



**Table 4-B-I-4. Overview Table: Stroke, Myocardial Infarction and Heart Failure**

Author, Year Study Design	Sample Size Location Duration Dietary Assessment	Population Age/Gender Cohort	Exposure Index/Score	Outcomes Measured	Health Outcome
<b>Stroke</b>					
Agnoli et al, 2011  Prospective Cohort	N=40,681  Italy  Eight years  FFQ (188-item)	Female: 35 years to 74 years  Male: 35 years to 64 years  60% Women  EPIC-Italy	HEI-2005 Total score: Zero to 100  DASH score Total score: Eight to 40  MDS Total score: Zero to nine  Italian Med index Total score: Zero to 11	Stroke (all types of stroke, ischemic stroke and hemorrhagic stroke)	Stroke <ul style="list-style-type: none"> <li>All patterns except HEI-2005 inversely associated; strongest association for Italian Index (highest to lowest tertile): HR=0.47 (95% CI: 0.30 to 0.75, P<sub>trend</sub>&lt;0.001)</li> </ul> Ischemic Stroke <ul style="list-style-type: none"> <li>All patterns except MDS inversely associated; strongest association for Italian Index (highest to lowest tertile): HR=0.37 (95% CI: 0.19 to 0.70, P<sub>trend</sub>&lt;0.001)</li> </ul>
Chiuve et al, 2012  Prospective Cohort	N=112,488  U.S.  24 years  FFQ (131-item) validated	Female: 30 years to 55 years  Male: 40 years to 75 years  64% Women  NHS and HPFS	HEI-2005 Total score: Zero to 100  AHEI-2010 Total score: Zero to 110	CVD (CHD, stroke or angina)	Comparing highest to lowest quintile of HEI-2005 and AHEI-2010 scores for each outcome (each adjusted for the other score):  Stroke <ul style="list-style-type: none"> <li>HEI-2005: RR=0.90 (95% CI: 0.77 to 1.05; P<sub>trend</sub>=0.12, NS)</li> <li>AHEI-2010: RR=0.86 (95% CI: 0.74 to 1.00; P<sub>trend</sub>=0.03)</li> <li>P for similar effects of diet scores: 0.87, NS.</li> </ul>
Estruch et al, 203  RCT	Initial N: 7,447 Final N: 6,924  Intent-to-treat analysis  Spain  4.8 years  FFQ (137-item) validated	55 years to 80 years  High CVD risk  57% Women  PREDIMED Trial	Med diet + olive oil (OO) (N=2,543) or Med diet + nuts (N=2,454) vs. control, low-fat diet (N=2,450)	Major cardiovascular events (MI, stroke, or death from cardiovascular causes)	Stroke <ul style="list-style-type: none"> <li>Med + OO vs. control: HR=0.67 (95% CI: 0.46 to 0.98, P=0.04)</li> <li>Med + nuts vs. control diet: HR=0.54 (95% CI: 0.35 to 0.84, P=0.006)</li> <li>Med diets combined vs. control diet: HR=0.61 (95% CI: 0.44 to 0.86, P<sub>trend</sub>&lt;0.005)</li> </ul> For both Med diet groups, adherence to Med diet scores were higher than the control group (P<0.0001 for all yearly comparisons of follow-up).
Folsom et al, 2007  Prospective Cohort	N=20,993  U.S.  16 years  FFQ (127-item) validated	55 years to 69 years  Women  IWHS	DASH score Total score: Zero to 11	CVD, CHD and stroke mortality	Stroke mortality, comparing highest to lowest quintile of DASH scores: HR=0.82 (95% CI: 0.55 to 1.23; P <sub>trend</sub> =0.44)



