0.87 [0.64, 1.18]
Yamada 2011	2.2%	0.44 [0.28, 0.69]
Yokoyama 2000	2.9%	0.85 [0.58, 1.25]
Zhang 2011	8.2%	0.99 [0.82, 1.20]
Subtotal (95% CI)	**100.0%**	**0.83 [0.77, 0.89]**

Heterogeneity: Tau² = 0.01; Chi² = 26.48, df = 16 (P = 0.05); I² = 40%
Test for overall effect: Z = 5.11 (P < 0.00001)

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
1.4.3 HF		
Belin 2011	53.9%	0.97 [0.88, 1.07]
del Gobbo 2015	13.0%	0.89 [0.73, 1.09]
Rautiainen 2015	33.0%	0.94 [0.83, 1.06]
Subtotal (95% CI)	**100.0%**	**0.95 [0.88, 1.02]**

Heterogeneity: Tau² = 0.00; Chi² = 0.62, df = 2 (P = 0.73); I² = 0%
Test for overall effect: Z = 1.43 (P = 0.15)

Supplemental Figure 7: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low fruit intake. 95% CI, 95% confidence interval.

Supplemental Figure 8: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for each 100 g/d increase in fruit intake. 95% CI, 95% confidence interval.

| | Risk Ratio | | Risk Ratio |
Study or Subgroup	Weight	IV, Random, 95% CI	IV, Random, 95% CI
1.5.1 CHD			
Albert 2002	26.6%	1.04 [0.82, 1.32]	
Bernstein 2010	32.1%	0.68 [0.60, 0.77]	
Fraser 1992	13.1%	0.52 [0.30, 0.90]	
Haring 2014	28.2%	0.91 [0.74, 1.12]	
Subtotal (95% CI)	**100.0%**	**0.80 [0.62, 1.03]**	

Heterogeneity: Tau² = 0.05; Chi² = 14.39, df = 3 (P = 0.002); I² = 79%
Test for overall effect: Z = 1.75 (P = 0.08)

1.5.2 stroke			
Bernstein 2012 HPFS	24.6%	0.92 [0.77, 1.10]	
Bernstein 2012 NHS	35.0%	0.86 [0.75, 0.99]	
di Giuseppe 2015	6.3%	1.37 [0.92, 2.04]	
Djousse 2010	10.3%	1.07 [0.79, 1.45]	
Haring 2015	13.3%	1.00 [0.77, 1.30]	
Yaemsiri 2012	10.6%	0.89 [0.66, 1.20]	
Subtotal (95% CI)	**100.0%**	**0.94 [0.85, 1.05]**	

Heterogeneity: Tau² = 0.00; Chi² = 6.10, df = 5 (P = 0.30); I² = 18%
Test for overall effect: Z = 1.12 (P = 0.26)

1.5.3 HF			
del Gobbo 2015	28.1%	0.85 [0.70, 1.03]	
Djousse 2008	29.7%	1.01 [0.84, 1.21]	
Nettleton 2008	42.2%	1.09 [0.97, 1.22]	
Subtotal (95% CI)	**100.0%**	**0.99 [0.86, 1.15]**	

Heterogeneity: Tau² = 0.01; Chi² = 4.64, df = 2 (P = 0.10); I² = 57%
Test for overall effect: Z = 0.09 (P = 0.93)

Supplemental Figure 9: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low nut intake. 95% CI, 95% confidence interval.

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI	Risk Ratio IV, Random, 95% CI
2.5.1 CHD			
Albert 2002	20.9%	0.90 [0.51, 1.59]	
Bernstein 2010	28.1%	0.47 [0.35, 0.61]	
Fraser 1992	21.2%	0.49 [0.28, 0.86]	
Haring 2014	29.7%	0.96 [0.79, 1.17]	
Subtotal (95% CI)	**100.0%**	**0.67 [0.43, 1.05]**	

Heterogeneity: Tau² = 0.17; Chi² = 20.29, df = 3 (P = 0.0001); I² = 85%
Test for overall effect: Z = 1.74 (P = 0.08)

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI	Risk Ratio IV, Random, 95% CI
2.5.2 stroke			
Bernstein 2012 HPFS	19.4%	0.92 [0.70, 1.20]	
Bernstein 2012 NHS	13.9%	0.70 [0.49, 1.01]	
di Giuseppe 2015	4.2%	1.91 [0.88, 4.15]	
Djousse 2010	22.9%	1.14 [0.91, 1.43]	
Haring 2015	22.1%	1.08 [0.85, 1.37]	
Yaemsiri 2012	17.5%	0.89 [0.66, 1.20]	
Subtotal (95% CI)	**100.0%**	**0.99 [0.84, 1.17]**	

Heterogeneity: Tau² = 0.02; Chi² = 9.10, df = 5 (P = 0.11); I² = 45%
Test for overall effect: Z = 0.15 (P = 0.88)

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI	Risk Ratio IV, Random, 95% CI
2.5.3 HF			
Djousse 2008	5.8%	1.02 [0.64, 1.63]	
Nettleton 2008	94.2%	1.09 [0.97, 1.22]	
Subtotal (95% CI)	**100.0%**	**1.09 [0.97, 1.22]**	

Heterogeneity: Tau² = 0.00; Chi² = 0.07, df = 1 (P = 0.79); I² = 0%
Test for overall effect: Z = 1.43 (P = 0.15)

Supplemental Figure 10: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for each 28 g/d increase in nut intake. 95% CI, 95% confidence interval.

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
1.6.1 CHD		
Bazzano 2001	17.5%	0.79 [0.69, 0.90]
Bernstein 2010	21.6%	0.89 [0.80, 0.99]
Buckland 2009	10.9%	0.99 [0.81, 1.21]
Dilis 2012	22.4%	0.93 [0.84, 1.03]
Fraser 1992	2.6%	1.16 [0.72, 1.87]
Haring 2014	10.1%	1.15 [0.93, 1.42]
Kokubo 2007	5.5%	0.93 [0.68, 1.27]
Martinez-Gonzalez 2011	2.5%	0.70 [0.43, 1.14]
Yu 2014 SMHS	4.1%	0.94 [0.65, 1.36]
Yu 2014 SWHS	2.9%	0.69 [0.44, 1.08]
Subtotal (95% CI)	**100.0%**	**0.91 [0.84, 0.99]**

Heterogeneity: Tau² = 0.00; Chi² = 13.47, df = 9 (P = 0.14); I² = 33%
Test for overall effect: Z = 2.26 (P = 0.02)

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
1.6.2 stroke		
Bernstein 2012 HPFS	16.5%	1.07 [0.89, 1.29]
Bernstein 2012 NHS	21.4%	1.06 [0.93, 1.21]
Haring 2015	10.4%	1.29 [0.98, 1.70]
Kokubo 2007	17.0%	0.92 [0.77, 1.10]
Misirli 2012	20.9%	0.86 [0.75, 0.99]
Mizrahi 2009	13.7%	0.86 [0.69, 1.07]
Subtotal (95% CI)	**100.0%**	**0.98 [0.88, 1.10]**

Heterogeneity: Tau² = 0.01; Chi² = 11.39, df = 5 (P = 0.04); I² = 56%
Test for overall effect: Z = 0.29 (P = 0.77)

Supplemental Figure 11: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low legume intake. 95% CI, 95% confidence interval.
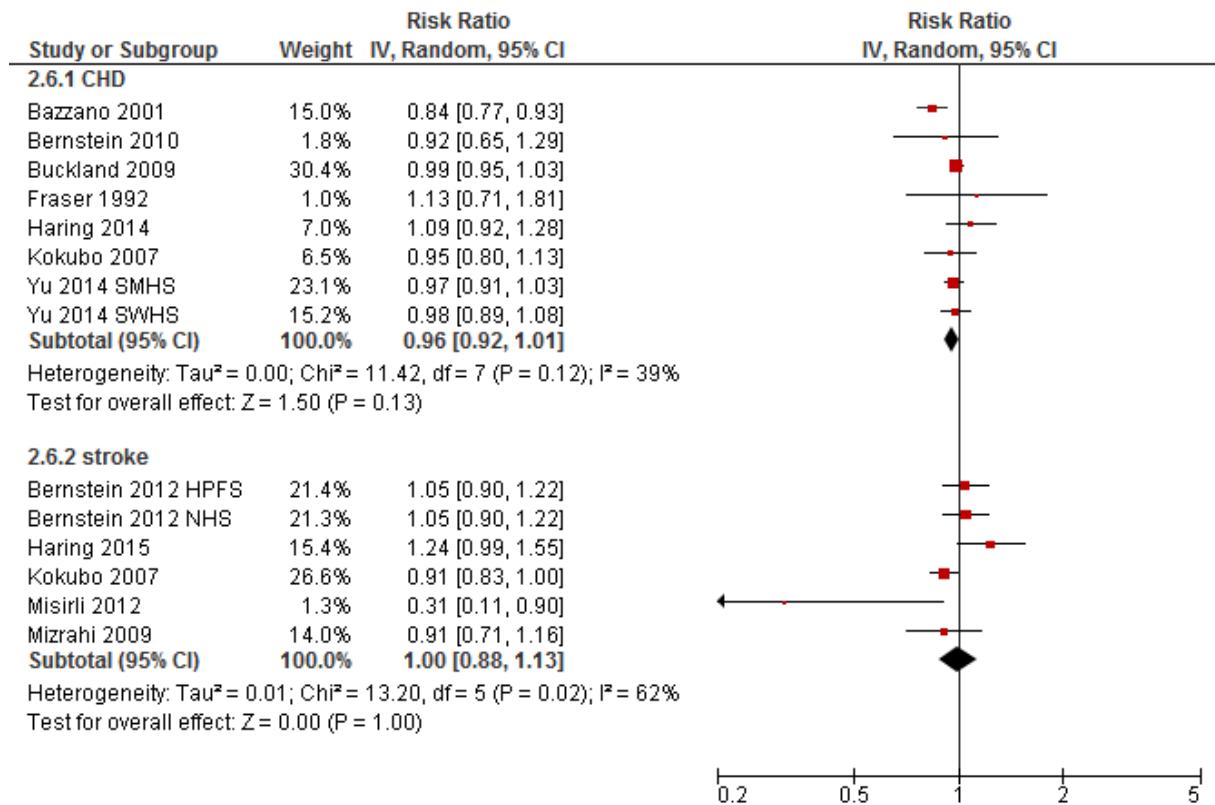
Supplemental Figure 12: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for each 50 g/d increase in legume intake. 95% CI, 95% confidence interval.

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI	Risk Ratio IV, Random, 95% CI
1.7.1 CHD			
Bernstein 2010	20.5%	0.96 [0.85, 1.08]	
Burke 2007	0.4%	2.59 [1.11, 6.04]	
Dilis 2012	43.9%	1.00 [0.92, 1.09]	
Djousse 2008	6.1%	0.90 [0.72, 1.13]	
Goldberg 2014	0.4%	0.81 [0.34, 1.93]	
Haring 2014	6.3%	0.96 [0.77, 1.20]	
Hu 1999	2.4%	0.90 [0.63, 1.29]	
Larsson 2015 CSM	7.3%	1.03 [0.84, 1.26]	
Larsson 2015 SMC	2.3%	0.85 [0.59, 1.22]	
Qureshi 2007	7.6%	1.10 [0.90, 1.34]	
Virtanen 2016	2.8%	1.18 [0.85, 1.64]	
Subtotal (95% CI)	100.0%	0.99 [0.94, 1.05]	

Heterogeneity: Tau² = 0.00; Chi² = 9.46, df = 10 (P = 0.49); I² = 0%
Test for overall effect: Z = 0.23 (P = 0.82)

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI	Risk Ratio IV, Random, 95% CI
1.7.2 stroke			
Bernstein 2012 HPFS	7.9%	0.84 [0.68, 1.04]	
Bernstein 2012 NHS	20.4%	0.91 [0.80, 1.04]	
Djousse 2008	7.8%	0.99 [0.80, 1.23]	
Goldberg 2014	0.8%	1.18 [0.60, 2.32]	
Haring 2015	5.6%	1.08 [0.84, 1.39]	
Larsson 2015 CSM	5.6%	0.90 [0.70, 1.16]	
Larsson 2015 SMC	4.0%	1.04 [0.77, 1.40]	
Misirli 2012	40.4%	1.07 [0.98, 1.17]	
Qureshi 2007	5.6%	0.90 [0.70, 1.16]	
Yaemsiri 2012	1.8%	0.86 [0.55, 1.34]	
Subtotal (95% CI)	100.0%	0.99 [0.93, 1.05]	

Heterogeneity: Tau² = 0.00; Chi² = 9.29, df = 9 (P = 0.41); I² = 3%
Test for overall effect: Z = 0.45 (P = 0.65)

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI	Risk Ratio IV, Random, 95% CI
1.7.3 HF			
Djousse 2008	6.5%	1.64 [1.08, 2.49]	
Larsson 2015 CSM	17.8%	1.30 [1.01, 1.67]	
Larsson 2015 SMC	8.8%	1.06 [0.74, 1.52]	
Nettleton 2008	66.9%	1.23 [1.08, 1.40]	
Subtotal (95% CI)	100.0%	1.25 [1.12, 1.39]	

Heterogeneity: Tau² = 0.00; Chi² = 2.58, df = 3 (P = 0.46); I² = 0%
Test for overall effect: Z = 4.10 (P < 0.0001)

0.2 0.5 1 2 5

Supplemental Figure 13: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low egg intake. 95% CI, 95% confidence interval.

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
2.7.1 CHD		
Bernstein 2010	19.0%	1.04 [0.92, 1.18]
Djousse 2008	9.5%	0.94 [0.79, 1.12]
Goldberg 2014	0.4%	1.31 [0.54, 3.18]
Haring 2014	10.6%	0.99 [0.84, 1.17]
Hu 1999	5.3%	1.05 [0.83, 1.32]
Larsson 2015 CSM	15.2%	0.98 [0.86, 1.13]
Larsson 2015 SMC	6.1%	0.98 [0.79, 1.21]
Qureshi 2007	19.8%	1.06 [0.94, 1.20]
Virtanen 2016	14.2%	0.94 [0.82, 1.09]
Subtotal (95% CI)	**100.0%**	**1.00 [0.95, 1.06]**

Heterogeneity: Tau² = 0.00; Chi² = 3.03, df = 8 (P = 0.93); I² = 0%
Test for overall effect: Z = 0.13 (P = 0.90)

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
2.7.2 stroke		
Bernstein 2012 HPFS	7.9%	0.88 [0.70, 1.09]
Bernstein 2012 NHS	15.4%	0.88 [0.75, 1.03]
Djousse 2008	14.4%	1.05 [0.89, 1.24]
Goldberg 2014	0.7%	1.02 [0.49, 2.12]
Haring 2015	10.4%	1.13 [0.93, 1.37]
Larsson 2015 CSM	17.7%	1.01 [0.87, 1.17]
Larsson 2015 SMC	10.7%	1.03 [0.85, 1.25]
Misirli 2012	2.4%	1.36 [0.91, 2.03]
Qureshi 2007	18.0%	0.94 [0.81, 1.10]
Yaemsiri 2012	2.4%	0.87 [0.58, 1.31]
Subtotal (95% CI)	**100.0%**	**0.99 [0.93, 1.05]**

Heterogeneity: Tau² = 0.00; Chi² = 8.92, df = 9 (P = 0.44); I² = 0%
Test for overall effect: Z = 0.36 (P = 0.72)

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
2.7.3 HF		
Djousse 2008 HF	29.5%	1.27 [1.11, 1.45]
Larsson 2015 CSM	23.5%	1.14 [0.96, 1.36]
Larsson 2015 SMC	16.7%	0.90 [0.71, 1.14]
Nettleton 2008	30.3%	1.23 [1.08, 1.40]
Subtotal (95% CI)	**100.0%**	**1.16 [1.03, 1.31]**

Heterogeneity: Tau² = 0.01; Chi² = 6.69, df = 3 (P = 0.08); I² = 55%
Test for overall effect: Z = 2.36 (P = 0.02)

Supplemental Figure 14: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for each 50 g/d increase in egg intake. 95% CI, 95% confidence interval.

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI	Risk Ratio IV, Random, 95% CI
1.8.1 CHD			
Avalos 2012	5.7%	1.00 [0.77, 1.30]	
Bergholdt 2015	12.4%	0.96 [0.86, 1.07]	
Bernstein 2010	8.3%	0.99 [0.82, 1.20]	
Buckland 2009	7.0%	1.52 [1.22, 1.89]	
Dalmeijer 2013	15.5%	0.99 [0.94, 1.04]	
Dilis 2012	11.8%	1.05 [0.93, 1.19]	
Elwood 2004	1.6%	0.71 [0.40, 1.26]	
Haring 2014	7.3%	1.04 [0.84, 1.29]	
Martinez-Gonzalez 2011	2.0%	1.51 [0.91, 2.51]	
Patterson 2013	7.8%	0.77 [0.63, 0.94]	
Praagman 2015	6.3%	0.98 [0.77, 1.25]	
Soedamah-Muthu 2012	4.9%	0.91 [0.68, 1.22]	
Sonestedt 2011	9.5%	0.86 [0.73, 1.01]	
Subtotal (95% CI)	**100.0%**	**0.99 [0.92, 1.07]**	

Heterogeneity: Tau² = 0.01; Chi² = 29.16, df = 12 (P = 0.004); I² = 59%
Test for overall effect: Z = 0.18 (P = 0.85)

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI	Risk Ratio IV, Random, 95% CI
1.8.2 stroke			
Bernstein 2012 HPFS	10.4%	0.90 [0.79, 1.03]	
Bernstein 2012 NHS	14.1%	0.90 [0.82, 0.99]	
Dalmeijer 2013	12.1%	0.95 [0.85, 1.06]	
Elwood 2004	0.3%	0.66 [0.24, 1.81]	
Haring 2015	3.5%	0.86 [0.65, 1.14]	
Larsson 2009	9.5%	1.14 [0.99, 1.31]	
Larsson 2012	10.5%	0.91 [0.80, 1.04]	
Lin 2013	1.6%	0.74 [0.48, 1.14]	
Misirli 2012	11.9%	1.12 [1.00, 1.25]	
Praagman 2015	3.9%	0.99 [0.76, 1.29]	
Sonestedt 2011	6.3%	0.91 [0.75, 1.10]	
Yaemsiri 2012	15.9%	0.94 [0.87, 1.02]	
Subtotal (95% CI)	**100.0%**	**0.96 [0.90, 1.01]**	

Heterogeneity: Tau² = 0.00; Chi² = 19.40, df = 11 (P = 0.05); I² = 43%
Test for overall effect: Z = 1.49 (P = 0.14)

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI	Risk Ratio IV, Random, 95% CI
1.8.3 HF			
Nettleton 2008	41.0%	1.08 [1.01, 1.15]	
Tektonidis 2015	31.2%	0.96 [0.86, 1.07]	
Tektonidis 2016	27.9%	0.93 [0.82, 1.05]	
Subtotal (95% CI)	**100.0%**	**1.00 [0.90, 1.10]**	

Heterogeneity: Tau² = 0.01; Chi² = 6.00, df = 2 (P = 0.05); I² = 67%
Test for overall effect: Z = 0.03 (P = 0.98)

0.2   0.5   1   2   5

Supplemental Figure 15: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low dairy intake. 95% CI, 95% confidence interval.

		Risk Ratio	Risk Ratio
Study or Subgroup	Weight	IV, Random, 95% CI	IV, Random, 95% CI

2.8.1 CHD

Bergholdt 2015	12.5%	0.99 [0.94, 1.03]
Bernstein 2010	13.7%	1.02 [0.98, 1.06]
Buckland 2009	16.3%	1.04 [1.01, 1.07]
Dalmeijer 2013	13.5%	0.99 [0.95, 1.03]
Elwood 2004	2.5%	0.93 [0.80, 1.08]
Haring 2014	9.0%	1.00 [0.94, 1.07]
Patterson 2013	10.2%	0.94 [0.89, 0.99]
Praagman 2015	4.6%	1.00 [0.90, 1.11]
Soedamah-Muthu 2012	4.8%	0.98 [0.88, 1.08]
Sonestedt 2011	13.1%	0.95 [0.91, 0.99]
Subtotal (95% CI)	100.0%	0.99 [0.96, 1.02]

Heterogeneity: Tau² = 0.00; Chi² = 20.02, df = 9 (P = 0.02); I² = 55%
Test for overall effect: Z = 0.80 (P = 0.43)

2.8.2 stroke

Bernstein 2012 HPFS	10.3%	0.98 [0.93, 1.03]
Bernstein 2012 NHS	16.5%	0.96 [0.93, 0.99]
Dalmeijer 2013	5.0%	0.96 [0.88, 1.05]
Elwood 2004	0.6%	0.90 [0.69, 1.17]
Haring 2015	4.6%	0.92 [0.84, 1.01]
Larsson 2009	21.0%	1.02 [1.00, 1.04]
Larsson 2012	20.8%	0.99 [0.97, 1.01]
Misirli 2012	0.8%	1.16 [0.91, 1.48]
Praagman 2015	4.2%	0.98 [0.89, 1.08]
Sonestedt 2011	10.1%	0.97 [0.92, 1.02]
Yaemsiri 2012	6.0%	0.94 [0.87, 1.02]
Subtotal (95% CI)	100.0%	0.98 [0.96, 1.00]

Heterogeneity: Tau² = 0.00; Chi² = 19.83, df = 10 (P = 0.03); I² = 50%
Test for overall effect: Z = 1.79 (P = 0.07)

2.8.3 HF

| Nettleton 2008 | 100.0% | 1.08 [1.01, 1.15] |
| Subtotal (95% CI) | 100.0% | 1.08 [1.01, 1.15] |

Heterogeneity: Not applicable
Test for overall effect: Z = 2.25 (P = 0.02)

Supplemental Figure 16: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for each 200 g/d increase in dairy intake. 95% CI, 95% confidence interval.

Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI	Risk Ratio IV, Random, 95% CI
1.9.1 CHD			
Albert 1998	2.0%	1.00 [0.62, 1.61]	
Ascherio 1995	2.5%	0.96 [0.63, 1.46]	
Bernstein 2010	9.7%	0.81 [0.72, 0.91]	
Bjerregaard 2010	6.5%	0.87 [0.71, 1.07]	
Buckland 2009	6.5%	0.82 [0.67, 1.00]	
de Goede 2010	3.3%	1.01 [0.71, 1.44]	
Dilis 2012	11.1%	1.04 [0.96, 1.13]	
Fraser 1992	1.2%	1.04 [0.55, 1.97]	
Gammelmark 2016	11.0%	0.99 [0.91, 1.08]	
Gillum 2000	7.3%	0.92 [0.77, 1.10]	
Haring 2014	6.3%	1.06 [0.86, 1.31]	
Holmberg 2009	1.0%	1.00 [0.49, 2.04]	
Iso 2006	1.3%	0.43 [0.23, 0.80]	
Kühn 2013	4.5%	0.78 [0.59, 1.03]	
Martinez-Gonzalez 2011	1.9%	0.75 [0.46, 1.22]	
Mozaffarian 2003	2.1%	0.67 [0.42, 1.07]	
Nahab 2016	2.3%	0.87 [0.56, 1.35]	
Osler 2003	3.7%	0.94 [0.68, 1.30]	
Salonen 1995	1.9%	2.08 [1.26, 3.43]	
Tektonidis 2015	9.4%	1.11 [0.98, 1.26]	
Tognon 2014	4.0%	1.02 [0.75, 1.39]	
Wennberg 2011	0.5%	1.21 [0.43, 3.41]	
Subtotal (95% CI)	**100.0%**	**0.94 [0.88, 1.02]**	

Heterogeneity: Tau² = 0.01; Chi² = 43.30, df = 21 (P = 0.003); I² = 52%
Test for overall effect: Z = 1.54 (P = 0.12)

1.9.2 stroke			
Amiano 2016	3.7%	0.89 [0.66, 1.20]	
Atkinson 2011	3.1%	0.78 [0.56, 1.09]	
Bernstein 2012 HPFS	7.6%	1.00 [0.84, 1.19]	
Bernstein 2012 NHS	8.9%	0.87 [0.75, 1.01]	
de Goede 2012	2.2%	0.63 [0.42, 0.95]	
Gillum 1996	2.4%	0.68 [0.46, 1.01]	
Hansen 2017	12.8%	1.06 [0.97, 1.16]	
Haring 2015	4.5%	0.95 [0.73, 1.24]	
Keli 1994	1.0%	0.71 [0.38, 1.33]	
Kühn 2013	4.2%	0.96 [0.73, 1.26]	
Larsson 2011 SMC	7.9%	0.84 [0.71, 0.99]	
Misirli 2012	11.6%	0.99 [0.89, 1.10]	
Montonen 2009	5.7%	1.01 [0.81, 1.26]	
Morris 1995	0.8%	0.60 [0.30, 1.20]	
Mozaffarian 2005	3.3%	0.77 [0.56, 1.06]	
Myint 2006	4.7%	1.07 [0.83, 1.38]	
Nahab 2016	1.5%	1.58 [0.95, 2.63]	
Orencia 1996	1.4%	1.26 [0.74, 2.15]	
Tognon 2014	3.4%	1.01 [0.74, 1.38]	
Wennberg 2007	9.3%	1.06 [0.92, 1.22]	
Subtotal (95% CI)	**100.0%**	**0.95 [0.89, 1.01]**	

Heterogeneity: Tau² = 0.01; Chi² = 30.05, df = 19 (P = 0.05); I² = 37%
Test for overall effect: Z = 1.58 (P = 0.11)

1.9.3 HF			
Belin 2011	10.1%	0.70 [0.51, 0.96]	
del Gobbo 2015	20.4%	0.98 [0.80, 1.20]	
Dijkstra 2009	19.8%	0.96 [0.78, 1.18]	
Levitan 2009	5.1%	0.97 [0.61, 1.54]	
Levitan 2010	5.8%	0.91 [0.59, 1.40]	
Mozaffarian 2005	6.3%	0.68 [0.45, 1.03]	
Nettleton 2008	20.7%	0.99 [0.81, 1.21]	
Wilk 2012	11.9%	0.72 [0.54, 0.96]	
Subtotal (95% CI)	**100.0%**	**0.89 [0.80, 0.99]**	

Heterogeneity: Tau² = 0.00; Chi² = 8.51, df = 7 (P = 0.29); I² = 18%
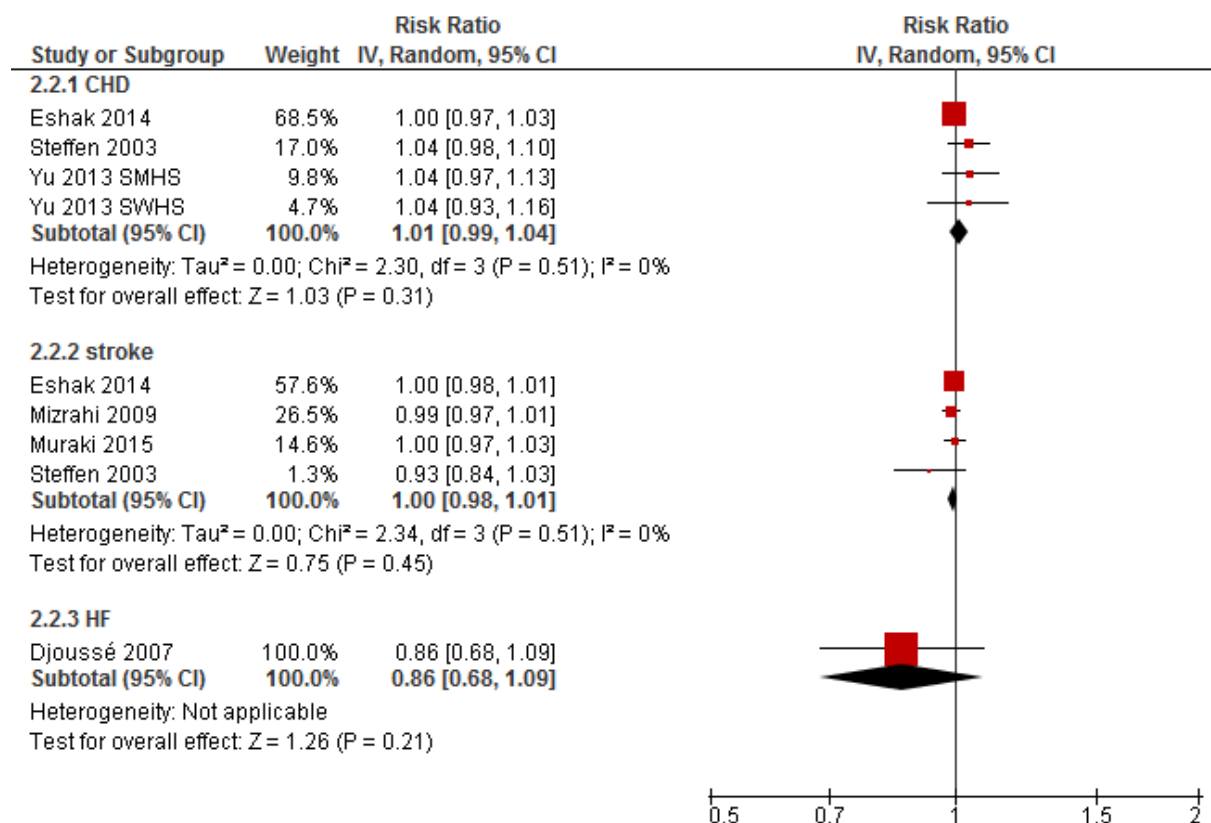Test for overall effect: Z = 2.18 (P = 0.03)

0.2 0.5 1 2 5

Supplemental Figure 17: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low fish intake. 95% CI, 95% confidence interval.
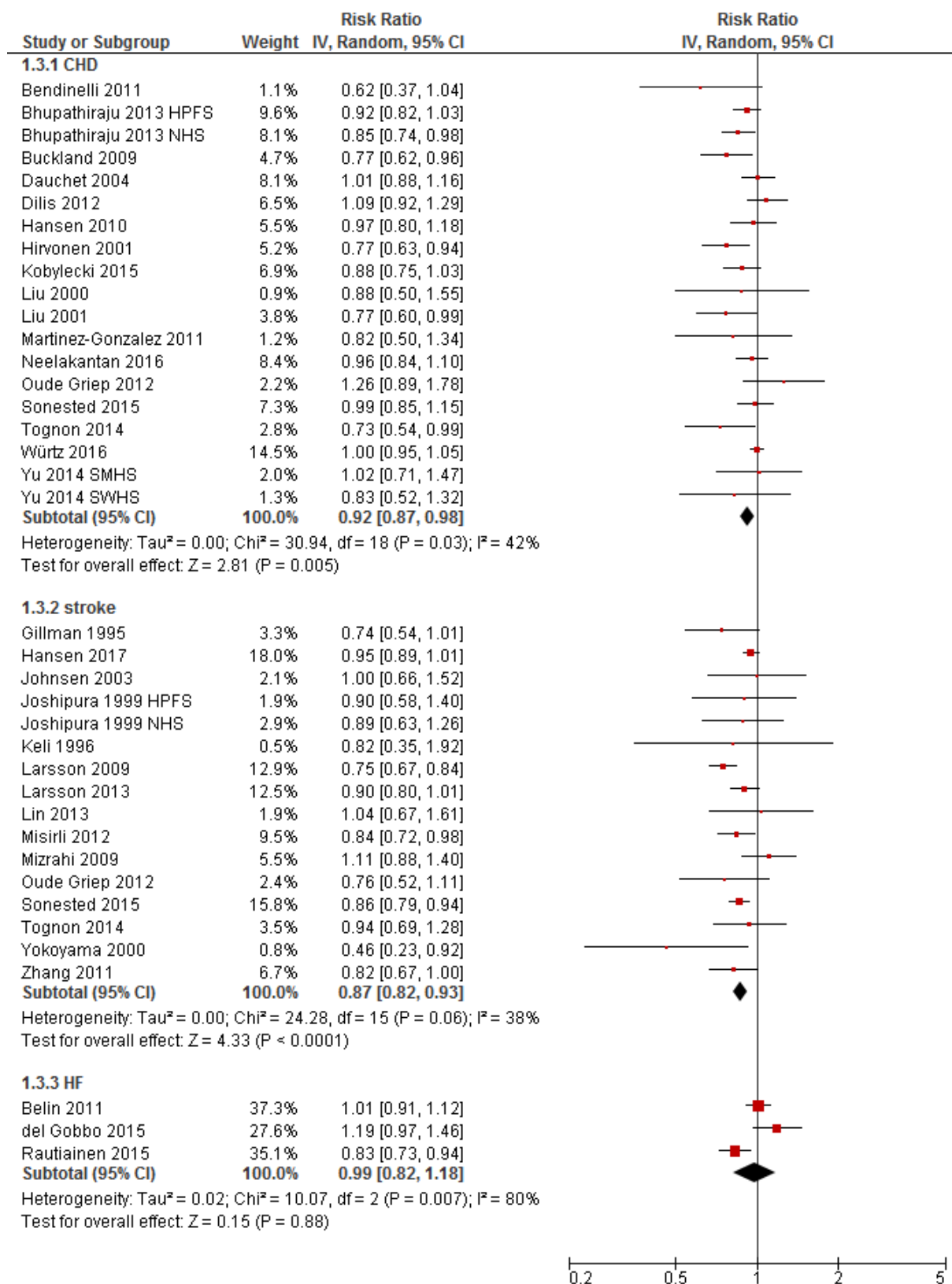
Study or Subgroup	log[Risk Ratio]	SE	Weight	Risk Ratio IV, Random, 95% CI
2.9.1 CHD				
Albert 1998	0.0296	0.1101	12.5%	1.03 [0.83, 1.28]
Ascherio 1995	0.0488	0.1582	8.3%	1.05 [0.77, 1.43]
Bernstein 2010	-0.4494	0.1244	11.1%	0.64 [0.50, 0.81]
Bjerregaard 2010	-0.1278	0.1391	9.8%	0.88 [0.67, 1.16]
Buckland 2009	-0.0513	0.0333	22.2%	0.95 [0.89, 1.01]
de Goede 2010	0.239	0.9856	0.3%	1.27 [0.18, 8.76]
Fraser 1992	0.1655	1.5643	0.1%	1.18 [0.05, 25.32]
Gammelmark 2016	0.0392	0.109	12.7%	1.04 [0.84, 1.29]
Gillum 2000	-0.3285	0.368	2.1%	0.72 [0.35, 1.48]
Haring 2014	0.0488	0.1642	7.9%	1.05 [0.76, 1.45]
Iso 2006	-0.408	0.1611	8.1%	0.66 [0.48, 0.91]
Kühn 2013	-0.6425	0.3316	2.6%	0.53 [0.27, 1.01]
Mozaffarian 2003	-0.6931	0.4289	1.6%	0.50 [0.22, 1.16]
Nahab 2016	-0.3425	0.8284	0.5%	0.71 [0.14, 3.60]
Wennberg 2011	0.6163	1.2824	0.2%	1.85 [0.15, 22.87]
Subtotal (95% CI)			100.0%	0.88 [0.79, 0.99]

Heterogeneity: Tau² = 0.01; Chi² = 23.16, df = 14 (P = 0.06); I² = 40%
Test for overall effect: Z = 2.21 (P = 0.03)

Study or Subgroup	log[Risk Ratio]	SE	Weight	Risk Ratio IV, Random, 95% CI
2.9.2 stroke				
Amiano 2016	-0.1393	0.1257	15.2%	0.87 [0.68, 1.11]
Bernstein 2012 HPFS	-0.0101	0.1485	12.7%	0.99 [0.74, 1.32]
Bernstein 2012 NHS	-0.2231	0.1588	11.7%	0.80 [0.59, 1.09]
de Goede 2012	-2.8134	1.1115	0.4%	0.06 [0.01, 0.53]
Gillum 1996	-1.4271	0.7579	0.8%	0.24 [0.05, 1.06]
Haring 2015	-0.1404	0.2278	7.1%	0.87 [0.56, 1.36]
Kühn 2013	0.0564	0.3246	4.0%	1.06 [0.56, 2.00]
Larsson 2011 SMC	-0.3147	0.1491	12.7%	0.73 [0.55, 0.98]
Misirli 2012	-0.0619	0.3221	4.0%	0.94 [0.50, 1.77]
Montonen 2009	0	0.1488	12.7%	1.00 [0.75, 1.34]
Morris 1995	-0.5276	0.4589	2.1%	0.59 [0.24, 1.45]
Mozaffarian 2005	-0.2627	0.1636	11.3%	0.77 [0.56, 1.06]
Myint 2006	-0.1165	0.408	2.7%	0.89 [0.40, 1.98]
Nahab 2016	1.1756	0.6593	1.1%	3.24 [0.89, 11.80]
Orencia 1996	0.4447	0.5805	1.4%	1.56 [0.50, 4.87]
Subtotal (95% CI)			100.0%	0.86 [0.75, 0.99]

Heterogeneity: Tau² = 0.02; Chi² = 18.65, df = 14 (P = 0.18); I² = 25%
Test for overall effect: Z = 2.11 (P = 0.03)

Study or Subgroup	log[Risk Ratio]	SE	Weight	Risk Ratio IV, Random, 95% CI
2.9.3 HF				
Belin 2011	-0.3202	0.1615	21.3%	0.73 [0.53, 1.00]
Dijkstra 2009	-0.2627	0.3221	6.9%	0.77 [0.41, 1.45]
Levitan 2009	-0.0202	0.3537	5.8%	0.98 [0.49, 1.96]
Levitan 2010	-0.5674	0.3313	6.5%	0.57 [0.30, 1.09]
Mozaffarian 2005	-0.501	0.2131	14.0%	0.61 [0.40, 0.92]
Nettleton 2008	-0.0101	0.1024	36.8%	0.99 [0.81, 1.21]
Wilk 2012	-0.2614	0.2855	8.6%	0.77 [0.44, 1.35]
Subtotal (95% CI)			100.0%	0.80 [0.67, 0.95]

Heterogeneity: Tau² = 0.01; Chi² = 7.49, df = 6 (P = 0.28); I² = 20%
Test for overall effect: Z = 2.49 (P = 0.01)

Supplemental Figure 18: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for each 100 g/d increase in fish intake. 95% CI, 95% confidence interval.

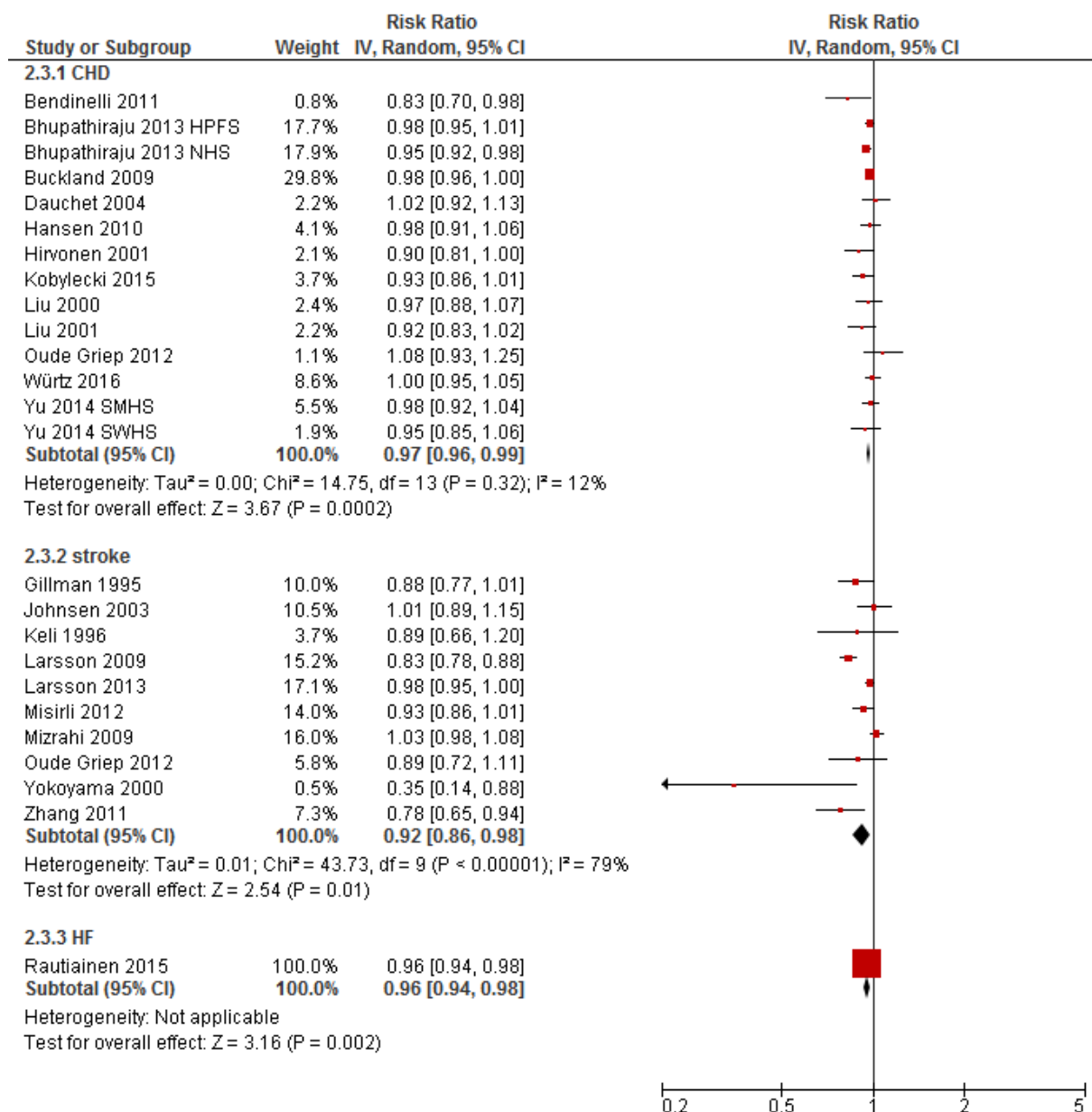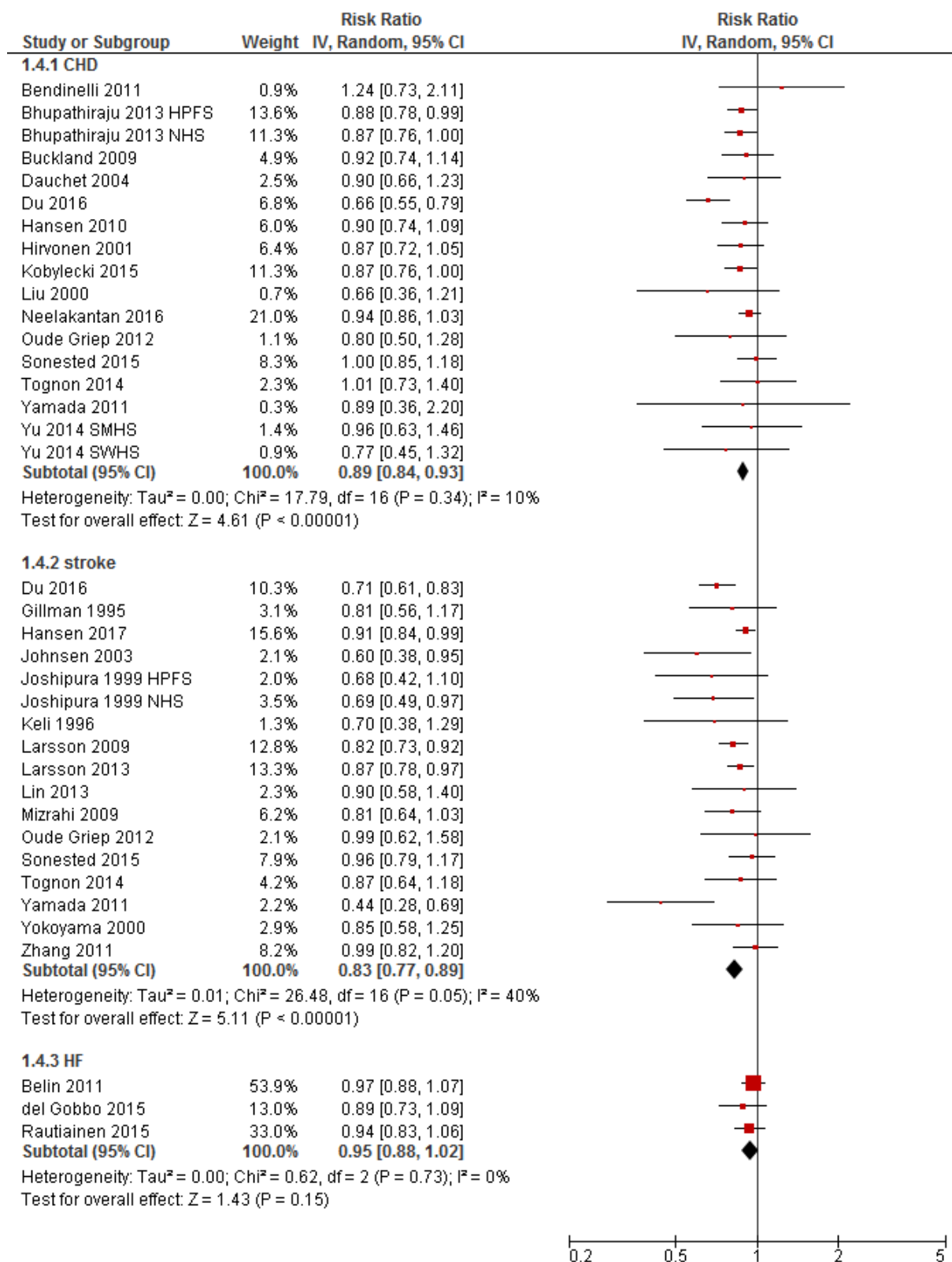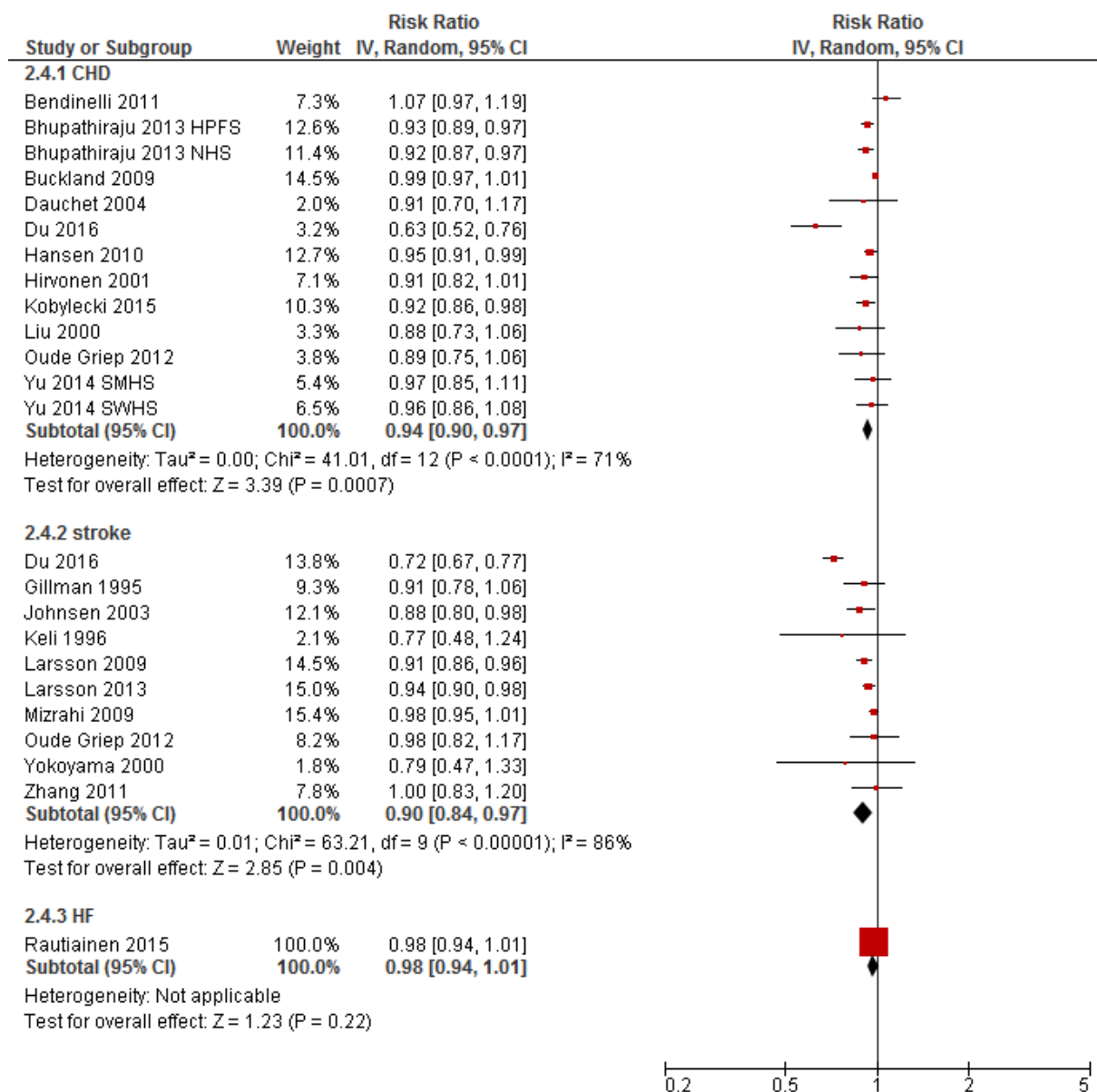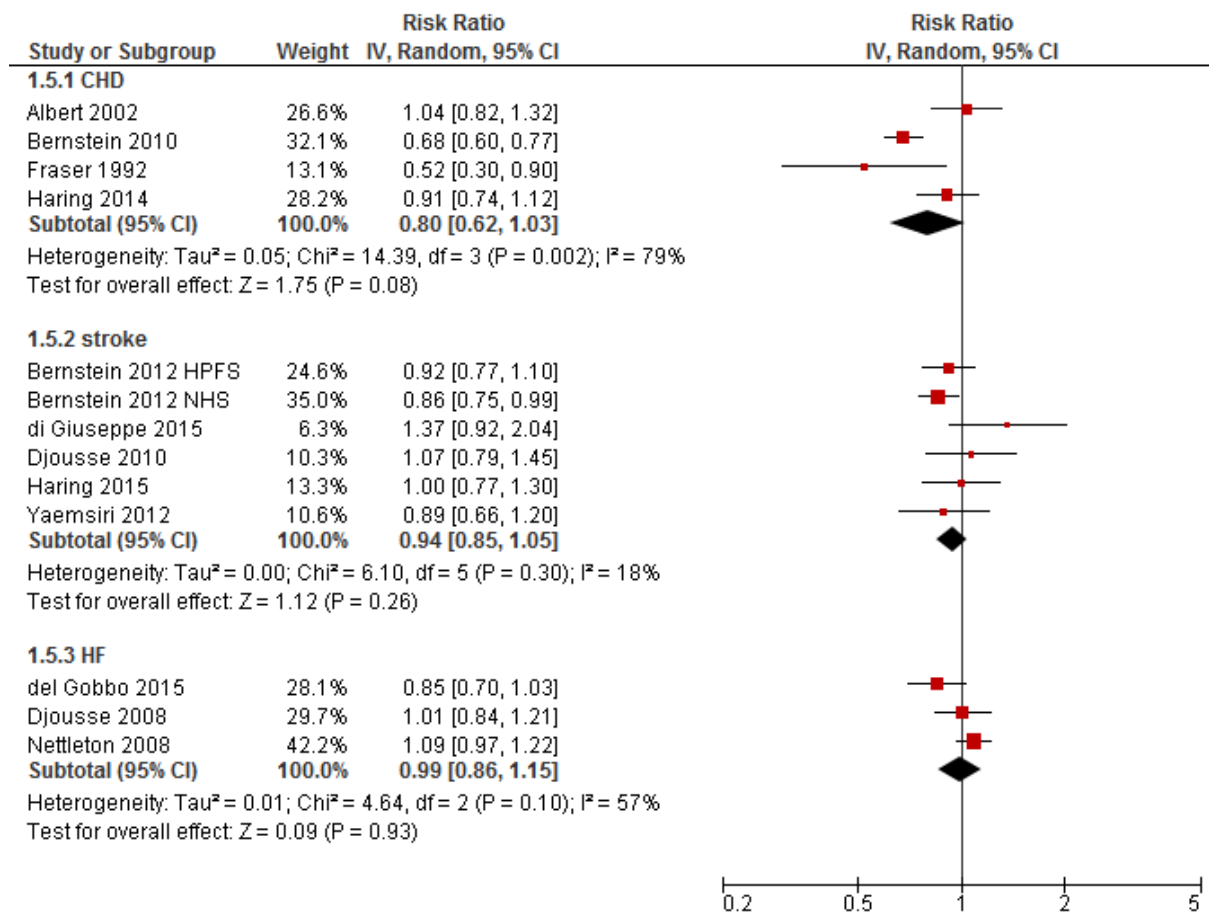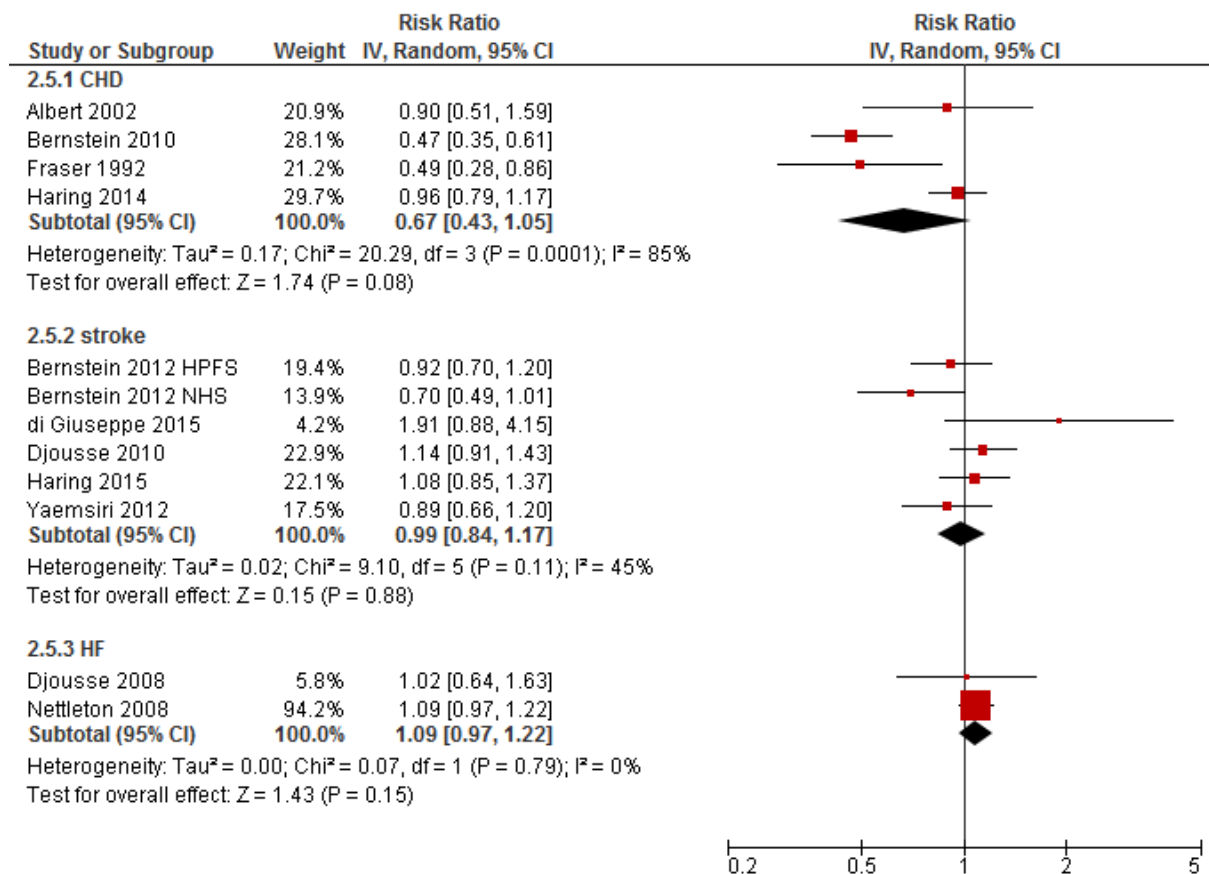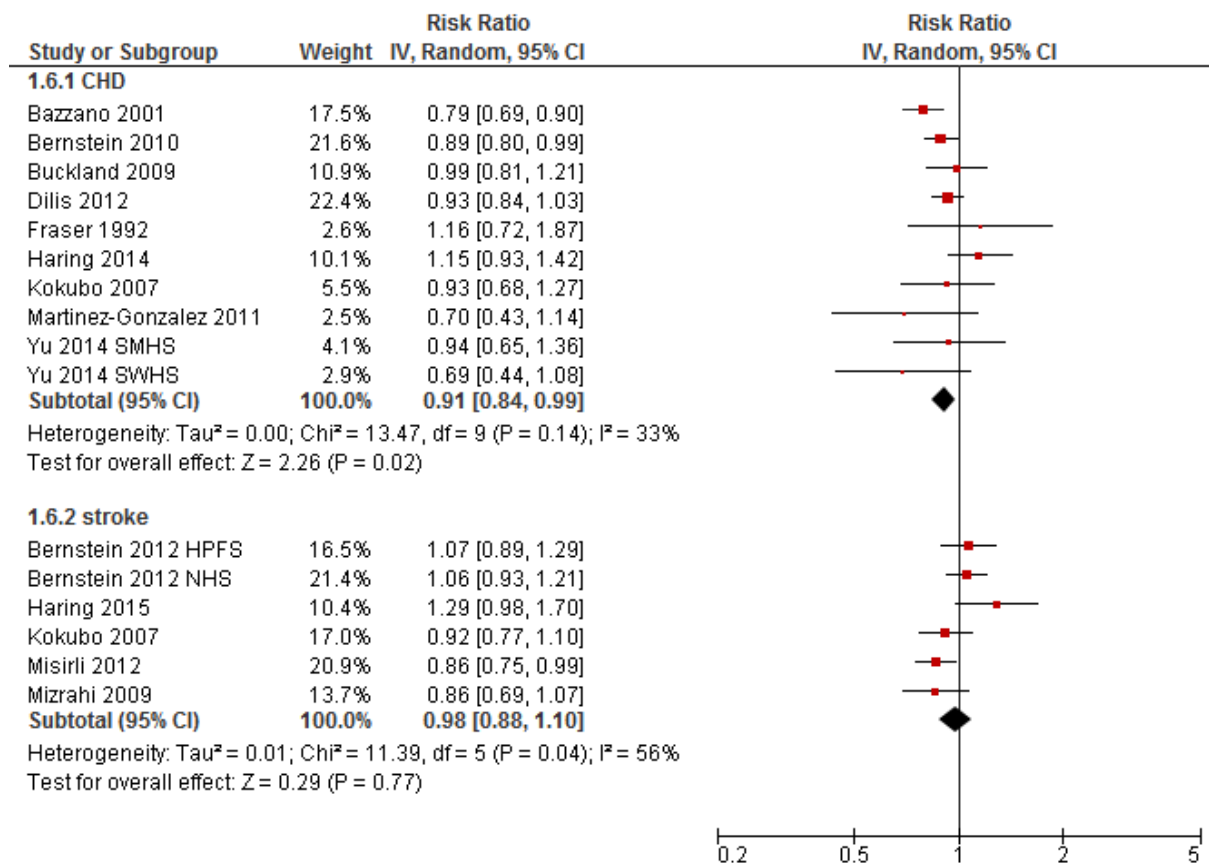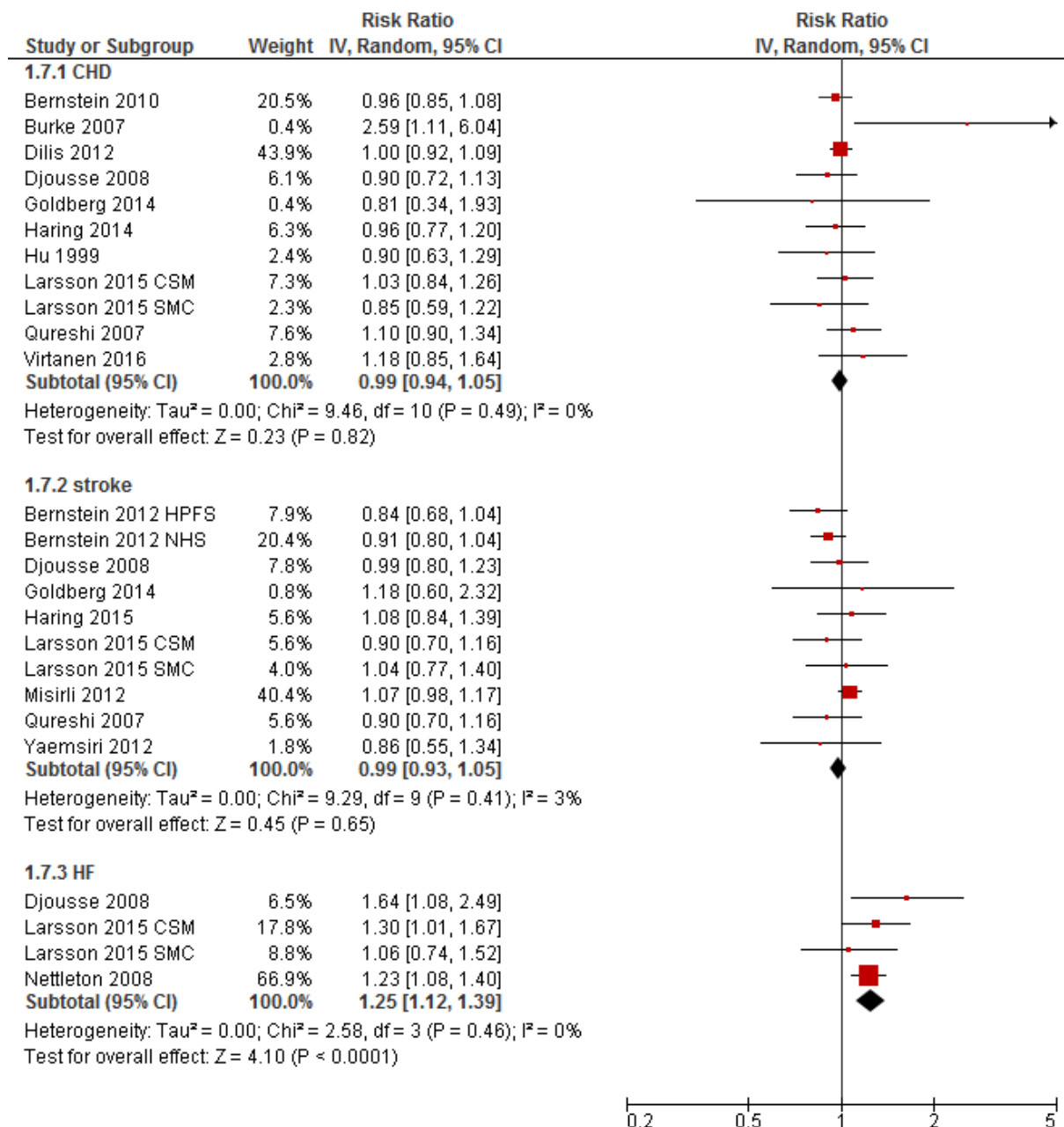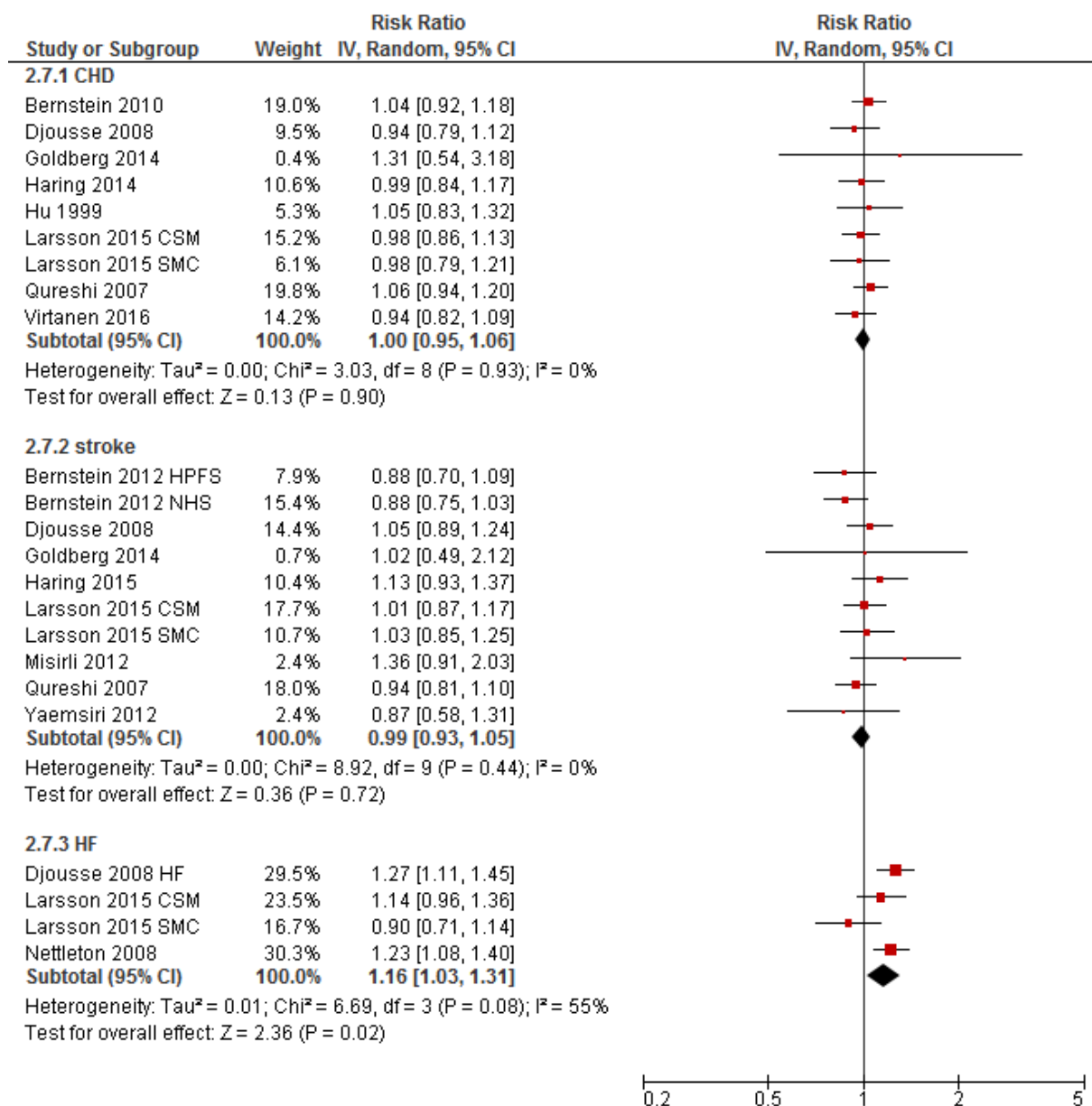| Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
1.10.1 CHD		
Bernstein 2010	24.7%	1.13 [0.99, 1.29]
Haring 2014	7.6%	1.13 [0.89, 1.43]
Würtz 2016	67.7%	1.17 [1.08, 1.27]
Subtotal (95% CI)	**100.0%**	**1.16 [1.08, 1.24]**
Heterogeneity: Tau² = 0.00; Chi² = 0.24, df = 2 (P = 0.89); I² = 0%		
Test for overall effect: Z = 4.34 (P < 0.0001)		
1.10.2 stroke		
Amiano 2016	5.9%	0.98 [0.73, 1.32]
Bernstein 2012 HPFS	9.9%	1.28 [1.02, 1.61]
Bernstein 2012 NHS	16.8%	1.19 [1.00, 1.42]
Haring 2015	5.5%	1.41 [1.04, 1.91]
Larsson 2011 CSM	26.1%	1.15 [1.00, 1.32]
Larsson 2011 SMC	18.8%	1.12 [0.95, 1.32]
Yaemsiri 2012	17.0%	1.13 [0.95, 1.34]
Subtotal (95% CI)	**100.0%**	**1.16 [1.08, 1.25]**
Heterogeneity: Tau² = 0.00; Chi² = 3.92, df = 6 (P = 0.69); I² = 0%		
Test for overall effect: Z = 4.12 (P < 0.0001)		
1.10.3 HF		
Ashaye 2011	19.9%	1.17 [1.01, 1.36]
del Gobbo 2015	12.8%	0.96 [0.79, 1.17]
Kaluza 2014	18.8%	1.20 [1.03, 1.40]
Kaluza 2015	14.9%	1.23 [1.03, 1.47]
Nettleton 2008	33.7%	1.07 [0.97, 1.18]
Subtotal (95% CI)	**100.0%**	**1.12 [1.04, 1.21]**
Heterogeneity: Tau² = 0.00; Chi² = 5.42, df = 4 (P = 0.25); I² = 26%		
Test for overall effect: Z = 2.93 (P = 0.003)		

Supplemental Figure 19: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low red meat intake. 95% CI, 95% confidence interval.
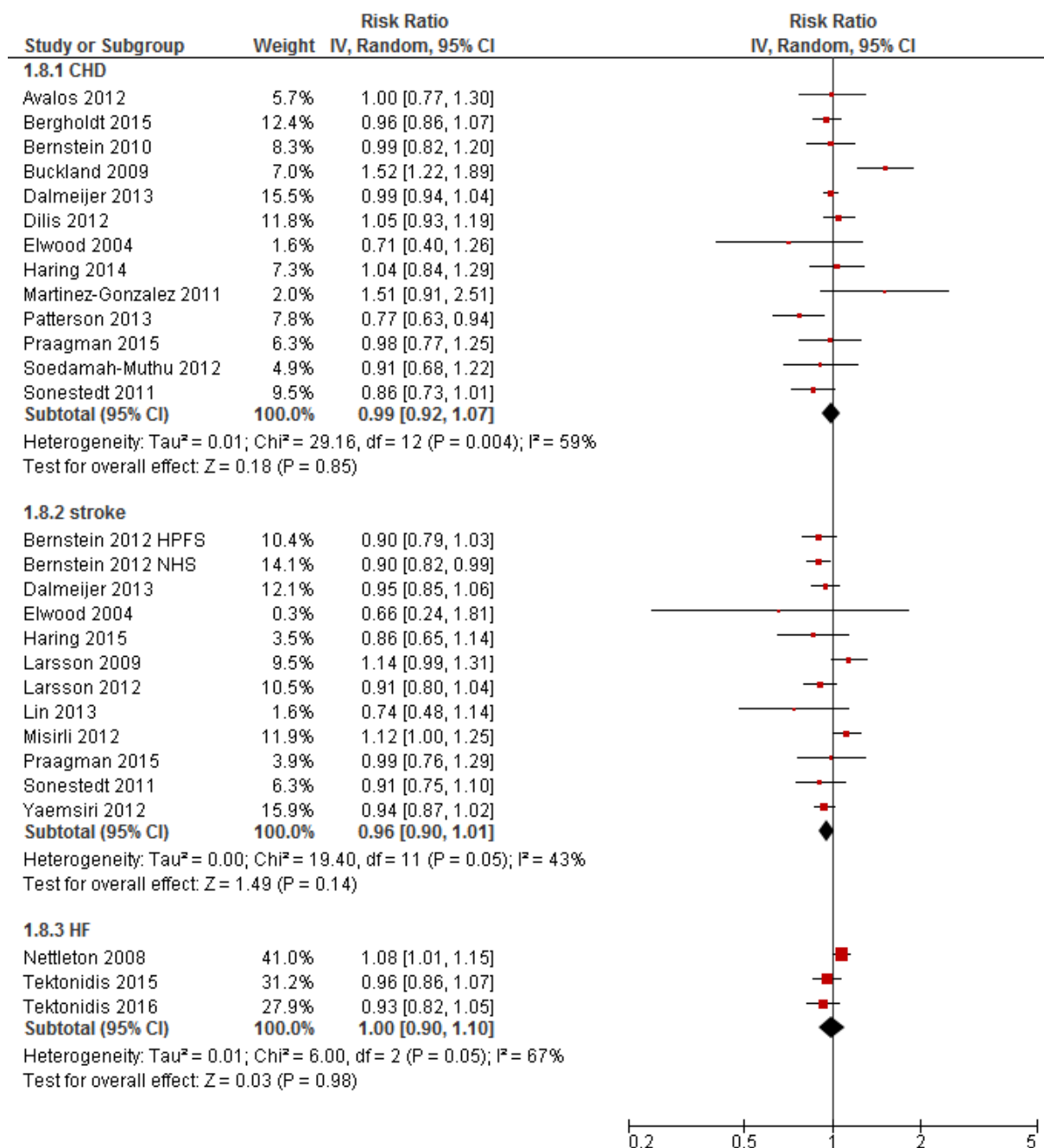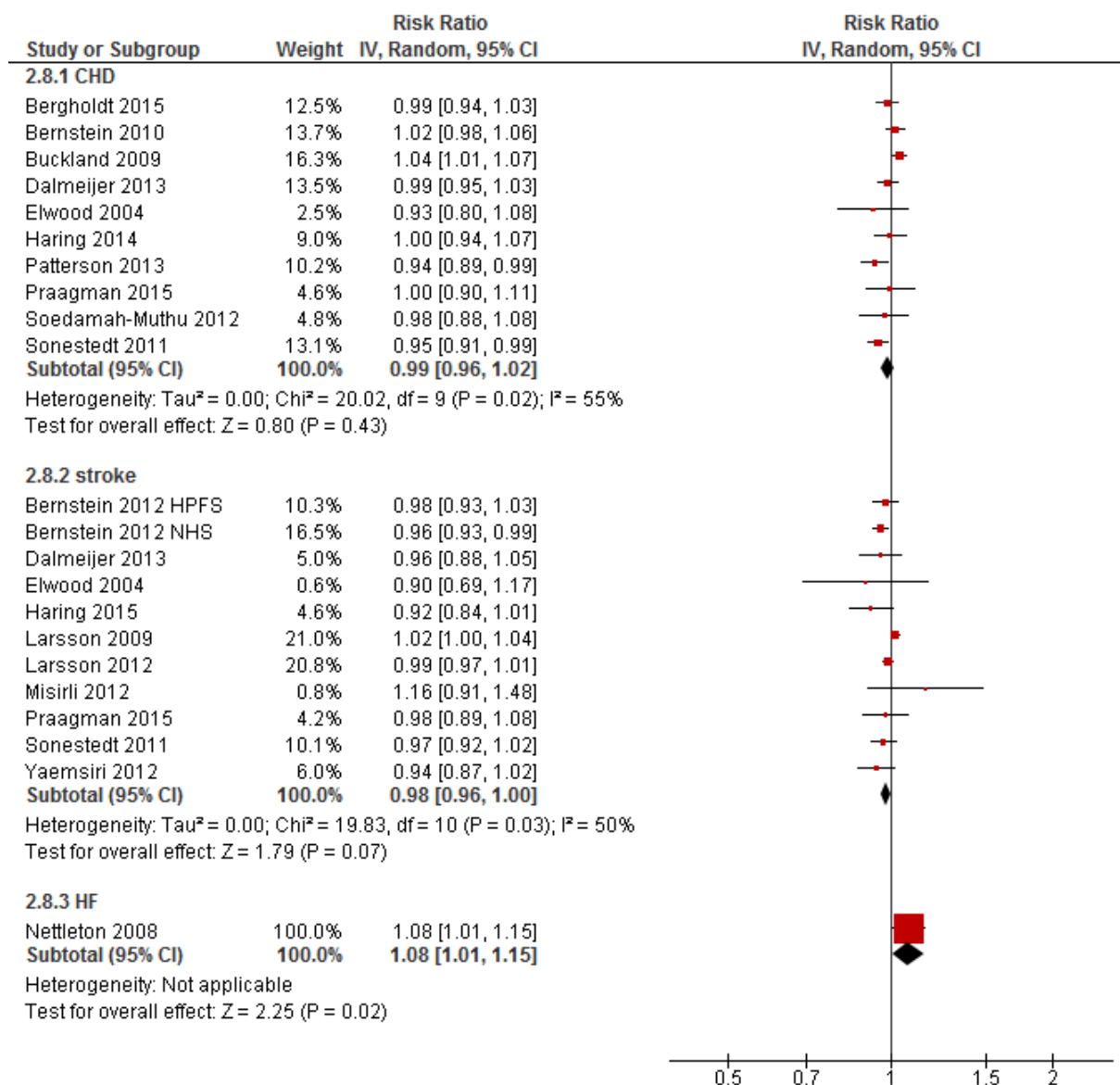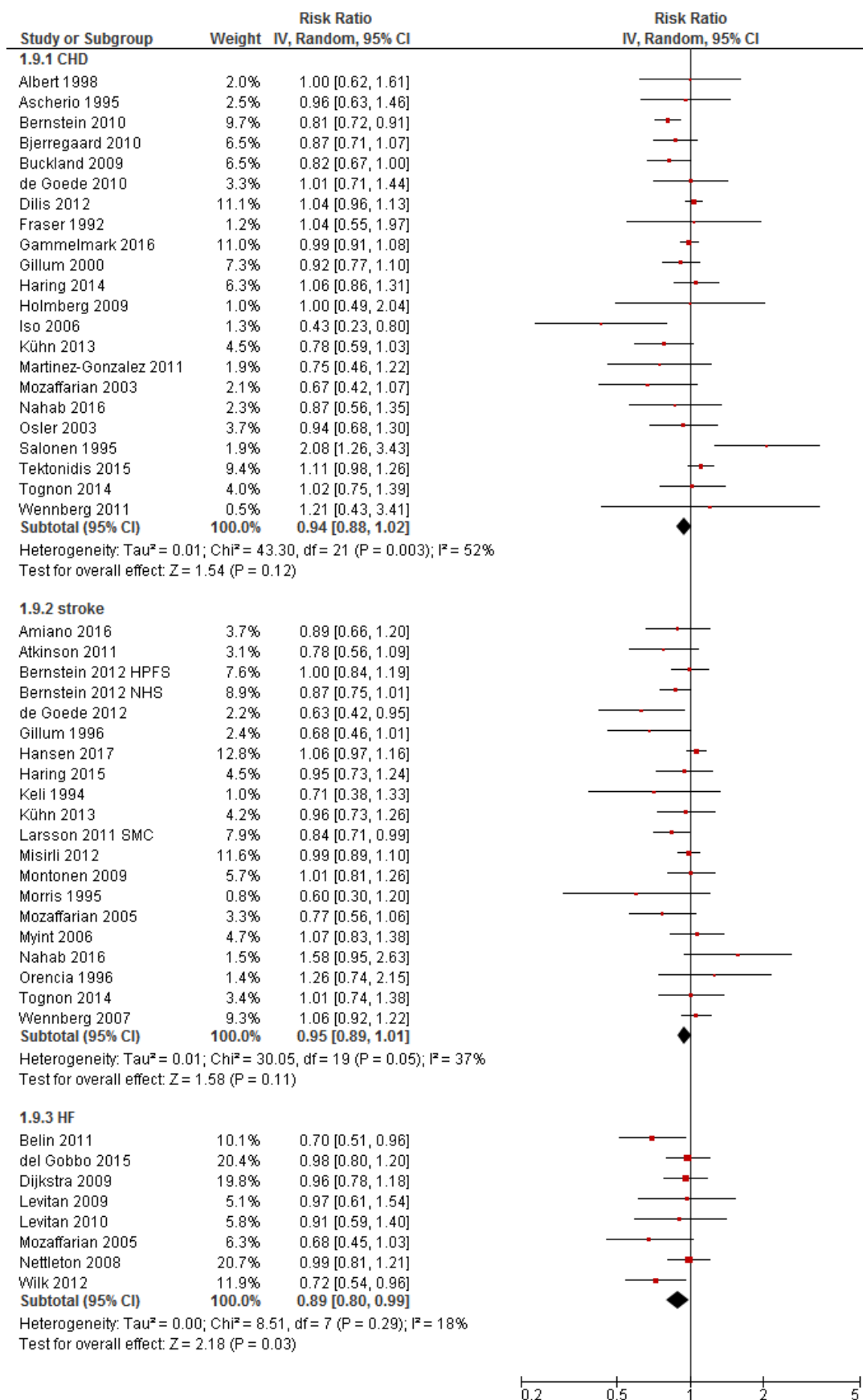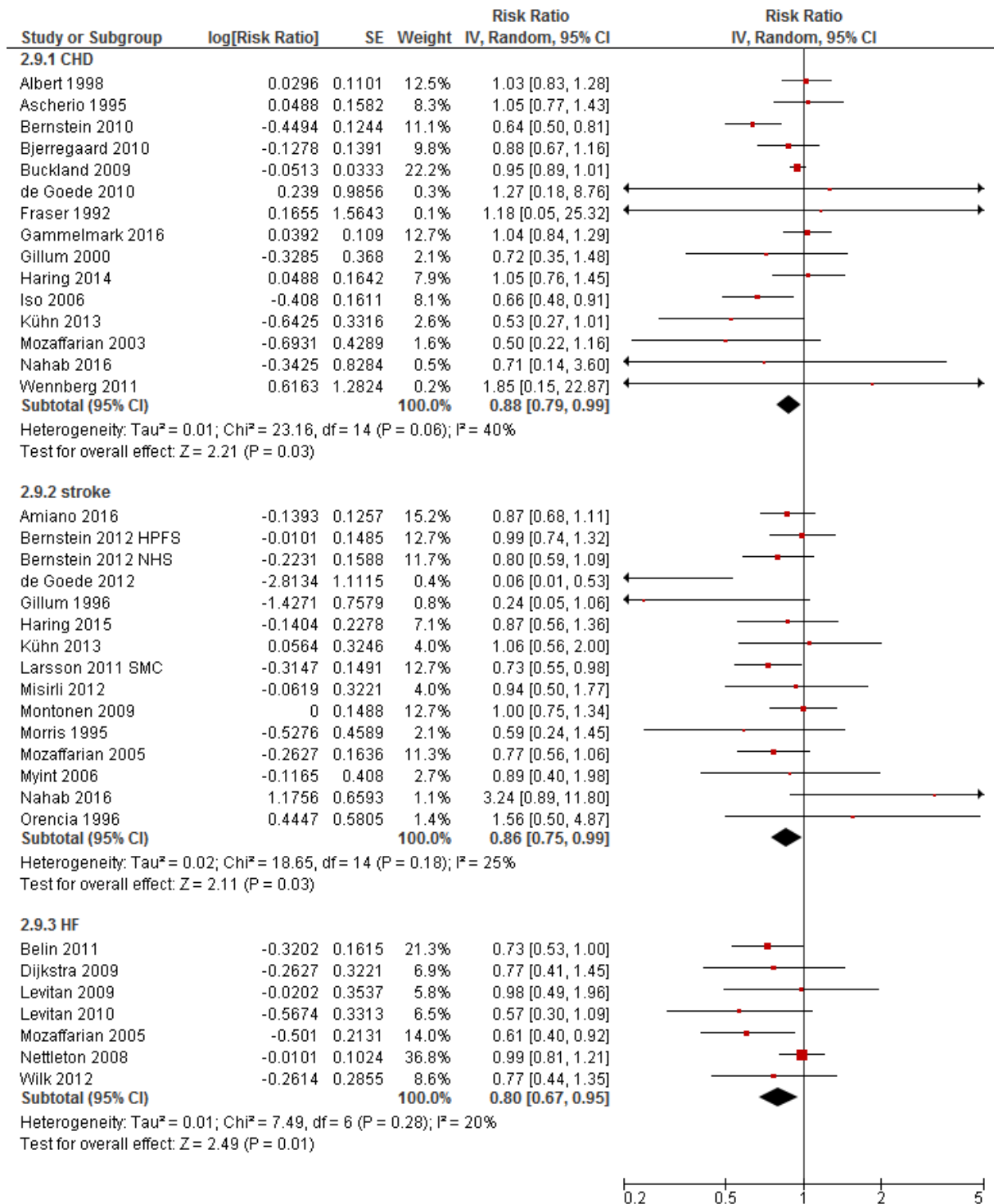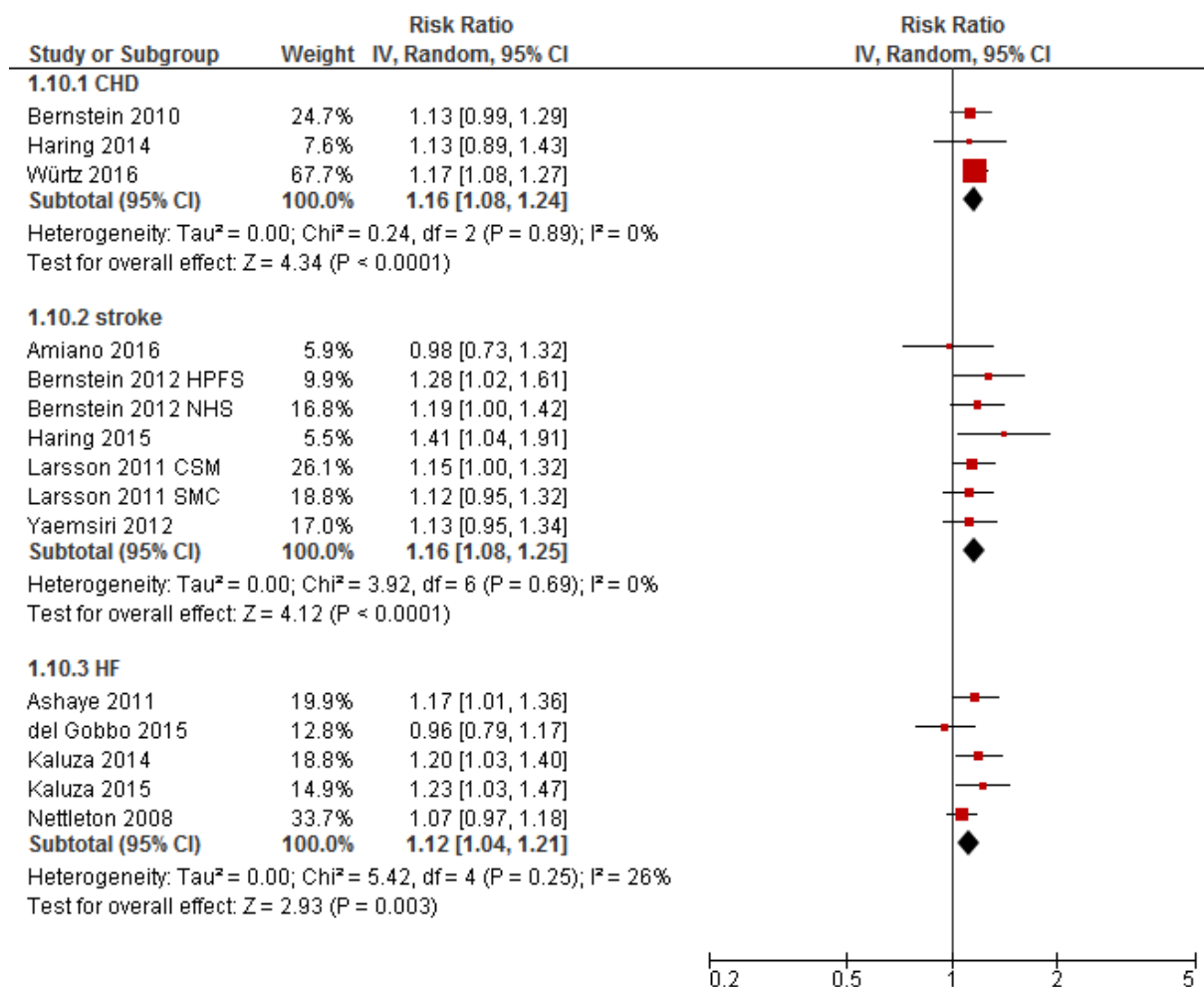
Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
2.10.1 CHD		
Bernstein 2010	26.8%	1.10 [0.97, 1.25]
Haring 2014	7.0%	1.20 [0.94, 1.53]
Würtz 2016	66.3%	1.17 [1.08, 1.27]
Subtotal (95% CI)	**100.0%**	**1.15 [1.08, 1.23]**
Heterogeneity: Tau² = 0.00; Chi² = 0.76, df = 2 (P = 0.68); I² = 0%		
Test for overall effect: Z = 4.28 (P < 0.0001)		
2.10.2 stroke		
Amiano 2016	2.5%	0.97 [0.70, 1.34]
Bernstein 2012 HPFS	19.7%	1.17 [1.04, 1.31]
Bernstein 2012 NHS	25.7%	1.12 [1.01, 1.24]
Haring 2015	2.6%	1.49 [1.08, 2.04]
Larsson 2011 CSM	33.9%	1.07 [0.98, 1.17]
Larsson 2011 SMC	9.3%	1.10 [0.93, 1.30]
Yaemsiri 2012	6.4%	1.15 [0.94, 1.41]
Subtotal (95% CI)	**100.0%**	**1.12 [1.06, 1.17]**
Heterogeneity: Tau² = 0.00; Chi² = 5.37, df = 6 (P = 0.50); I² = 0%		
Test for overall effect: Z = 4.18 (P < 0.0001)		
2.10.3 HF		
Ashaye 2011	14.0%	1.21 [1.05, 1.39]
Kaluza 2014	43.6%	1.06 [0.98, 1.15]
Kaluza 2015	22.3%	1.04 [0.93, 1.16]
Nettleton 2008	20.1%	1.08 [0.96, 1.22]
Subtotal (95% CI)	**100.0%**	**1.08 [1.02, 1.14]**
Heterogeneity: Tau² = 0.00; Chi² = 3.12, df = 3 (P = 0.37); I² = 4%		
Test for overall effect: Z = 2.79 (P = 0.005)		

Supplemental Figure 20: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for each 100 g/d increase in red meat intake. 95% CI, 95% confidence interval.
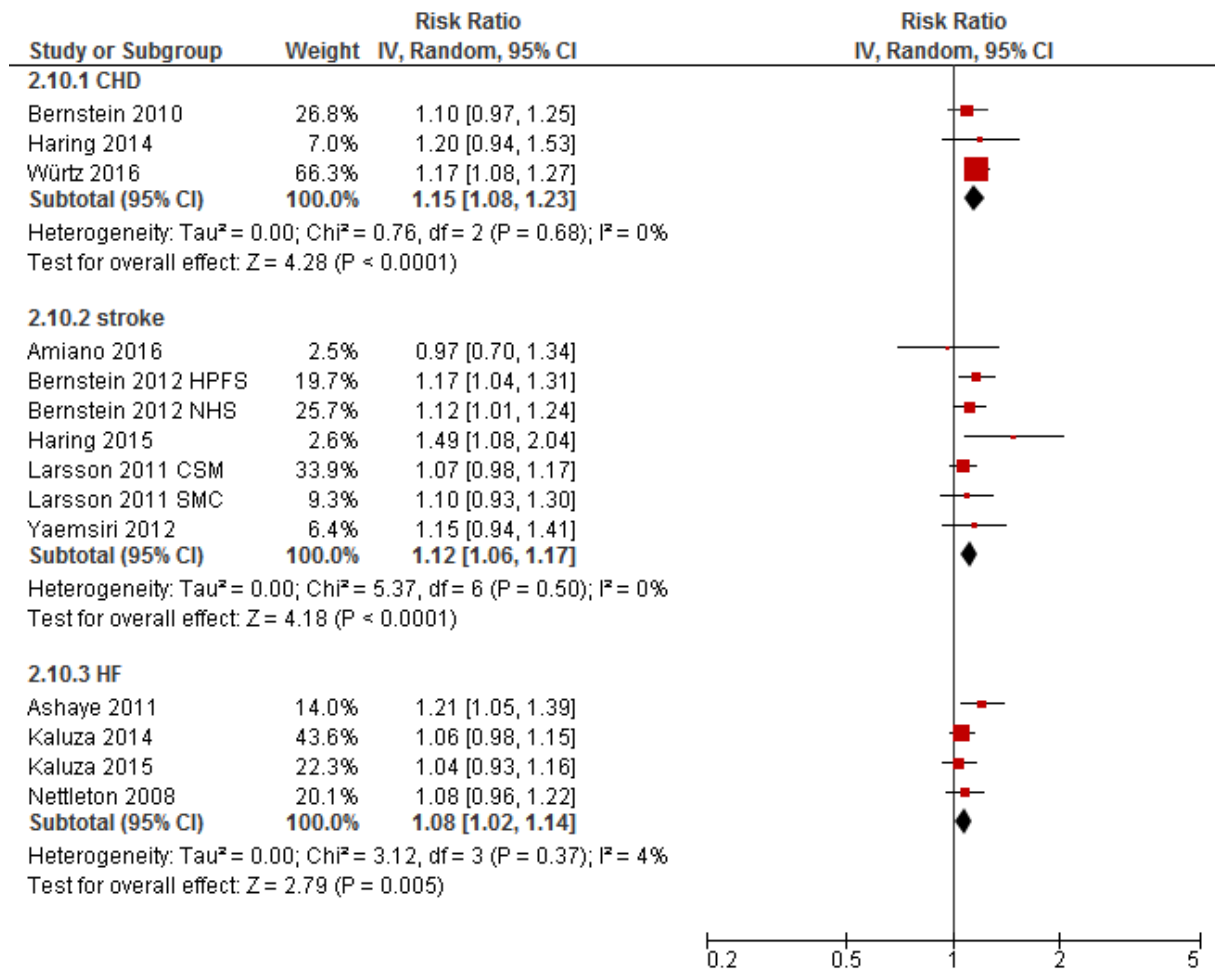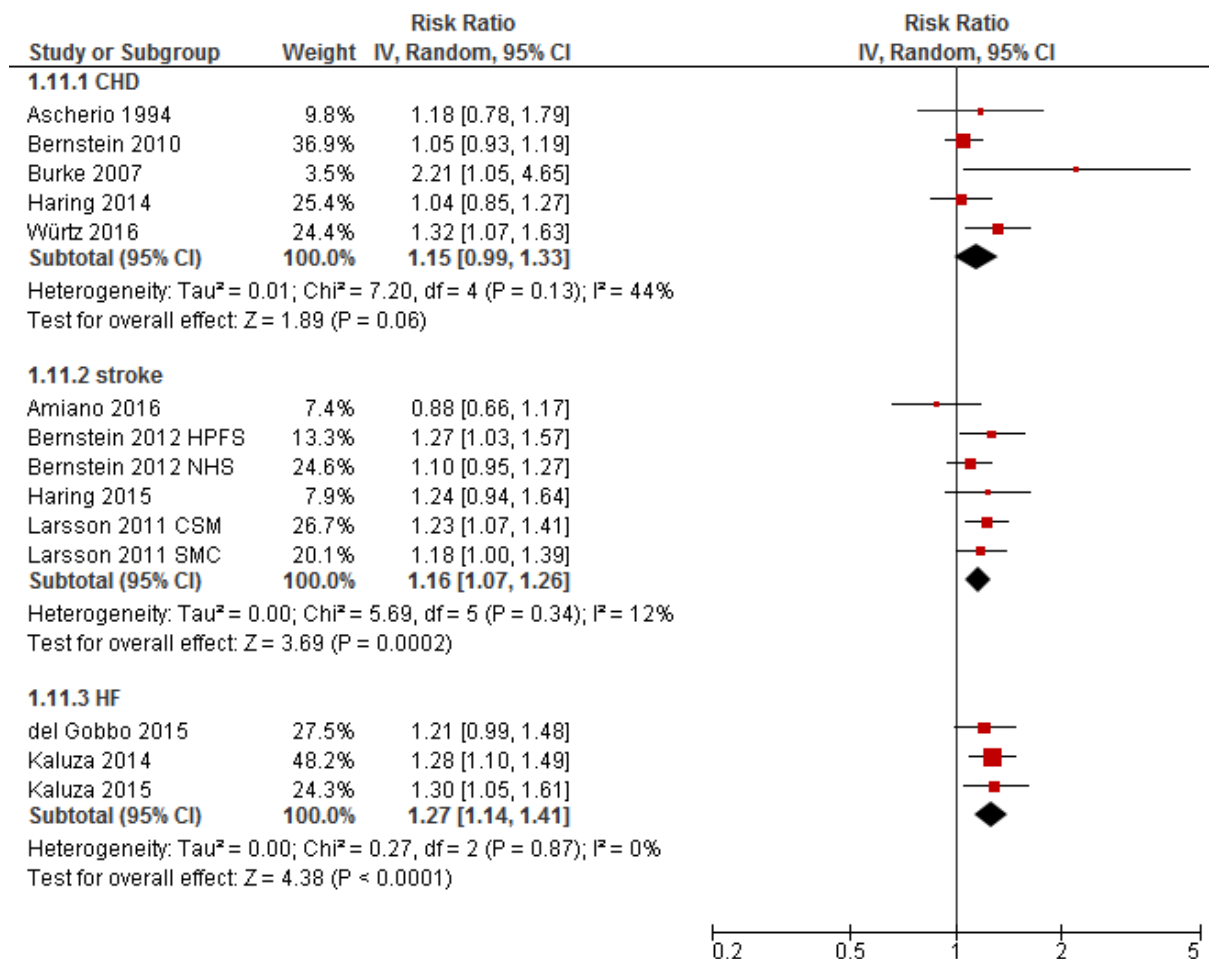
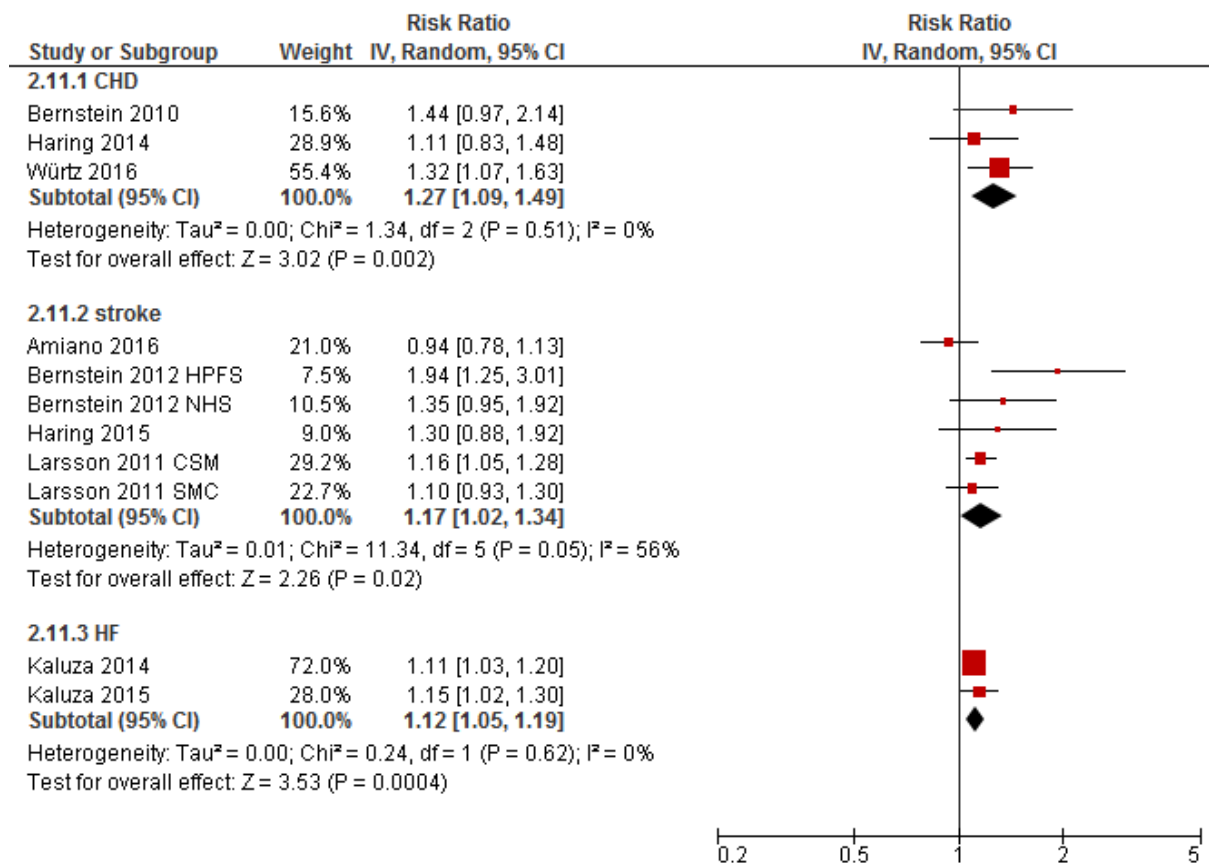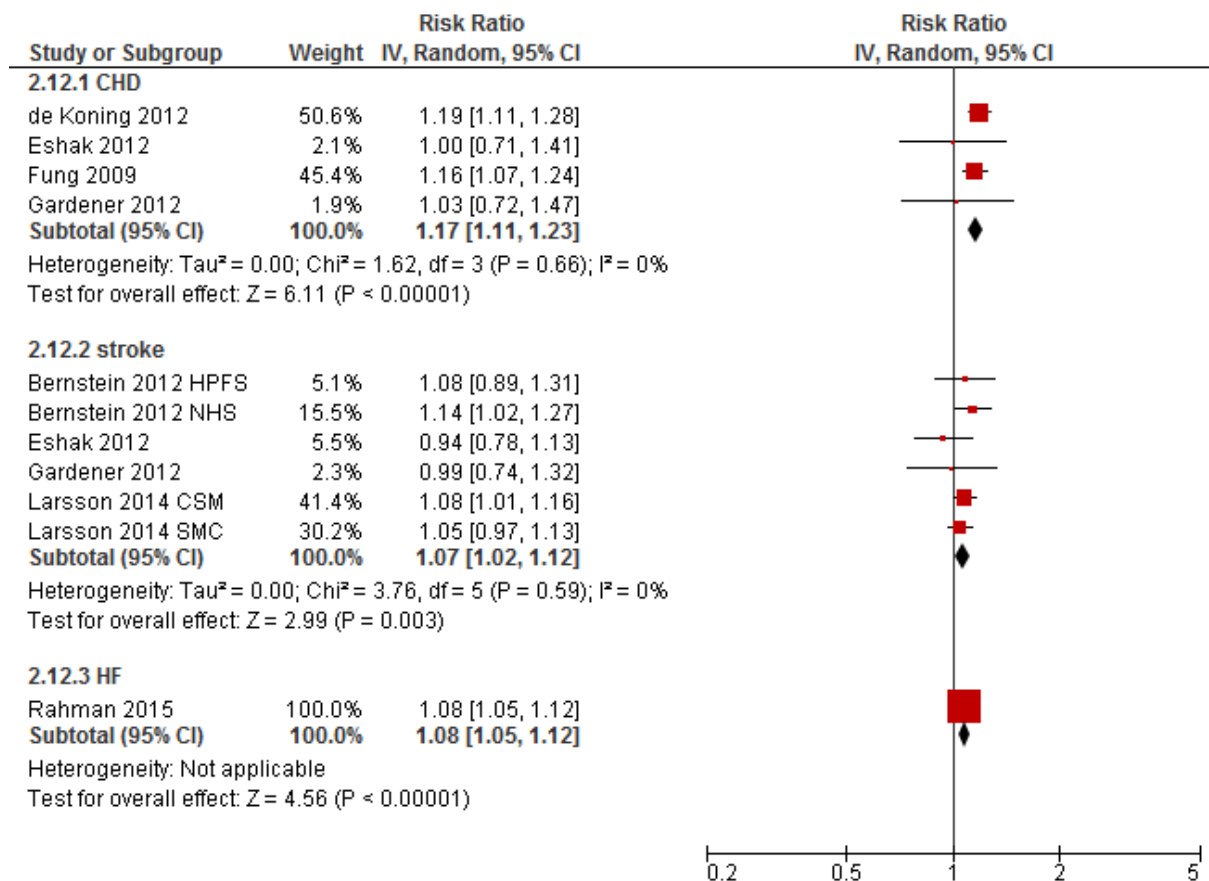| Study or Subgroup	Weight	Risk Ratio IV, Random, 95% CI
1.11.1 CHD		
Ascherio 1994	9.8%	1.18 [0.78, 1.79]
Bernstein 2010	36.9%	1.05 [0.93, 1.19]
Burke 2007	3.5%	2.21 [1.05, 4.65]
Haring 2014	25.4%	1.04 [0.85, 1.27]
Würtz 2016	24.4%	1.32 [1.07, 1.63]
Subtotal (95% CI)	**100.0%**	**1.15 [0.99, 1.33]**
Heterogeneity: Tau² = 0.01; Chi² = 7.20, df = 4 (P = 0.13); I² = 44%		
Test for overall effect: Z = 1.89 (P = 0.06)		
1.11.2 stroke		
Amiano 2016	7.4%	0.88 [0.66, 1.17]
Bernstein 2012 HPFS	13.3%	1.27 [1.03, 1.57]
Bernstein 2012 NHS	24.6%	1.10 [0.95, 1.27]
Haring 2015	7.9%	1.24 [0.94, 1.64]
Larsson 2011 CSM	26.7%	1.23 [1.07, 1.41]
Larsson 2011 SMC	20.1%	1.18 [1.00, 1.39]
Subtotal (95% CI)	**100.0%**	**1.16 [1.07, 1.26]**
Heterogeneity: Tau² = 0.00; Chi² = 5.69, df = 5 (P = 0.34); I² = 12%		
Test for overall effect: Z = 3.69 (P = 0.0002)		
1.11.3 HF		
del Gobbo 2015	27.5%	1.21 [0.99, 1.48]
Kaluza 2014	48.2%	1.28 [1.10, 1.49]
Kaluza 2015	24.3%	1.30 [1.05, 1.61]
Subtotal (95% CI)	**100.0%**	**1.27 [1.14, 1.41]**
Heterogeneity: Tau² = 0.00; Chi² = 0.27, df = 2 (P = 0.87); I² = 0%		
Test for overall effect: Z = 4.38 (P < 0.0001)		

Supplemental Figure 21: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low processed meat intake. 95% CI, 95% confidence interval.

|		Risk Ratio	Risk Ratio
Study or Subgroup	Weight	IV, Random, 95% CI	IV, Random, 95% CI
2.11.1 CHD			
Bernstein 2010	15.6%	1.44 [0.97, 2.14]	
Haring 2014	28.9%	1.11 [0.83, 1.48]	
Würtz 2016	55.4%	1.32 [1.07, 1.63]	
Subtotal (95% CI)	**100.0%**	**1.27 [1.09, 1.49]**	
Heterogeneity: Tau² = 0.00; Chi² = 1.34, df = 2 (P = 0.51); I² = 0%			
Test for overall effect: Z = 3.02 (P = 0.002)			
2.11.2 stroke			
Amiano 2016	21.0%	0.94 [0.78, 1.13]	
Bernstein 2012 HPFS	7.5%	1.94 [1.25, 3.01]	
Bernstein 2012 NHS	10.5%	1.35 [0.95, 1.92]	
Haring 2015	9.0%	1.30 [0.88, 1.92]	
Larsson 2011 CSM	29.2%	1.16 [1.05, 1.28]	
Larsson 2011 SMC	22.7%	1.10 [0.93, 1.30]	
Subtotal (95% CI)	**100.0%**	**1.17 [1.02, 1.34]**	
Heterogeneity: Tau² = 0.01; Chi² = 11.34, df = 5 (P = 0.05); I² = 56%			
Test for overall effect: Z = 2.26 (P = 0.02)			
2.11.3 HF			
Kaluza 2014	72.0%	1.11 [1.03, 1.20]	
Kaluza 2015	28.0%	1.15 [1.02, 1.30]	
Subtotal (95% CI)	**100.0%**	**1.12 [1.05, 1.19]**	
Heterogeneity: Tau² = 0.00; Chi² = 0.24, df = 1 (P = 0.62); I² = 0%			
Test for overall effect: Z = 3.53 (P = 0.0004)			

Supplemental Figure 22: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for each 50 g/d increase in processed meat intake. 95% CI, 95% confidence interval.
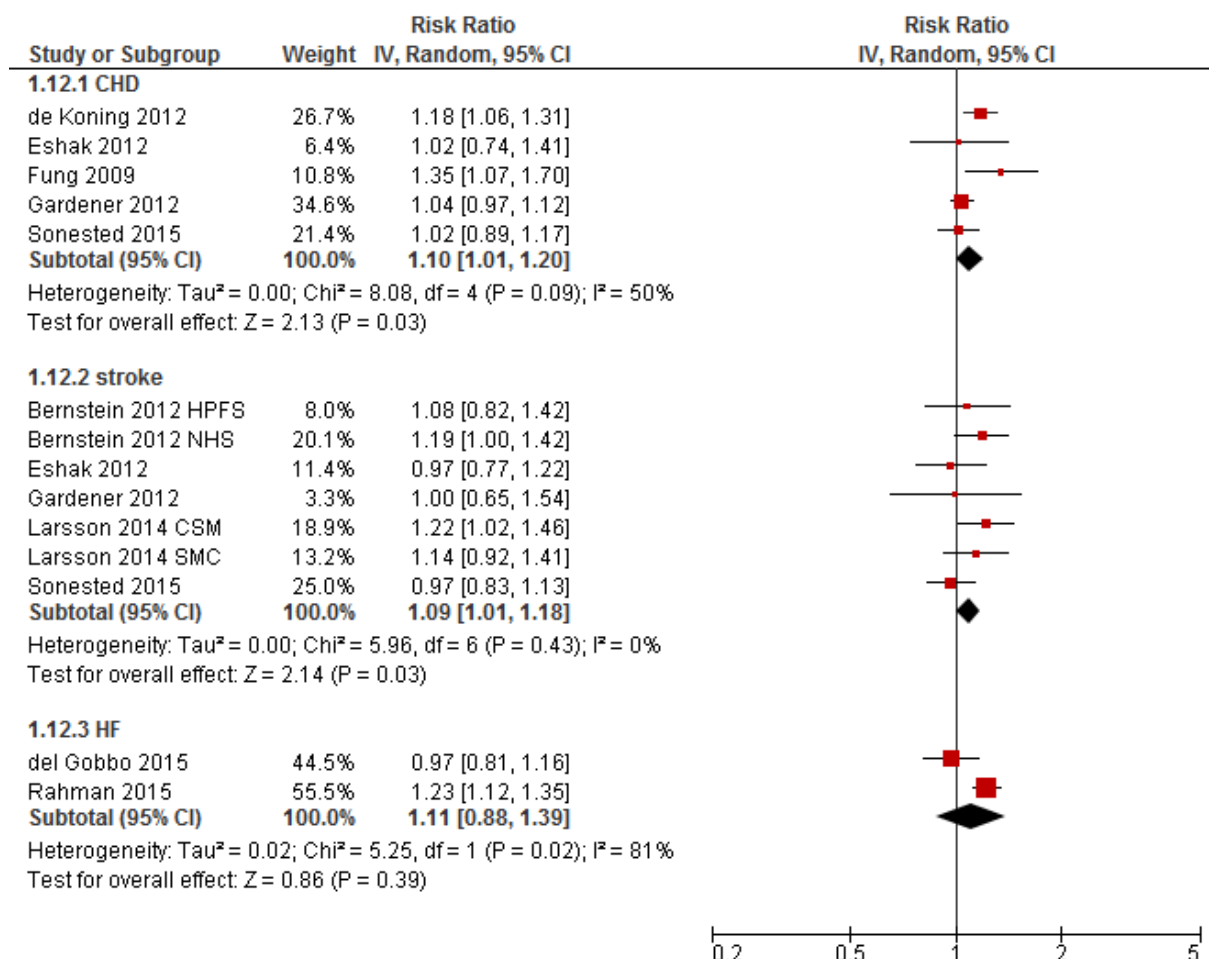
Supplemental Figure 23: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for high versus low sugar sweetened beverage intake. 95% CI, 95% confidence interval.

		Risk Ratio		**Risk Ratio**
Study or Subgroup	Weight	IV, Random, 95% CI		IV, Random, 95% CI
2.12.1 CHD				
de Koning 2012	50.6%	1.19 [1.11, 1.28]		
Eshak 2012	2.1%	1.00 [0.71, 1.41]		
Fung 2009	45.4%	1.16 [1.07, 1.24]		
Gardener 2012	1.9%	1.03 [0.72, 1.47]		
Subtotal (95% CI)	**100.0%**	**1.17 [1.11, 1.23]**		

Heterogeneity: Tau² = 0.00; Chi² = 1.62, df = 3 (P = 0.66); I² = 0%
Test for overall effect: Z = 6.11 (P < 0.00001)

2.12.2 stroke				
Bernstein 2012 HPFS	5.1%	1.08 [0.89, 1.31]		
Bernstein 2012 NHS	15.5%	1.14 [1.02, 1.27]		
Eshak 2012	5.5%	0.94 [0.78, 1.13]		
Gardener 2012	2.3%	0.99 [0.74, 1.32]		
Larsson 2014 CSM	41.4%	1.08 [1.01, 1.16]		
Larsson 2014 SMC	30.2%	1.05 [0.97, 1.13]		
Subtotal (95% CI)	**100.0%**	**1.07 [1.02, 1.12]**		

Heterogeneity: Tau² = 0.00; Chi² = 3.76, df = 5 (P = 0.59); I² = 0%
Test for overall effect: Z = 2.99 (P = 0.003)

2.12.3 HF				
Rahman 2015	100.0%	1.08 [1.05, 1.12]		
Subtotal (95% CI)	**100.0%**	**1.08 [1.05, 1.12]**		

Heterogeneity: Not applicable
Test for overall effect: Z = 4.56 (P < 0.00001)

0.2   0.5   1   2   5

Supplemental Figure 24: Summary of relative risk of coronary heart disease (CHD), stroke and heart failure (HF) for 250 ml/d increase in sugar sweetened beverages intake. 95% CI, 95% confidence interval.
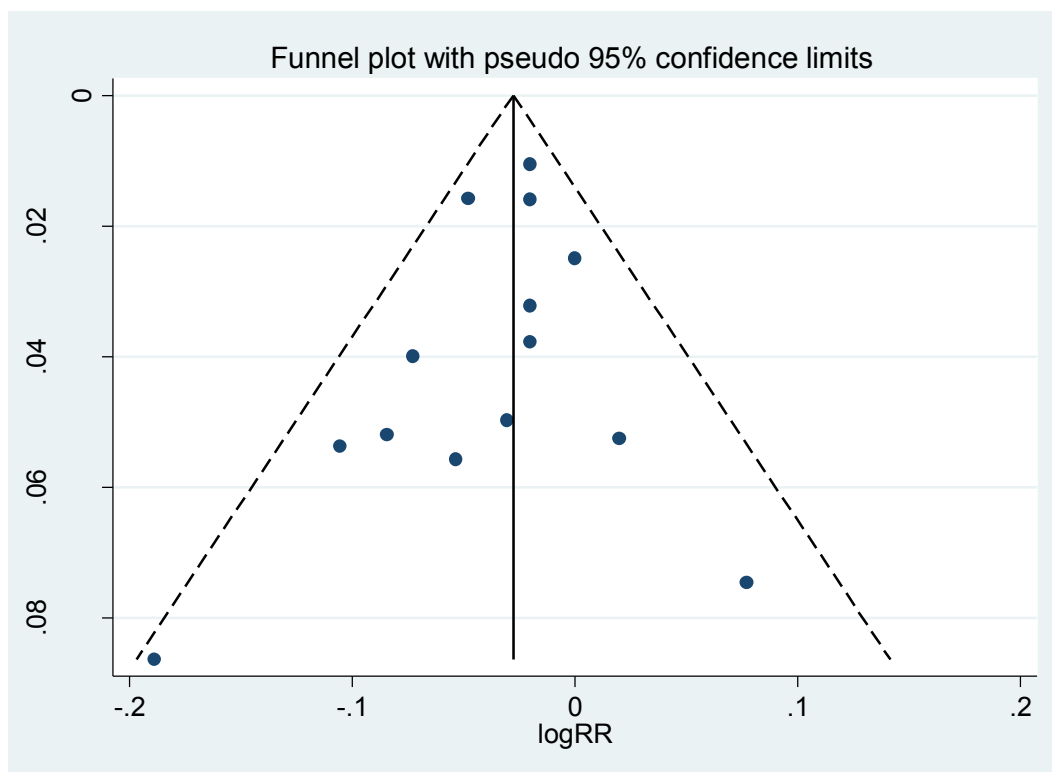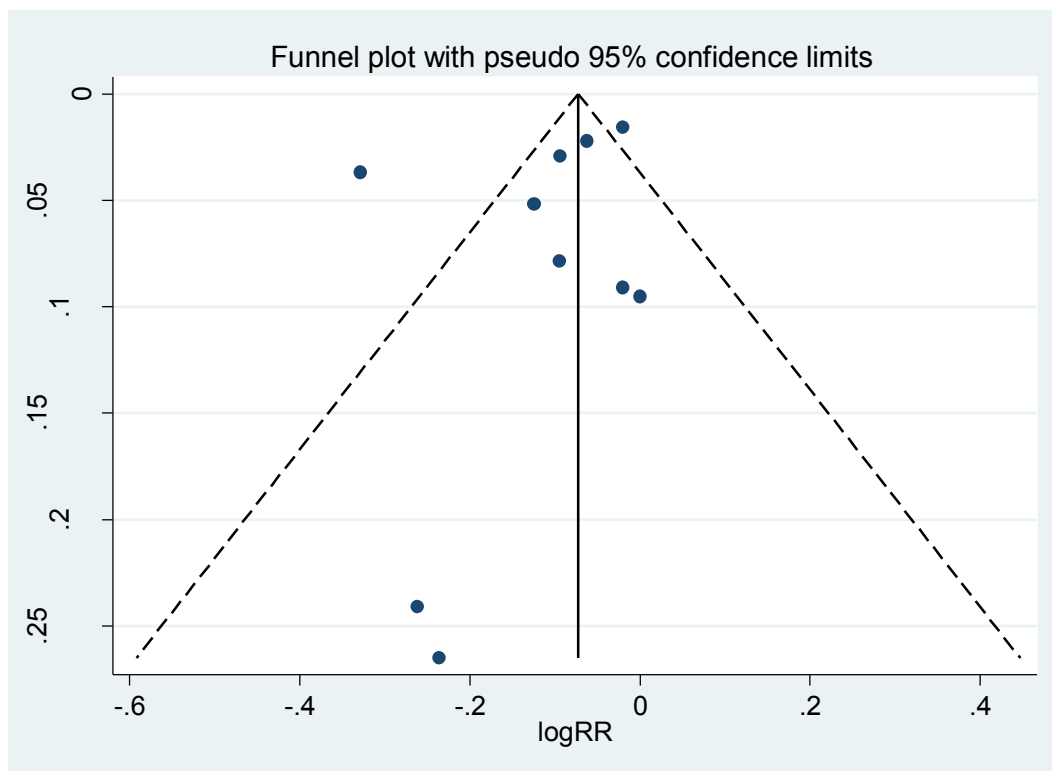
Supplemental Figure 25: Funnel plot for vegetable intake (dose-response meta-analysis) and coronary heart disease. SE = Standard error
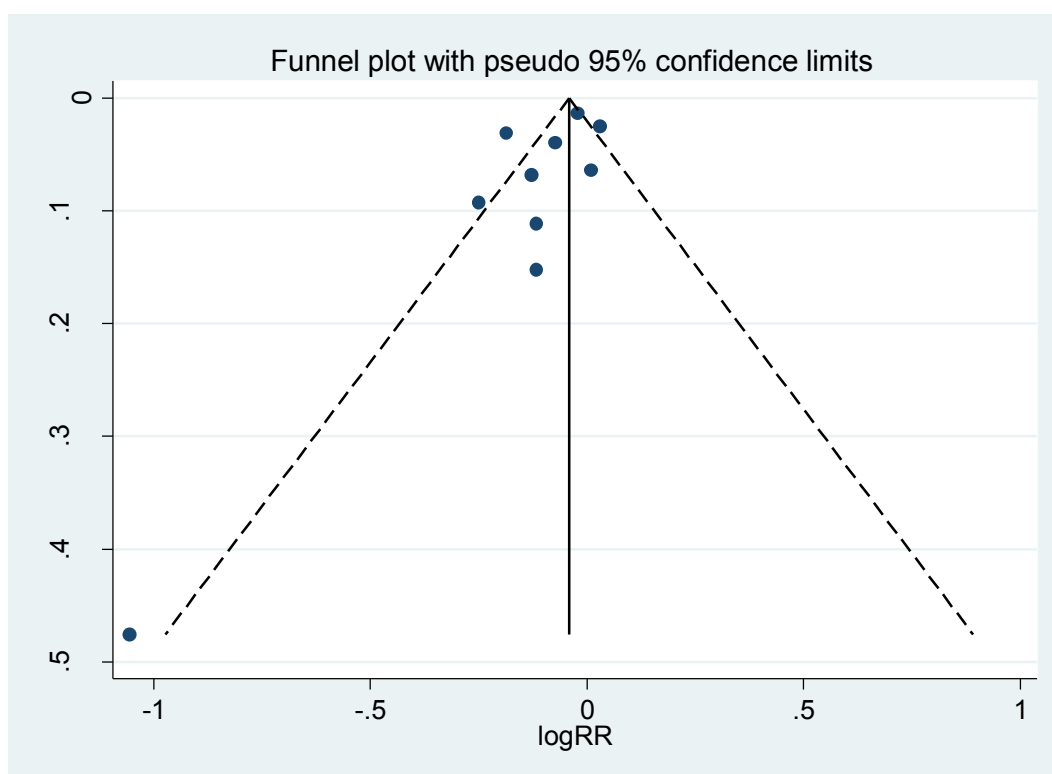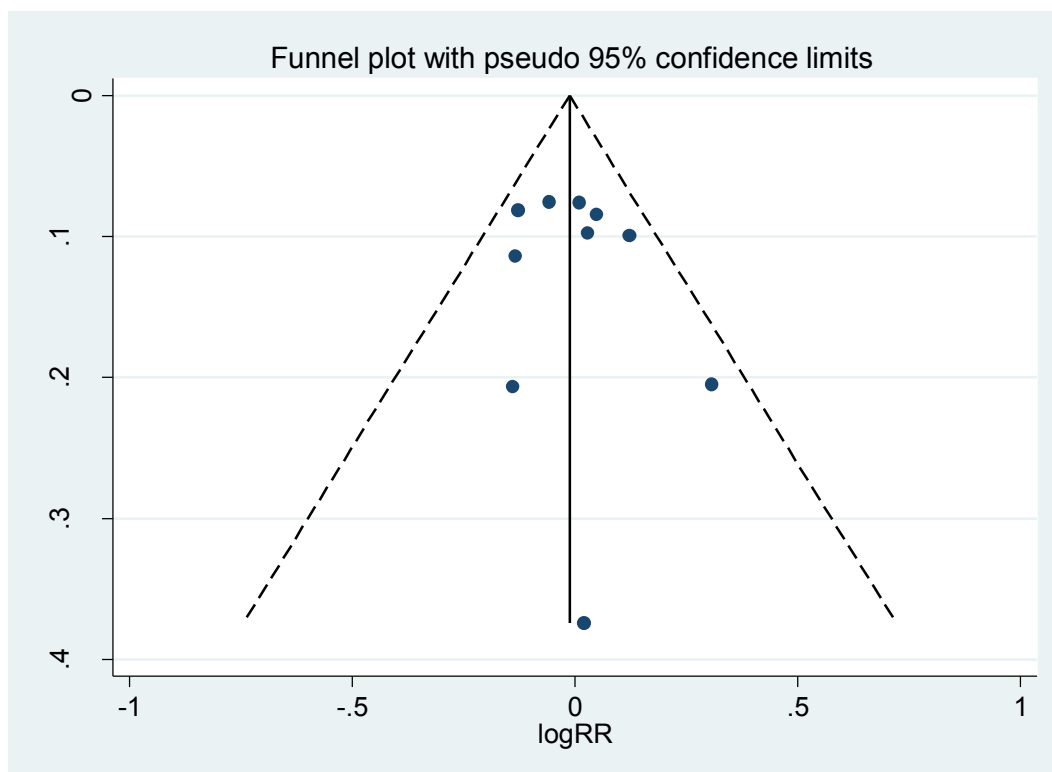

Supplemental Figure 26: Funnel plot for vegetable intake (dose-response meta-analysis) and stroke. SE = Standard error
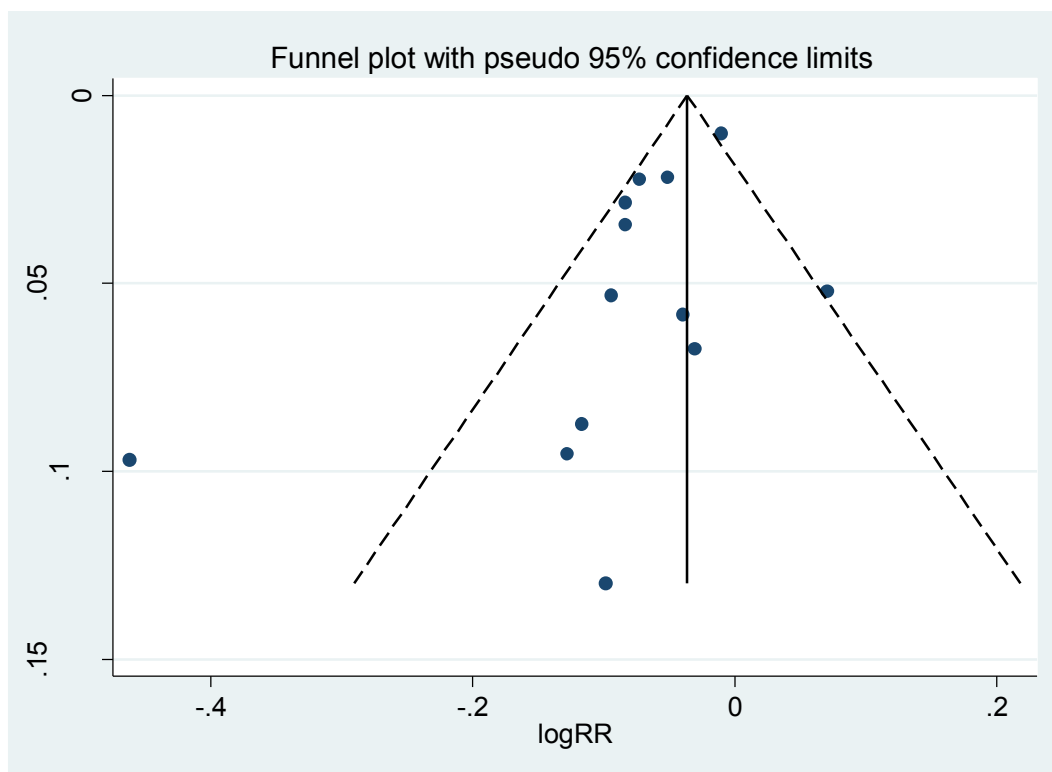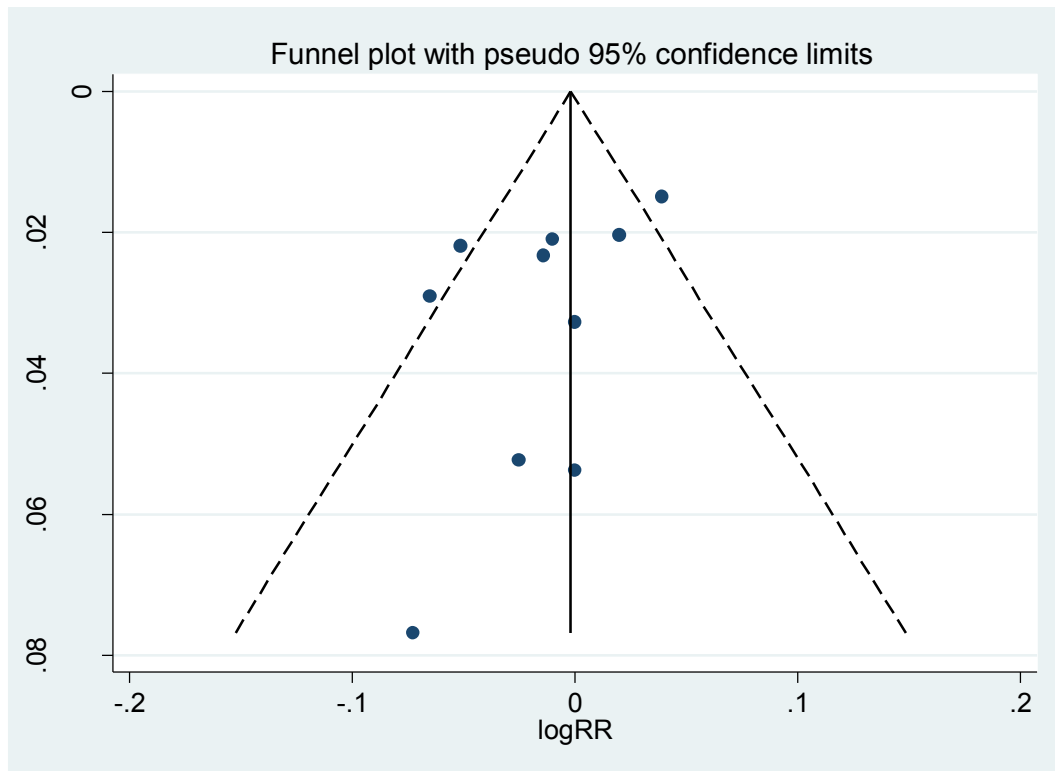
Supplemental Figure 27: Funnel plot for fruit intake (dose-response meta-analysis) and coronary heart disease. SE = Standard error
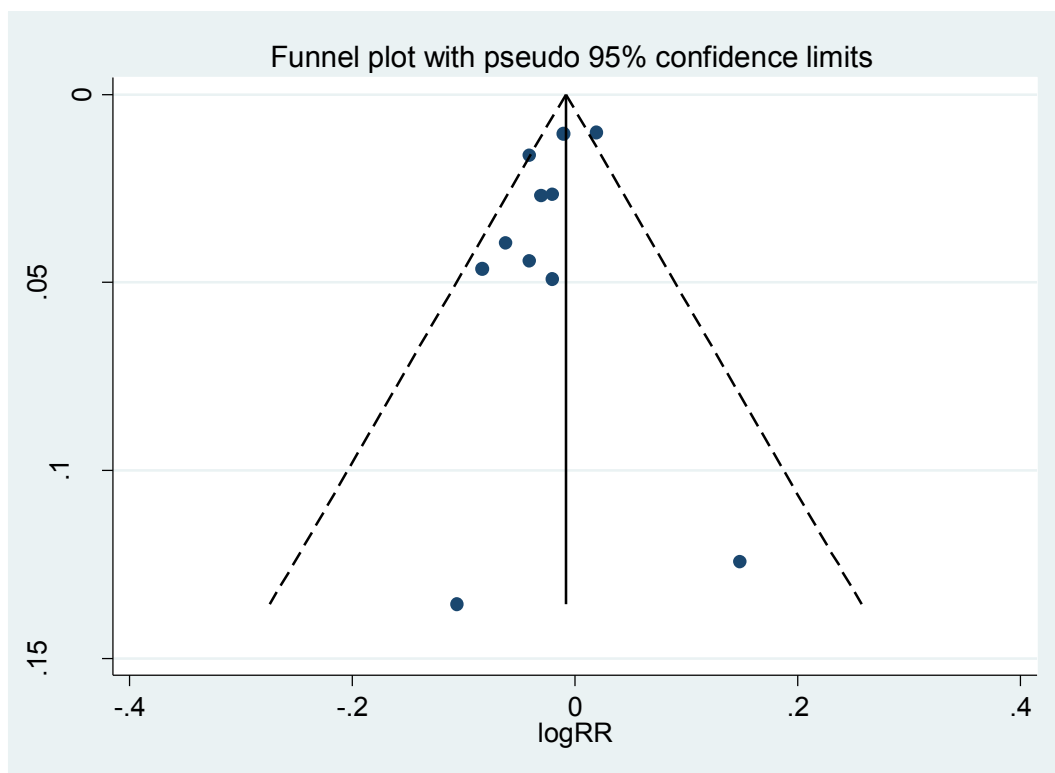

Supplemental Figure 28: Funnel plot for fruit intake (dose-response meta-analysis) and stroke. SE = Standard error
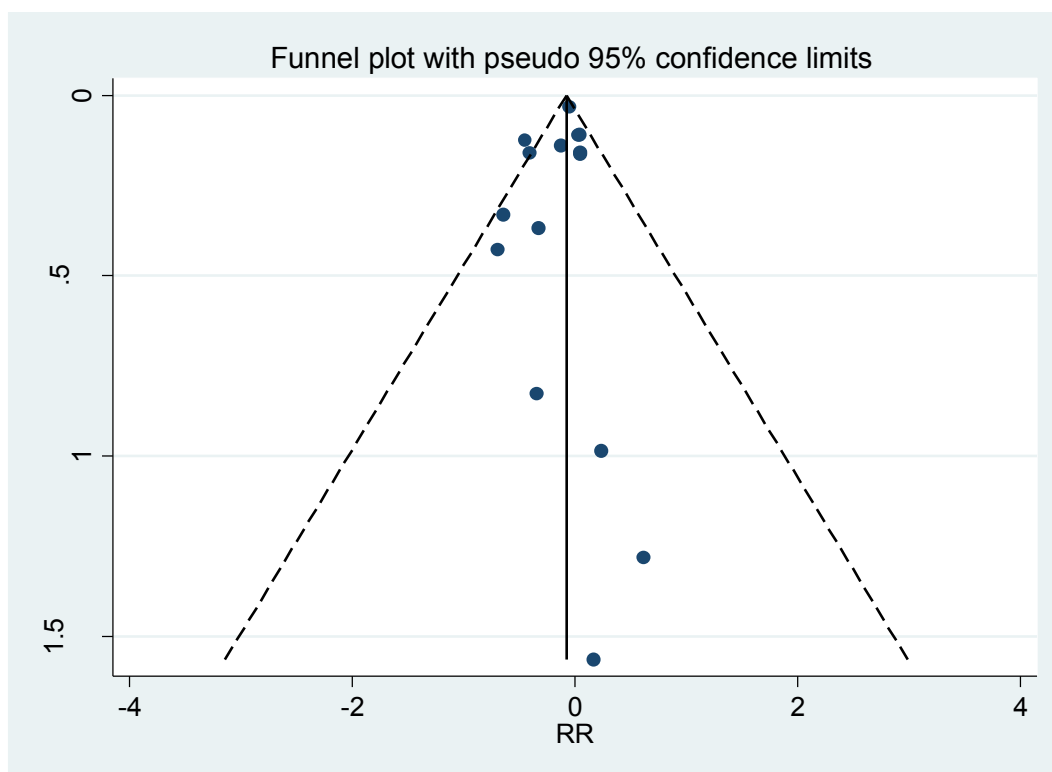
Supplemental Figure 29: Funnel plot for egg intake (dose-response meta-analysis) and stroke. SE = Standard error
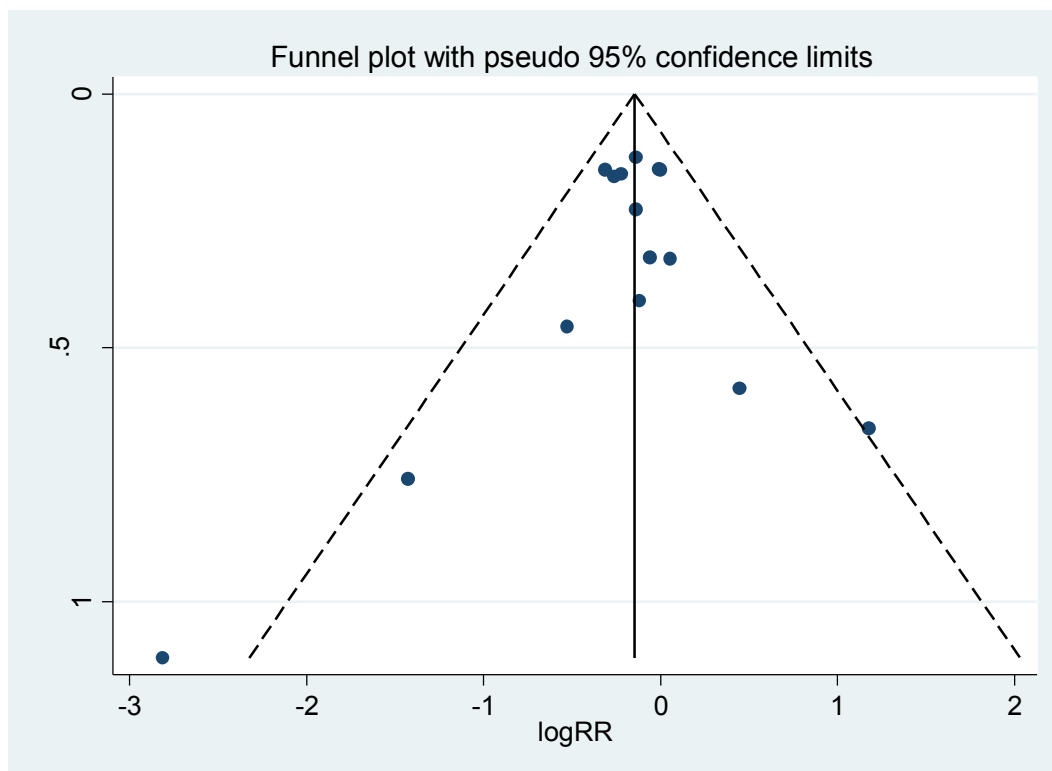
Supplemental Figure 30: Funnel plot for dairy intake (dose-response meta-analysis) and coronary heart disease. SE = Standard error
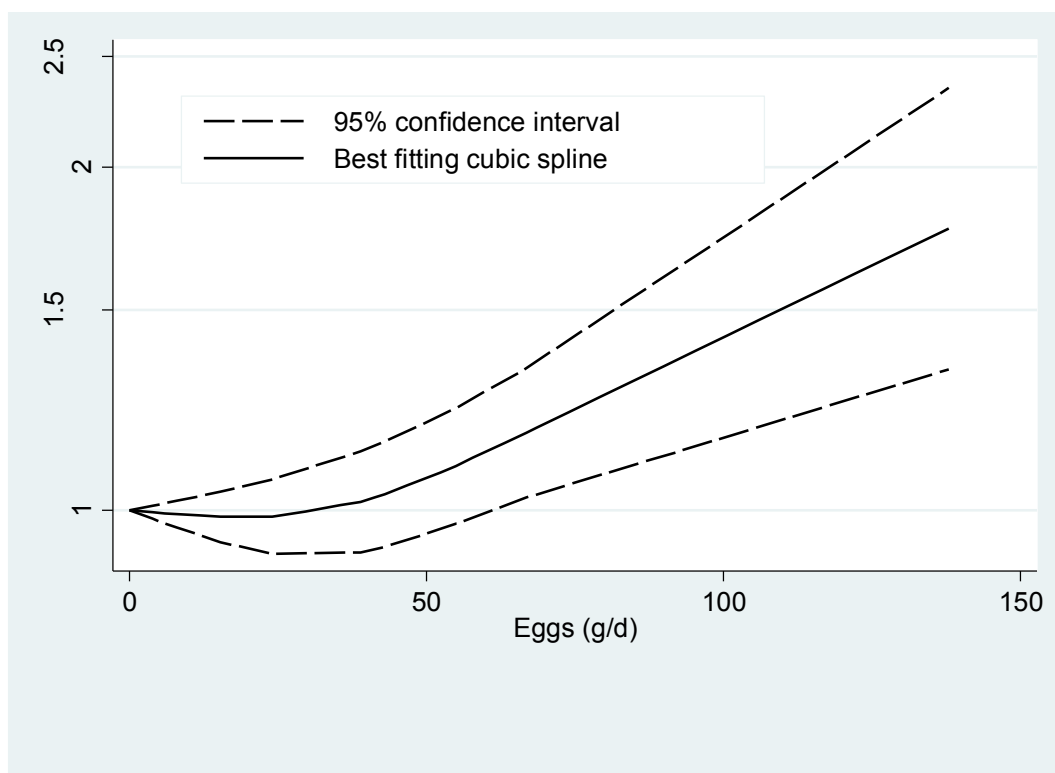

Supplemental Figure 31: Funnel plot for dairy intake (dose-response meta-analysis) and stroke. SE = Standard error
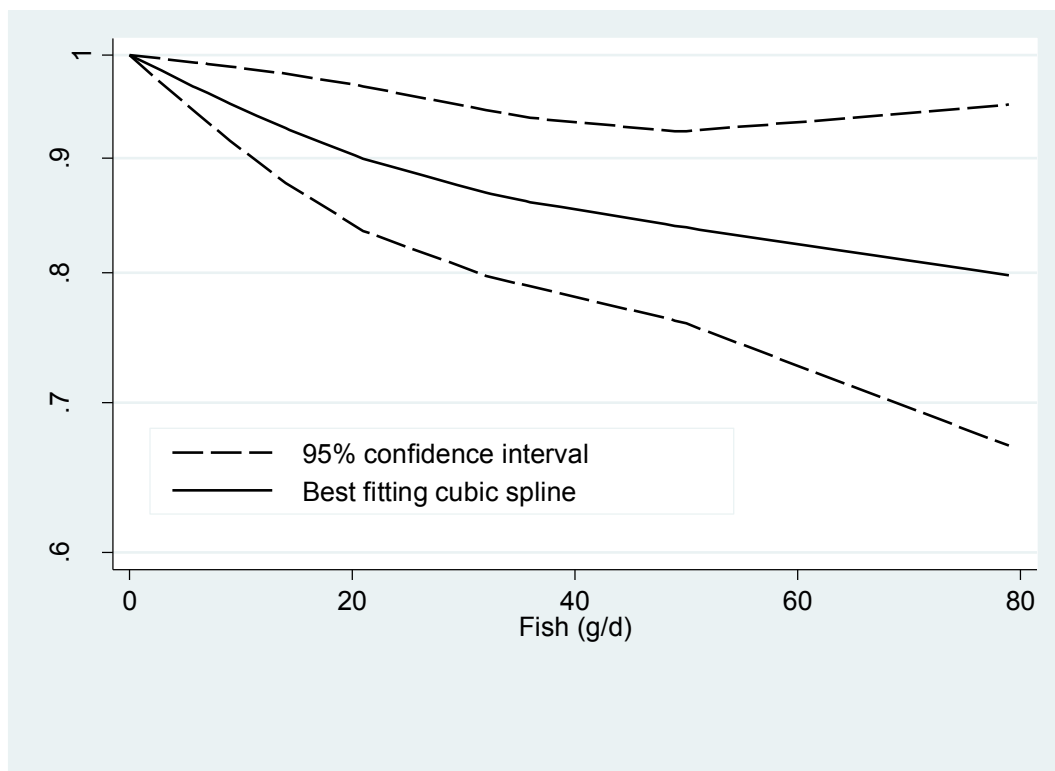
Supplemental Figure 32: Funnel plot for fish intake (dose-response meta-analysis) and coronary heart disease. SE = Standard error

Supplemental Figure 33: Funnel plot for fish intake (dose-response meta-analysis) and stroke. SE = Standard error

Supplemental Figure 34: Non-linear dose-response relation between daily intakes of eggs and risk of heart failure.

Supplemental Figure 35: Non-linear dose-response relation between daily intakes of fish and risk of heart failure.
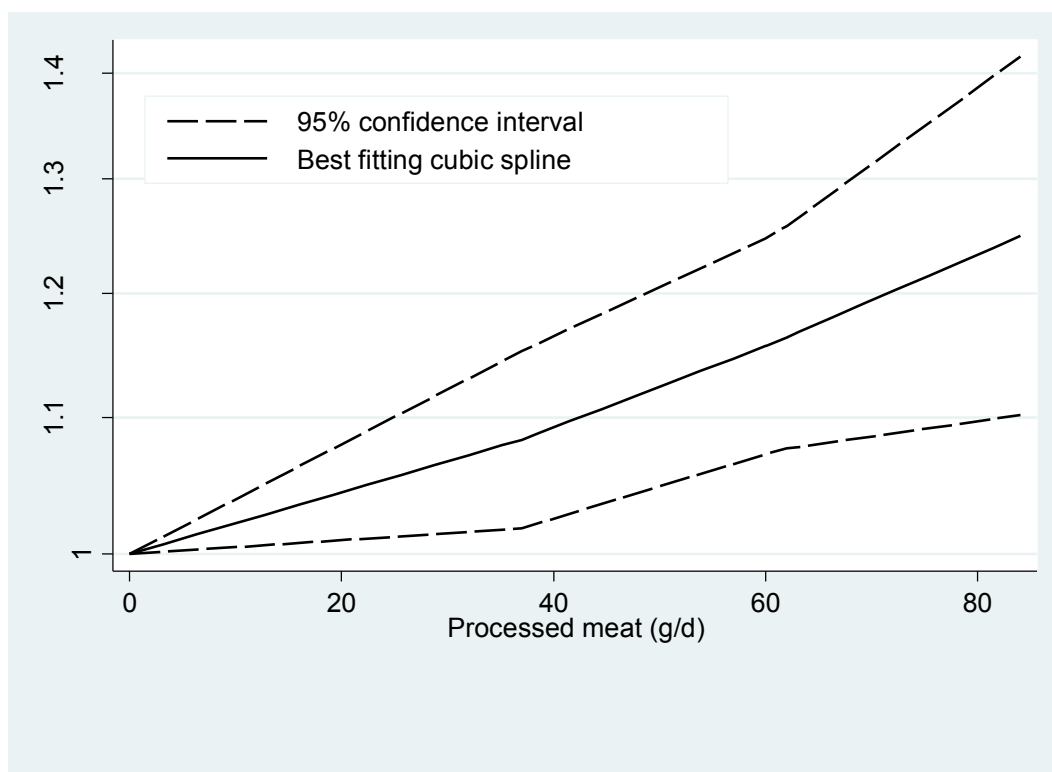
Supplemental Figure 36: Non-linear dose-response relation between daily intakes of red meat and risk of heart failure.

Supplemental Figure 37: Non-linear dose-response relation between daily intakes of processed meat and risk of heart failure.

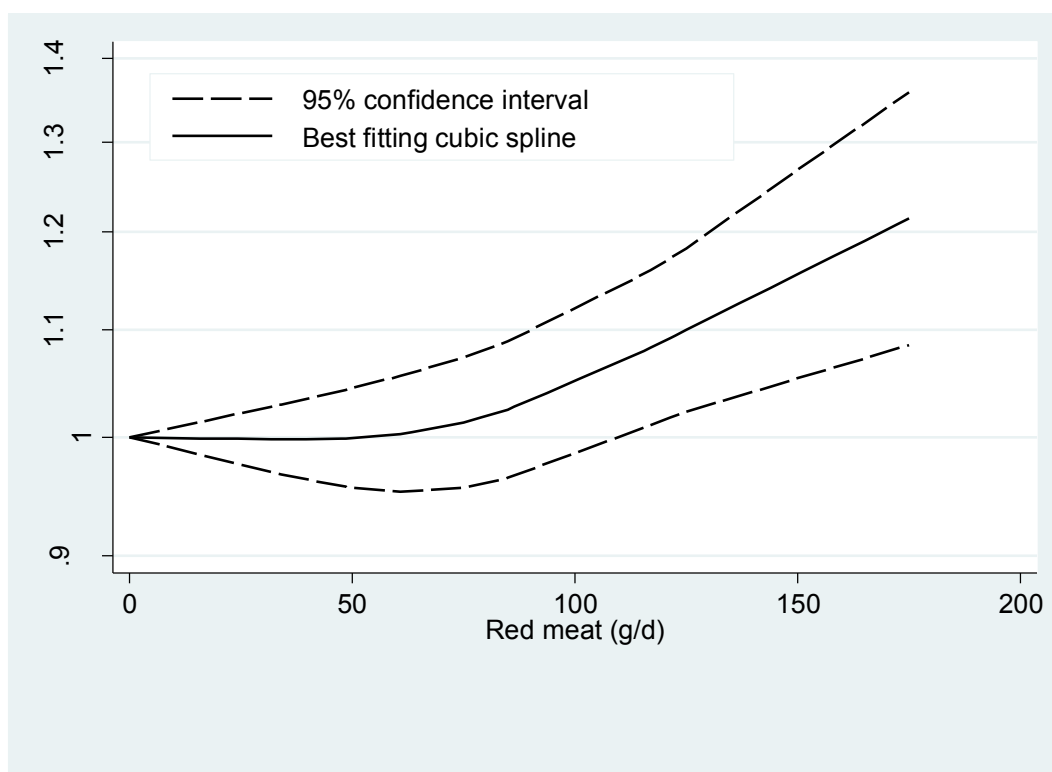| Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Whole grains					
High vs. low intake category	7	0.85	0.81, 0.90	0 (0, 71) 0.72	
Sex					
Men	1	0.82	0.70, 0.96	NA	0.73
Women	2	0.85	0.74, 0.99	0	
Men and women	4	0.86	0.81, 0.92	0	
Follow-up					
<10 years	1	0.89	0.74, 1.07	NA	0.52
≥10 years	5	0.83	0.78, 0.89	0	
Geographic location					
Europe	3	0.86	0.80, 0.92	0	0.27
America	3	0.80	0.70, 0.90	0	
Asia & Australia	1	0.92	0.81, 1.04	0	
Number of cases					
<1000	3	0.85	0.74, 0.98	29	0.97
≥1000	4	0.85	0.80, 0.91	0	
Dietary assessment					
Validated	6	0.84	0.79, 0.89	0	0.21
Not validated	1	0.92	0.81, 1.04	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 14a. High vs. low intake meta-analysis for whole grains and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Whole grains					
High vs. low intake category	7	0.91	0.82, 1.02	53 (0, 80) 0.05	
Hemorrhagic	3	0.91	0.79, 1.06	0	
Ischemic	5	0.89	0.83, 0.95	0	
Sex					
Men	0	NA	NA	NA	NA
Women	2	0.82	0.64, 1.05	57	
Men and women	5	0.96	0.82, 1.12	60	
Follow-up					
<10 years	0	NA	NA	NA	NA
≥10 years	7	0.91	0.82, 1.02	53	
Geographic location					
Europe	4	0.90	0.84, 0.96	10	0.99
America	3	0.90	0.56, 1.45	79	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	3	0.85	0.61, 1.20	67	0.69
≥1000	4	0.92	0.82, 1.03	56	
Dietary assessment					
Validated	6	0.89	0.80, 0.99	49	0.10
Not validated	1	1.12	0.87, 1.44	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 14b. High vs. low intake meta-analysis for whole grains and stroke, stratified by stroke subtypes, sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Refined grains					
High vs. low intake category	6	1.02	0.94, 1.11	2 (0 ,75) 0.41	
Hemorrhagic	2	0.94	0.78, 1.13	0	
Ischemic	4	0.99	0.88, 1.13	0	
Sex					
Men	0	NA	NA	NA	NA
Women	1	0.97	0.67, 1.40	NA	
Men and women	5	1.02	0.92, 1.13	2	
Follow-up					
<10 years	0	NA	NA	NA	NA
≥10 years	6	1.02	0.94, 1.11	2	
Geographic location					
Europe	2	0.97	0.84, 1.13	4	0.76
America	3	1.08	0.86, 1.37	27	
Asia & Australia	1	1.01	0.90, 1.13	NA	
Number of cases					
<1000	3	0.89	0.74, 1.08	0	0.14
≥1000	3	1.06	0.95, 1.18	24	
Dietary assessment					
Validated	6	1.02	0.94, 1.11	2	NA
Not validated	0	NA	NA	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 15. High vs. low intake meta-analysis for refined grains and stroke, stratified sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Vegetables					
High vs. low intake category	19	0.92	0.87, 0.98	42 (0, 66) 0.03	
Sex					
Men	5	0.90	0.80, 1.00	43	0.39
Women	4	0.83	0.74, 0.95	0	
Men and women	10	0.96	0.89, 1.02	40	
Follow-up					
<10 years	9	0.91	0.84, 0.99	3	0.75
≥10 years	9	0.93	0.85, 1.01	62	
Geographic location					
Europe	12	0.93	0.86, 1.01	53	0.03
America	4	0.88	0.81, 0.95	0	
Asia & Australia	3	0.96	0.85, 1.08	0	
Number of cases					
<1000	11	0.93	0.85, 1.03	37	0.70
≥1000	8	0.91	0.85, 0.98	54	
Dietary assessment					
Validated	16	0.91	0.85, 0.98	49	0.38
Not validated	3	0.96	0.88, 1.04	0	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 16a. High vs. low intake meta-analysis for vegetables and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Vegetables					
High vs. low intake category	16	0.87	0.82, 0.93	38 (0, 66) 0.06	
Hemorrhagic	6	0.88	0.78, 0.99	0	
Ischemic	10	0.88	0.82, 0.95	27	
Sex					
Men	4	0.76	0.68, 0.84	0	0.38
Women	1	0.89	0.63, 1.26	NA	
Men and women	11	0.90	0.85, 0.95	26	
Follow-up					
<10 years	2	0.95	0.70, 1.29	0	0.56
≥10 years	14	0.87	0.81, 0.93	46	
Geographic location					
Europe	11	0.88	0.82, 0.94	48	0.77
America	3	0.82	0.67, 1.01	0	
Asia & Australia	2	0.72	0.33, 1.60	74	
Number of cases					
<1000	12	0.85	0.77, 0.94	28	0.34
≥1000	4	0.90	0.85, 0.96	32	
Dietary assessment					
Validated	12	0.87	0.82, 0.93	29	0.68
Not validated	4	0.83	0.64, 1.07	66	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 16b. High vs. low intake meta-analysis for vegetables and stroke, stratified sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Vegetables					
Dose-response	14	0.97	0.96, 0.99	12 (0, 50) 0.32	
Sex					
Men	5	0.97	0.95, 1.01	8	0.27
Women	4	0.95	0.92, 0.98	0	
Men and women	5	0.98	0.96, 1.00	1	
Follow-up					
<10 years	8	0.96	0.93, 0.99	2	0.35
≥10 years	6	0.98	0.96, 0.99	24	
Geographic location					
Europe	8	0.97	0.94, 1.00	36	0.87
America	4	0.96	0.94, 0.98	0	
Asia & Australia	2	0.97	0.92, 1.03	0	
Number of cases					
<1000	8	0.97	0.95, 1.00	13	0.71
≥1000	6	0.97	0.95, 0.99	20	
Dietary assessment					
Validated	12	0.97	0.96, 0.99	13	0.92
Not validated	2	0.97	0.88, 1.06	49	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 16c. Dose-response meta-analysis for each daily 100 gram increase in vegetable intake and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Vegetables					
Dose-response	10	0.92	0.86, 0.98	79 (63, 89) <0.001	
Hemorrhagic	5	0.93	0.82, 1.06	72	
Ischemic	6	0.95	0.89, 1.01	57	
Sex					
Men	3	0.84	0.80, 0.89	0	NA
Women	0	NA	NA	NA	
Men and women	7	0.96	0.91, 1.02	65	
Follow-up					
<10 years	1	1.01	0.89, 1.15	NA	0.15
≥10 years	9	0.91	0.85, 0.97	81	
Geographic location					
Europe	8	0.93	0.87, 0.99	81	0.10
America	1	0.88	0.77, 1.01	NA	
Asia & Australia	1	0.35	0.14, 0.88	NA	
Number of cases					
<1000	8	0.92	0.84, 1.00	80	0.80
≥1000	2	0.89	0.72, 1.11	83	
Dietary assessment					
Validated	6	0.92	0.85, 1.00	79	0.57
Not validated	4	0.87	0.72, 1.05	82	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 16d. Dose-response meta-analysis for each daily 100 gram increase in vegetable intake and stroke, stratified by stroke subtypes, low risk of bias studies, high vs. low intake, sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Fruits					
High vs. low intake category	17	0.89	0.84, 0.93	10 (0, 47) 0.34	
Sex					
Men	4	0.88	0.80, 0.97	0	0.86
Women	4	0.87	0.77, 0.99	0	
Men and women	9	0.89	0.81, 0.97	45	
Follow-up					
<10 years	9	0.84	0.76, 0.93	27	0.21
≥10 years	7	0.91	0.85, 0.97	0	
Geographic location					
Europe	8	0.91	0.85, 0.98	0	0.63
America	4	0.88	0.80, 0.96	0	
Asia & Australia	5	0.82	0.66, 1.03	67	
Number of cases					
<1000	10	0.93	0.87, 1.00	0	0.17
≥1000	7	0.86	0.79, 0.94	49	
Dietary assessment					
Validated	13	0.90	0.85, 0.96	0	0.39
Not validated	4	0.84	0.72, 0.98	74	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 17a. High vs. low intake meta-analysis for fruits and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Fruits					
High vs. low intake category	17	0.83	0.77, 0.89	40 (0, 66) 0.05	
Hemorrhagic	8	0.77	0.67, 0.89	24	
Ischemic	12	0.81	0.74, 0.89	54	
Sex					
Men	4	0.81	0.73, 0.90	0	0.39
Women	1	0.69	0.49, 0.97	NA	
Men and women	12	0.84	0.77, 0.92	52	
Follow-up					
<10 years	3	0.70	0.61, 0.80	0	0.005
≥10 years	14	0.86	0.81, 0.92	23	
Geographic location					
Europe	10	0.88	0.84, 0.93	0	0.06
America	3	0.73	0.58, 0.91	0	
Asia & Australia	4	0.71	0.56, 0.90	52	
Number of cases					
<1000	12	0.79	0.73, 0.86	1	0.11
≥1000	5	0.88	0.80, 0.97	62	
Dietary assessment					
Validated	13	0.84	0.78, 0.91	33	0.82
Not validated	4	0.82	0.69, 0.97	59	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 17b. High vs. low intake meta-analysis for fruits and stroke, stratified sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Fruit					
Dose-response	13	0.94	0.90, 0.97	71 (49, 83) <0.001	
Sex					
Men	4	0.93	0.90, 0.97	0	0.46
Women	4	0.96	0.89, 1.04	60	
Men and women	5	0.91	0.85, 0.98	96	
Follow-up					
<10 years	9	0.92	0.87, 0.98	69	0.56
≥10 years	4	0.95	0.90, 0.99	75	
Geographic location					
Europe	7	0.96	0.93, 1.00	53	0.23
America	3	0.92	0.89, 0.96	0	
Asia & Australia	3	0.85	0.67, 1.07	88	
Number of cases					
<1000	8	0.97	0.93, 1.01	32	0.05
≥1000	5	0.90	0.85, 0.96	77	
Dietary assessment					
Validated	10	0.95	0.93, 0.98	53	0.20
Not validated	3	0.81	0.63, 1.04	85	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 17c. Dose-response meta-analysis for each daily 100 gram increase in fruit intake and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Fruit					
Dose-response	10	0.90	0.84, 0.97	86 (76, 92) <0.001	
Hemorrhagic	6	0.86	0.77, 0.97	64	
Ischemic	7	0.90	0.83, 0.97	87	
Sex					
Men	3	0.91	0.86, 0.96	0	NA
Women	0	NA	NA	NA	
Men and women	7	0.90	0.82, 0.99	90	
Follow-up					
<10 years	2	0.79	0.65, 0.97	90	0.08
≥10 years	8	0.95	0.93, 0.98	10	
Geographic location					
Europe	7	0.94	0.91, 0.98	35	0.00001
America	1	0.91	0.78, 1.06	NA	
Asia & Australia	2	0.72	0.67, 0.77	0	
Number of cases					
<1000	7	0.94	0.89, 0.98	36	0.51
≥1000	3	0.87	0.71, 1.07	95	
Dietary assessment					
Validated	5	0.93	0.90, 0.96	0	0.61
Not validated	5	0.88	0.74, 1.06	93	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 17d. Dose-response meta-analysis for each daily 100 gram increase in fruit intake and stroke, stratified by stroke subtypes, low risk of bias studies, high vs. low intake, sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Nuts					
High vs. low intake category	6	0.94	0.85, 1.05	18 (0, 63) 0.30	
Hemorrhagic	4	1.14	0.70, 1.84	57	
Ischemic	6	1.01	0.87, 1.16	29	
Sex					
Men	2	0.96	0.82, 1.11	0	0.32
Women	2	0.87	0.76, 0.98	0	
Men and women	2	1.13	0.84, 1.52	40	
Follow-up					
<10 years	2	1.08	0.71, 1.65	65	0.44
≥10 years	4	0.91	0.83, 1.01	0	
Geographic location					
Europe	2	1.13	0.84, 1.52	40	0.16
America	4	0.90	0.82, 0.99	0	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	3	1.09	0.91, 1.30	0	0.04
≥1000	3	0.88	0.80, 0.98	0	
Dietary assessment					
Validated	6	0.94	0.85, 1.05	18	NA
Not validated	0	NA	NA	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 18a. High vs. low intake meta-analysis for nuts and stroke, stratified sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Nuts					
Dose-response	6	0.99	0.84, 1.17	45 (0, 78) 0.11	
Hemorrhagic	3	1.06	0.68, 1.66	45	
Ischemic	5	1.06	0.88, 1.28	43	
Sex					
Men	1	0.92	0.70, 1.20	NA	0.48
Women	2	0.81	0.64. 1.02	1	
Men and women	3	1.14	0.97, 1.33	0	
Follow-up					
<10 years	2	1.20	0.58, 2.48	69	0.60
≥10 years	4	0.98	0.81, 1.18	49	
Geographic location					
Europe	1	1.91	0.88, 4.15	NA	0.09
America	5	0.97	0.83, 1.13	37	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	2	1.27	0.77, 2.10	47	0.25
≥1000	4	0.93	0.77, 1.12	45	
Dietary assessment					
Validated	6	0.99	0.84, 1.17	45	NA
Not validated	0	NA	NA	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 18b. Dose-response meta-analysis for each daily 28 gram increase in nut intake and stroke, stratified by stroke subtypes, low risk of bias studies, high vs. low intake, sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Legumes					
High vs. low intake category	10	0.91	0.84, 0.99	33 (0, 68) 0.14	
Sex					
Men	1	0.94	0.65, 1.36	NA	0.68
Women	2	0.86	0.74, 1.01	14	
Men and women	7	0.93	0.83, 1.04	49	
Follow-up					
<10 years	4	0.86	0.68, 1.08	10	0.58
≥10 years	6	0.92	0.84, 1.01	49	
Geographic location					
Europe	3	0.93	0.85, 1.02	0	0.85
America	4	0.93	0.79, 1.10	69	
Asia & Australia	3	0.87	0.71, 1.08	0	
Number of cases					
<1000	7	0.93	0.86, 1.01	0	0.87
≥1000	3	0.91	0.77, 1.09	77	
Dietary assessment					
Validated	6	0.91	0.85, 0.97	0	0.62
Not validated	4	0.97	0.77, 1.21	69	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 19a. High vs. low intake meta-analysis for legumes and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Legumes					
High vs. low intake category	6	0.98	0.88, 1.10	56 (0, 82) 0.04	
Hemorrhagic	4	1.16	0.88, 1.53	0	
Ischemic	5	0.95	0.78, 1.17	71	
Sex					
Men	1	1.07	0.89, 1.29	NA	0.94
Women	1	1.06	0.93, 1.21	NA	
Men and women	4	0.94	0.81, 1.09	57	
Follow-up					
<10 years	0	NA	NA	NA	NA
≥10 years	6	0.98	0.88, 1.10	56	
Geographic location					
Europe	2	0.86	0.77, 0.97	0	0.008
America	3	1.09	0.99, 1.20	0	
Asia & Australia	1	0.92	0.77, 1.10	NA	
Number of cases					
<1000	4	0.94	0.81, 1.09	57	0.19
≥1000	2	1.06	0.96, 1.18	0	
Dietary assessment					
Validated	4	1.03	0.89, 1.20	67	0.17
Not validated	2	0.90	0.78, 1.03	0	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 19b. High vs. low intake meta-analysis for legumes and stroke, stratified sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Legumes					
Dose-response	8	0.96	0.92, 1.01	39 (0, 73) 0.12	
Sex					
Men	1	0.97	0.91. 1.03	NA	0.86
Women	1	0.98	0.89, 1.08	NA	
Men and women	6	0.96	0.88, 1.05	56	
Follow-up					
<10 years	3	0.97	0.92, 1.03	0	0.68
≥10 years	5	0.95	0.87, 1.04	64	
Geographic location					
Europe	1	0.99	0.95, 1.03	NA	0.81
America	4	0.96	0.81, 1.14	61	
Asia & Australia	3	0.97	0.92, 1.02	0	
Number of cases					
<1000	5	0.98	0.95, 1.01	0	0.65
≥1000	3	0.94	0.78, 1.14	71	
Dietary assessment					
Validated	5	0.98	0.95, 1.01	0	0.93
Not validated	3	0.97	0.78, 1.21	74	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 19c. Dose-response meta-analysis for each daily 50 gram increase in legumes intake and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Legumes					
Dose-response	6	1.00	0.88, 1.13	62 (8, 84) 0.02	
Hemorrhagic	3	1.13	0.77, 1.66	0	
Ischemic	3	1.12	0.78, 1.62	79	
Sex					
Men	1	1.05	0.90, 1.22	NA	0.99
Women	1	1.05	0.90, 1.22	NA	
Men and women	4	0.95	0.76, 1.19	72	
Follow-up					
<10 years	0	NA	NA	NA	NA
≥10 years	6	1.00	0.88, 1.13	62	
Geographic location					
Europe	2	0.61	0.22, 1.67	73	0.02
America	3	1.08	0.98, 1.19	0	
Asia & Australia	1	0.91	0.83, 1.00	NA	
Number of cases					
<1000	4	0.95	0.76, 1.19	72	0.44
≥1000	2	1.05	0.94, 1.17	0	
Dietary assessment					
Validated	5	1.02	0.88, 1.17	69	0.43
Not validated	1	0.91	0.71, 1.16	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 19d. Dose-response meta-analysis for each daily 50 gram increase in legumes intake and stroke, stratified by stroke subtypes, low risk of bias studies, high vs. low intake, sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Eggs					
High vs. low intake category	11	0.99	0.94, 1.05	0 (0, 60) 0.49	
Sex					
Men	4	0.99	0.87, 1.12	0	0.64
Women	2	0.95	0.84, 1.06	0	
Men and women	5	1.03	0.91, 1.17	33	
Follow-up					
<10 years	1	0.90	0.63, 1.29	NA	0.58
≥10 years	10	1.00	0.94, 1.06	2	
Geographic location					
Europe	4	1.01	0.93, 1.08	0	0.07
America	6	0.97	0.89, 1.05	0	
Asia & Australia	1	2.59	1.11, 6.04	0	
Number of cases					
<1000	5	1.05	0.87, 1.27	37	0.49
≥1000	6	0.98	0.90, 1.06	0	
Dietary assessment					
Validated	8	0.98	0.92, 1.04	2	0.32
Not validated	3	1.06	0.92, 1.21	0	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 20a. High vs. low intake meta-analysis for eggs and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Eggs					
High vs. low intake category	10	0.99	0.93, 1.05	3 (0, 64) 0.41	
Hemorrhagic	5	0.95	0.69, 1.30	20	
Ischemic	7	0.93	0.84, 1.03	0	
Sex					
Men	3	0.91	0.80, 1.03	0	0.06
Women	3	0.92	0.82, 1.04	0	
Men and women	4	1.05	0.98, 1.14	0	
Follow-up					
<10 years	1	0.86	0.55, 1.34	NA	0.56
≥10 years	9	0.98	0.92, 1.05	10	
Geographic location					
Europe	3	1.05	0.97, 1.14	0	0.04
America	7	0.93	0.85, 1.01	0	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	4	1.05	0.98, 1.14	0	0.02
≥1000	6	0.92	0.84, 1.00	0	
Dietary assessment					
Validated	9	0.99	0.92, 1.06	8	0.48
Not validated	1	0.90	0.70, 1.16	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 20b. High vs. low intake meta-analysis for eggs and stroke, stratified sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Eggs					
Dose-response	9	1.00	0.95, 1.06	0 (0, 65) 0.93	
Sex					
Men	4	0.97	0.89, 1.05	0	0.42
Women	2	1.02	0.92, 1.14	0	
Men and women	3	1.04	0.94, 1.14	0	
Follow-up					
<10 years	1	1.05	0.83, 1.32	NA	0.69
≥10 years	8	1.00	0.95, 1.06	0	
Geographic location					
Europe	3	0.97	0.88, 1.06	0	0.31
America	6	1.02	0.96, 1.10	0	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	3	0.98	0.97, 1.10	0	0.64
≥1000	6	1.01	0.95, 1.07	0	
Dietary assessment					
Validated	6	1.00	0.93, 1.08	0.91	0.95
Not validated	3	1.01	0.93, 1.09	0	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 20c. Dose-response meta-analysis for each daily 50 gram increase in egg intake and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Eggs					
Dose-response	10	0.99	0.93, 1.05	0 (0, 62) 0.44	
Hemorrhagic	4	0.92	0.71, 1.19	47	
Ischemic	6	1.00	0.94, 1.08	0	
Sex					
Men	3	1.00	0.90, 1.10	0	0.41
Women	3	0.93	0.83, 1.05	0	
Men and women	4	1.03	0.92, 1.15	25	
Follow-up					
<10 years	1	0.87	0.58, 1.31	NA	0.53
≥10 years	9	0.99	0.93, 1.06	6	
Geographic location					
Europe	3	1.04	0.93, 1.17	0	0.28
America	7	0.97	0.90, 1.04	0	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	4	1.05	0.91, 1.22	25	0.32
≥1000	6	0.97	0.90, 1.05	0	
Dietary assessment					
Validated	8	0.98	0.91, 1.06	0	0.67
Not validated	2	1.02	0.86, 1.22	51	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 20d. Dose-response meta-analysis for each daily 50 gram increase in egg intake and stroke, stratified by stroke subtypes, low risk of bias studies, high vs. low intake, sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Dairy					
High vs. low intake category	13	0.99	0.92, 1.07	59 (24, 78) 0.004	
Fat content					
Low fat	7	0.96	0.90, 1.03	42	0.29
High fat	7	1.01	0.96, 1.06	9	
Sex					
Men	1	0.71	0.40, 1.26	NA	0.51
Women	2	0.88	0.68, 1.12	69	
Men and women	10	1.02	0.94, 1.11	58	
Follow-up					
<10 years	2	1.12	0.74, 1.71	66	0.56
≥10 years	11	0.99	0.90, 1.08	62	
Geographic location					
Europe	10	0.99	0.90, 1.09	69	0.81
America	3	1.01	0.89, 1.14	0	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	7	1.08	0.92, 1.27	61	0.14
≥1000	6	0.95	0.88, 1.02	39	
Dietary assessment					
Validated	8	1.03	0.92, 1.15	71	0.23
Not validated	5	0.94	0.87, 1.02	0	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 21a . High vs. low intake meta-analysis for dairy and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Dairy					
High vs. low intake category	12	0.96	0.90, 1.01	43 (0, 71) 0.05	
Hemorrhagic	5	1.01	0.84, 1.21	20	
Ischemic	8	0.95	0.88, 1.01	26	
Fat content					
Low fat	8	0.97	0.91, 1.04	39	0.35
High fat	8	0.93	0.87, 0.99	32	
Sex					
Men	3	0.99	0.80, 1.23	69	0.66
Women	2	0.92	0.87, 0.98	0	
Men and women	7	0.96	0.88, 1.05	39	
Follow-up					
<10 years	1	0.94	0.87, 1.02	NA	0.70
≥10 years	11	0.96	0.90, 1.03	48	
Geographic location					
Europe	7	1.00	0.92, 1.09	48	0.13
America	4	0.92	0.87, 0.97	0	
Asia & Australia	1	0.74	0.48, 1.14	NA	
Number of cases					
<1000	6	0.98	0.87, 1.10	40	0.59
≥1000	6	0.94	0.88, 1.00	43	
Dietary assessment					
Validated	9	0.97	0.91, 1.03	54	0.27
Not validated	3	0.87	0.73, 1.04	0	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 21b. High vs. low intake meta-analysis for dairy and stroke, stratified sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Dairy					
Dose-response	10	0.99	0.96, 1.02	55 (8, 78) 0.22	
Fat content					
Low fat	7	0.98	0.96, 1.00	0	0.11
High fat	7	1.02	0.98, 1.06	9	
Sex					
Men	1	0.93	0.80, 1.08	NA	0.55
Women	2	0.98	0.90, 1.06	82	
Men and women	7	0.99	0.97, 1.02	55	
Follow-up					
<10 years	1	0.99	0.94, 1.03	NA	0.90
≥10 years	9	0.99	0.96, 1.02	59	
Geographic location					
Europe	8	0.98	0.95, 1.01	62	0.18
America	2	1.01	0.98, 1.05	0	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	4	1.02	0.98, 1.06	16	0.12
≥1000	6	0.98	0.96, 1.01	43	
Dietary assessment					
Validated	8	0.99	0.96, 1.02	64	0.90
Not validated	2	0.99	0.95, 1.03	0	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 21c. Dose-response meta-analysis for each daily 200 gram increase in dairy intake and coronary heart disease, stratified by low risk of bias studies, high vs. Low intake, sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Dairy					
Dose-response	11	0.98	0.96, 1.00	50 (0, 75) 0.03	
Hemorrhagic	4	1.01	0.97, 1.04	28	
Ischemic	6	0.99	0.96, 1.01	63	
Fat content					
Low fat	8	0.98	0.95, 1.00	59	0.34
High fat	8	0.99	0.97, 1.02	49	
Sex					
Men	3	1.01	0.97, 1.04	27	0.02
Women	2	0.96	0.93, 0.99	0	
Men and women	6	0.98	0.97, 1.00	0	
Follow-up					
<10 years	1	0.94	0.87, 1.02	NA	0.27
≥10 years	10	0.98	0.96, 1.00	50	
Geographic location					
Europe	7	1.00	0.98, 1.02	34	0.02
America	4	0.96	0.94, 0.98	0	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	5	0.96	0.91, 1.01	0	0.36
≥1000	6	0.98	0.96, 1.01	65	
Dietary assessment					
Validated	11	0.98	0.96, 1.00	50	NA
Not validated	0	NA	NA	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 21d. Dose-response meta-analysis for each daily 200 gram increase in dairy intake and stroke, stratified by stroke subtypes, low risk of bias studies, high vs. low intake, sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Fish					
High vs. low intake category	22	0.94	0.88, 1.02	52 (21, 70) 0.003	
Sex					
Men	4	1.19	0.82, 1.74	54	0.35
Women	2	0.95	0.70, 1.29	92	
Men and women	16	0.94	0.88, 1.00	28	
Follow-up					
<10 years	8	0.91	0.75, 1.11	51	0.65
≥10 years	14	0.96	0.89, 1.04	52	
Geographic location					
Europe	13	0.98	0.91, 1.07	46	0.01
America	8	0.88	0.81, 0.96	3	
Asia & Australia	1	0.43	0.23, 0.80	NA	
Number of cases					
<1000	16	0.93	0.82, 1.05	45	0.72
≥1000	6	0.95	0.86, 1.06	68	
Dietary assessment					
Validated	15	0.92	0.84, 1.00	58	0.14
Not validated	7	1.06	0.89, 1.26	37	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 22a. High vs. low intake meta-analysis for fish and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Fish					
High vs. low intake category	20	0.95	0.89, 1.01	37 (0, 63) 0.05	
Hemorrhagic	10	0.94	0.81, 1.09	0	
Ischemic	12	0.98	0.90, 1.07	34	
Sex					
Men	5	0.91	0.75, 1.10	24	0.63
Women	2	0.86	0.77, 0.96	0	
Men and women	13	0.98	0.91, 1.06	33	
Follow-up					
<10 years	4	1.04	0.80, 1.33	44	0.47
≥10 years	16	0.94	0.88, 1.01	38	
Geographic location					
Europe	12	0.97	0.91, 1.04	30	0.46
America	8	0.92	0.80, 1.05	42	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	16	0.95	0.87, 1.03	29	0.99
≥1000	4	0.95	0.84, 1.07	66	
Dietary assessment					
Validated	14	0.95	0.88, 1.02	40	0.89
Not validated	6	0.94	0.80, 1.10	40	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 22b. High vs. low intake meta-analysis for fish and stroke, stratified sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Fish					
Dose-response	15	0.88	0.79, 0.99	40 (0, 67) 0.06	
Sex					
Men	2	1.04	0.87, 1.24	0	0.006
Women	1	0.64	0.50, 0.81	NA	
Men and women	12	0.91	0.83, 1.01	12	
Follow-up					
<10 years	6	0.86	0.69, 1.06	9	0.78
≥10 years	9	0.89	0.78, 1.02	54	
Geographic location					
Europe	6	0.95	0.89, 1.01	0	0.08
America	8	0.87	0.70, 1.07	47	
Asia & Australia	1	0.66	0.48, 0.91	NA	
Number of cases					
<1000	9	0.90	0.78, 1.03	30	0.93
≥1000	6	0.87	0.71, 1.08	54	
Dietary assessment					
Validated	11	0.87	0.76, 0.98	54	0.38
Not validated	4	1.00	0.74, 1.33	0	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 22c. Dose-response meta-analysis for each daily 100 gram increase in fish intake and coronary heart disease, stratified by sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Fish					
Dose-response	15	0.86	0.75, 0.99	25 (0, 59) 0.18	
Hemorrhagic	7	0.89	0.55, 1.45	31	
Ischemic	9	0.82	0.67, 1.01	51	
Sex					
Men	3	0.97	0.74, 1.27	0	0.17
Women	2	0.76	0.62, 0.94	0	
Men and women	10	0.88	0.71, 1.09	38	
Follow-up					
<10 years	4	1.03	0.60, 1.75	35	0.50
≥10 years	11	0.85	0.74, 0.98	26	
Geographic location					
Europe	7	0.86	0.71, 1.05	29	1.00
America	8	0.86	0.70, 1.07	31	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	12	0.88	0.72, 1.07	32	0.70
≥1000	3	0.83	0.70, 1.00	9	
Dietary assessment					
Validated	12	0.85	0.74, 0.97	19	0.96
Not validated	3	0.86	0.41, 1.84	51	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 22d. Dose-response meta-analysis for each daily 100 gram increase in fish intake and stroke, stratified by stroke subtypes, low risk of bias studies, high vs. low intake, sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Red meat					
High vs. low intake category	7	1.16	1.08, 1.25	0 (0, 71) 0.69	
Hemorrhagic	5	0.99	0.68, 1.44	61	
Ischemic	7	1.17	1.06, 1.28	16	
Sex					
Men	2	1.18	1.05, 1.33	0	0.67
Women	3	1.15	1.04, 1.26	0	
Men and women	2	1.17	0.82, 1.68	65	
Follow-up					
<10 years	1	1.13	0.95, 1.34	NA	0.73
≥10 years	6	1.17	1.08, 1.26	0	
Geographic location					
Europe	3	1.12	1.01, 1.24	0	0.28
America	4	1.21	1.09, 1.34	0	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	2	1.17	0.82, 1.68	65	0.96
≥1000	5	1.16	1.08, 1.25	0	
Dietary assessment					
Validated	7	1.16	1.08, 1.25	0	NA
Not validated	0	NA	NA	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 23a. High vs. low intake meta-analysis for red meat and stroke, stratified sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Red meat					
Dose-response	7	1.12	1.06, 1.17	0 (0, 71) 0.50	
Hemorrhagic	4	1.14	1.01, 1.28	0	
Ischemic	6	1.11	1.03, 1.21	25	
Sex					
Men	2	1.11	1.02, 1.20	27	0.88
Women	3	1.12	1.03, 1.21	0	
Men and women	2	1.20	0.79, 1.83	70	
Follow-up					
<10 years	1	1.15	0.94, 1.41	NA	0.76
≥10 years	6	1.11	1.05, 1.18	5	
Geographic location					
Europe	3	1.07	0.99, 1.15	0	0.15
America	4	1.15	1.08, 1.24	0	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	2	1.20	0.79, 1.83	70	0.15
≥1000	5	1.11	1.05, 1.17	0	
Dietary assessment					
Validated	7	1.12	1.06, 1.17	0	NA
Not validated	0	NA	NA	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 23b. Dose-response meta-analysis for each daily 100 gram increase in red meat intake and stroke, stratified by stroke subtypes, low risk of bias studies, high vs. low intake, sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Processed meat					
High vs. low intake category	6	1.16	1.07, 1.26	12 (0, 78) 0.34	
Hemorrhagic	5	1.19	0.91, 1.56	30	
Ischemic	6	1.16	1.06, 1.27	0	
Sex					
Men	2	1.24	1.11, 1.39	0	0.42
Women	2	1.13	1.02, 1.27	0	
Men and women	2	1.05	0.75, 1.47	65	
Follow-up					
<10 years	0	NA	NA	NA	NA
≥10 years	6	1.16	1.07, 1.26	12	
Geographic location					
Europe	3	1.13	0.97, 1.32	53	0.76
America	3	1.17	1.04, 1.30	0	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	2	1.05	0.75, 1.47	65	0.49
≥1000	4	1.18	1.09, 1.28	0	
Dietary assessment					
Validated	6	1.16	1.07, 1.26	12	NA
Not validated	0	NA	NA	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 24a. High vs. low intake meta-analysis for processed meat and stroke, stratified sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
Processed meat					
Dose-response	6	1.17	1.02, 1.34	56 (0, 82) 0.05	
Hemorrhagic	4	1.17	0.90, 1.51	23	
Ischemic	5	1.12	1.02, 1.23	18	
Sex					
Men	2	1.43	0.87, 2.35	80	0.40
Women	2	1.15	0.98, 1.35	6	
Men and women	2	1.05	0.78, 1.43	54	
Follow-up					
<10 years	0	NA	NA	NA	NA
≥10 years	6	1.17	1.02, 1.34	56	
Geographic location					
Europe	3	1.08	0.96, 1.22	47	0.02
America	3	1.47	1.16, 1.85	6	
Asia & Australia	0	NA	NA	NA	
Number of cases					
<1000	2	1.05	0.78, 1.43	54	0.39
≥1000	4	1.23	1.05, 1.43	52	
Dietary assessment					
Validated	6	1.17	1.02, 1.34	56	NA
Not validated	0	NA	NA	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 24b. Dose-response meta-analysis for each daily 50 gram increase in processed meat intake and stroke, stratified by stroke subtypes, low risk of bias studies, high vs. low intake, sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
SSB					
High vs. low intake category	7	1.09	1.01, 1.18	0 (0, 71) 0.43	
Hemorrhagic	5	0.85	0.71, 1.03	0	
Ischemic	5	1.17	0.97, 1.41	60	
Sex					
Men	3	1.16	1.00, 1.33	0	0.09
Women	2	1.17	1.02, 1.34	0	
Men and women	2	0.97	0.85, 1.10	0	
Follow-up					
<10 years	0	NA	NA	NA	NA
≥10 years	7	1.09	1.01, 1.18	0	
Geographic location					
Europe	3	1.10	0.95, 1.27	48	0.50
America	3	1.14	0.99, 1.31	0	
Asia & Australia	1	0.97	0.77, 1.2	NA	
Number of cases					
<1000	2	0.98	0.80, 1.2	0	0.26
≥1000	5	1.11	1.01, 1.22	14	
Dietary assessment					
Validated	7	1.09	1.01, 1.18	0	NA
Not validated	0	NA	NA	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 25a. High vs. low intake meta-analysis for sugar-sweetened beverages (SSB) and stroke, stratified sex, follow-up, geographic location, and number of cases, and dietary assessment

Dietary factor	No of studies	RR	95% CI	I² [%] (95% CI), p-value	p for difference among I-squares
SSB					
Dose-response	6	1.07	1.02, 1.12	0 (0, 75) 0.59	
Hemorrhagic	4	0.98	0.89, 1.08	0	
Ischemic	4	1.07	1.01, 1.15	0	
Sex					
Men	3	1.08	1.01, 1.15	0	0.92
Women	2	1.08	1.00, 1.17	33	
Men and women	1	0.94	0.78, 1.13	NA	
Follow-up					
<10 years	0	NA	NA	NA	NA
≥10 years	6	1.07	1.02, 1.12	0	
Geographic location					
Europe	2	1.07	1.01, 1.12	0	0.29
America	3	1.11	1.01, 1.22	0	
Asia & Australia	1	0.94	0.78, 1.13	NA	
Number of cases					
<1000	1	0.99	0.74, 1.32	NA	0.60
≥1000	5	1.07	1.02, 1.12	0	
Dietary assessment					
Validated	6	1.07	1.02, 1.12	0	NA
Not validated	0	NA	NA	NA	

I, Inconsistency; NA, not applicable; RR, risk ratio

Supplemental Table 25b. Dose-response meta-analysis for each daily 250 ml increase in sugar sweetened beverages (SSB) intake and stroke, stratified by stroke subtypes, low risk of bias studies, high vs. low intake, sex, follow-up, geographic location, and number of cases, and dietary assessment

	No of studies	RR	95% CI	I² (%)
Coronary heart disease				
Whole grains, 30 g	4	0.93	0.88, 0.97	49
Refined grains, 30 g	2	1.01	0.98, 1.04	38
Vegetables, 100 g	6	0.98	0.96, 0.99	10
Fruits, 100 g	6	0.91	0.86, 0.98	84
Nuts, 28 g	3	0.73	0.43, 1.24	89
Legumes, 50 g	6	0.96	0.90, 1.03	55
Eggs, 50 g	7	0.99	0.93, 1.05	0
Dairy, 200 g	8	0.99	0.96, 1.02	63
Fish, 100 g	7	0.89	0.77, 1.03	64
Red meat, 100 g	3	1.15	1.08, 1.23	0
Processed meat, 50 g	3	1.27	1.09, 1.49	0
Sugar-sweetened beverages, 250 ml	3	1.17	1.11, 1.23	0
Stroke				
Whole grains, 30 g	3	0.94	0.84, 1.07	76
Refined grains, 30 g	3	1.00	0.99, 1.01	0
Vegetables, 100 g	4	0.91	0.83, 1.00	87
Fruits, 100 g	4	0.88	0.77, 0.99	93
Nuts, 28 g	4	0.98	0.81, 1.18	49
Legumes, 50 g	5	1.02	0.88, 1.17	69
Eggs, 50 g	8	1.00	0.93, 1.08	13
Dairy, 200 g	9	0.98	0.96, 1.01	54
Fish, 100 g	8	0.83	0.72, 0.95	16
Red meat, 100 g	6	1.11	1.05, 1.18	5
Processed meat, 50 g	6	1.17	1.02, 1.34	56
Sugar-sweetened beverages, 250 ml	5	1.07	1.02, 1.12	0

Supplemental Table 26. Low risk of bias sensitivity analysis for the dose-response meta-analysis for each daily increase in dietary factor and risk of CHD and stroke

Low risk of bias studies has been defined according to four categories:

1. Exposure assessment (low risk of bias: validated, calibrated FFQ or 24-h recall, diet history, or diet records (multiple days)),

2. Assessment of outcome (low risk of bias: accepted clinical criteria, record linkage (ICD codes), self-reported and validated),
3. Adequacy of follow-up length (low risk of bias: ≥10 years),
4. Adjusted basic model (low risk of bias, ≥2 factors: e.g. sex, education, ethnicity; if only one sex included, then ≥1 factor) and outcome-relevant adjustments (low risk of bias, ≥3 factors: e.g., BMI, smoking, energy intake, physical activity).

I, Inconsistency; RR, risk ratio

Food group	Amount	No of studies	RR	95% CI	I^2 (%)	NutriGrade grading
Whole grains	30g	5	0.95	0.92, 0.98	46	Moderate [1]
Refined grains	30g	4	1.01	0.99, 1.04	0	Low [2]
Vegetables	100g	14	0.97	0.96, 0.99	12	Moderate [1]
Fruit	100g	13	0.94	0.90, 0.97	71	Moderate [1]
Nuts	28g	4	0.67	0.43, 1.05	85	Moderate [1]
Legumes	50g	8	0.96	0.92, 1.01	39	Moderate [1]
Eggs	50g	9	1.00	0.95, 1.06	0	Low [2]
Dairy	200g	10	0.99	0.96, 1.02	55	Moderate [1]
Fish	100g	15	0.88	0.79, 0.99	40	Moderate [1]
Red meat	100g	3	1.15	1.08, 1.23	0	Moderate [1]
Processed meat	50g	3	1.27	1.09, 1.49	0	Moderate [1]
Sugar sweetened beverages	250ml	4	1.17	1.11, 1.23	0	Moderate [1]

[1]There is moderate confidence for the effect estimate, further research could add evidence on the confidence and may change the effect estimate.
[2]There is low confidence for the effect estimate, further research will provide important evidence on the confidence and likely change the effect estimate.

Supplemental Table 27a: Linear dose-response meta-analysis including 12 dietary factors and the risk of coronary heart disease, and NutriGrade grading.

Food group	Amount	No of studies	RR	95% CI	I² (%)	NutriGrade grading
Whole grains	30g	4	0.99	0.95, 1.03	65	Low [2]
Refined grains	30g	4	1.01	0.98, 1.01	0	Low [2]
Vegetables	100g	10	0.92	0.86, 0.98	79	Moderate [1]
Fruit	100g	10	0.90	0.84, 0.97	86	Moderate [1]
Nuts	28g	6	0.99	0.84, 1.17	45	Low [2]
Legumes	50g	6	1.00	0.88, 1.13	62	Low [2]
Eggs	50g	10	0.99	0.93, 1.05	0	Moderate [1]
Dairy	200g	11	0.98	0.96, 1.00	50	Moderate [1]
Fish	100g	15	0.86	0.75, 0.99	25	Moderate [1]
Red meat	100g	7	1.12	1.06, 1.17	0	Moderate [1]
Processed meat	50g	6	1.17	1.02, 1.34	56	Moderate [1]
Sugar sweetened beverages	250ml	6	1.07	1.02, 1.12	0	Moderate [1]

[1]There is moderate confidence for the effect estimate, further research could add evidence on the confidence and may change the effect estimate.

[2]There is low confidence for the effect estimate, further research will provide important evidence on the confidence and likely change the effect estimate.

Supplemental Table 27b: Linear dose-response meta-analysis including 12 dietary factors and the risk of stroke, and NutriGrade grading.

Dietary factor	Amount	No of studies	RR	95% CI	I² (%)	NutriGrade grading
Whole grains	30g	2	0.96	0.95, 0.97	0	Low [2]
Refined grains	30g	1	0.86	0.68, 1.09	NA	Very low [3]
Vegetables	100g	1	0.96	0.94, 0.98	NA	Low [2]
Fruit	100g	1	0.98	0.94, 1.01	NA	Low [2]
Nuts	28g	2	1.09	0.97, 1.22	0	Low [2]
Eggs	50g	4	1.16	1.03, 1.31	55	Moderate [2]
Dairy	200g	1	1.08	1.01, 1.15	NA	Low [2]
Fish	100g	7	0.80	0.67, 0.95	20	Moderate [1]
Red meat	100g	4	1.08	1.02, 1.14	4	Moderate [1]
Processed meat	50g	2	1.12	1.05, 1.19	0	Moderate [1]
Sugar sweetened beverages	250ml	1	1.08	1.05, 1.12	0	Low [2]

[1] There is moderate confidence for the effect estimate, further research could add evidence on the confidence and may change the effect estimate.

[2] There is low confidence for the effect estimate, further research will provide important evidence on the confidence and likely change the effect estimate.

[3] There is very low confidence for the effect estimate; meta-evidence is very limited and uncertain.

Supplemental Table 27c: Linear dose-response meta-analysis including 12 dietary factors and the risk of heart failure, and NutriGrade grading.