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Fung et al, 2008  Prospective Cohort	N=88,517  U.S.  24 years  FFQ (116-item) validated (assessed seven times)	34 years to 59 years  Women  NHS	DASH score Total score: Eight to 40	CHD (non-fatal MI or fatal CHD) and stroke	Stroke, comparing highest to lowest quintile of the DASH scores: RR=0.83 (95% CI: 0.71 to 0.96; P <sub>trend</sub> =0.007)
Fung et al, 2009  Prospective Cohort	N=74,886  U.S.  20 years  FFQ (116-item) validated (assessed six times)	38 years to 63 years  Women NHS	aMed Total score: Zero to nine	CVD, CHD and stroke	Stroke, comparing the highest to lowest quintile of aMed scores: RR=0.87 (95% CI: 0.73 to 1.02; P <sub>trend</sub> =0.03)
Gardener et al, 2011  Prospective Cohort	N=2,568  U.S.  Nine years  FFQ (Block NCI) validated	Mean age: 69±10 years  64% Women  Northern Manhattan Study (NOMAS)	MDS (as MeDi) Total score: Zero to nine	Ischemic stroke, vascular death and MI	Ischemic Stroke, comparing the highest to lowest quintile of MDS scores: HR=0.98 (95% CI: 0.58 to 1.65; P=0.62)
Hoevenaer-Blom et al, 2012  Prospective Cohort	N=34,708  The Netherlands  11.8 years  FFQ (178-item)	20 years to 65 years MORGEN  50 years to 70 years PROSPECT  75% Women  EPIC-NL	MDS Total score: Zero to nine	Fatal CVD, total CVD, composite CVD, stroke and MI	Per two-unit increment in MDS: <ul style="list-style-type: none"> <li>Stroke: HR=0.88 (95% CI: 0.78 to 1.00)</li> <li>Ischemic stroke: HR=0.86 (95% CI: 0.72 to 1.01)</li> <li>Hemorrhagic stroke: HR=0.87 (95% CI: 0.60 to 1.09)</li> </ul>
Kant et al, 2000  Prospective Cohort	N=42,254  U.S.  5.6 years  FFQ (62-item) validated	40 years to 93 years Mean age: 61.1 years  Women  Breast Cancer Detection and Demonstration Project (BCDDP)	RFS Total score: Zero to 23	All-cause, CHD and stroke mortality	Stroke mortality, comparing highest to lowest quartile of RFS: HR=0.58 (95% CI: 0.35 to 0.96; P <sub>trend</sub> =0.02)



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Michels and Wolk, 2002  Prospective Cohort	N=59,038  Sweden  10 years  FFQ (60-item)	40 years to 76 years  Women  Swedish  Mammography Cohort (SMC)	RFS <i>Total score:</i> Zero to 17  Non-RFS <i>Total score:</i> Zero to 21	All-cause, CHD and stroke mortality	<b>Stroke Mortality:</b> <ul style="list-style-type: none"> <li>Comparing highest to lowest RFS: HR=0.40 (95% CI: 0.22 to 0.73, P<sub>trend</sub>=0.007)</li> <li>Comparing highest to lowest non-RFS: RR=0.96 (95% CI: 0.47 to 1.97, P<sub>trend</sub>=0.98; NS)</li> </ul>
Misirli et al, 2012  Prospective Cohort	N=23,601  Greece  10.6 years  FFQ (190-item) validated	58% <55 years 23% 55 years to 64 years 19% 65 years or more  60% Women  EPIC-Greece	MDS <i>Total score:</i> Zero to nine	Cerebrovascular disease (CBVD)	<b>Comparing highest to lowest MDS:</b> <ul style="list-style-type: none"> <li>CBVD: HR=0.72 (95% CI: 0.54 to 0.97)</li> <li>CBVD mortality: HR=0.76 (95% CI: 0.50 to 1.16; NS)</li> </ul> <b>Per two-point increase in MDS:</b> <ul style="list-style-type: none"> <li>CBVD: HR=0.85 (95% CI: 0.74 to 0.96)</li> <li>CBVD mortality: HR=0.88 (95% CI: 0.73 to 1.06; NS)</li> </ul>
Nakamura et al, 2009  Prospective Cohort	N=9,086  Japan  19 years  FFQ (31-item) NIPPON DATA80	<i>Mean age:</i> 49.1±13.5 years to 51.7±13.0 years  56% Women  National Integrated Project for Prospective Observation of Non-Communicable Diseases and Its Trends in the Aged	Reduced-salt Japanese diet score <i>Total score:</i> Zero to seven	CVD, stroke and MI mortality	Stroke death, comparing highest to lowest tertile of reduced-salt Japanese diet scores: HR=0.75 (95% CI: 0.56 to 0.99; P <sub>trend</sub> =0.038)
Tognon et al, 2012  Prospective Cohort	N=77,151  Sweden  Nine years  Three FFQs (Two 84-item and one 64-item)	30 years to 60 years (included some aged 70 years)  51% Women  VIP	MMDS <i>Total score:</i> Zero to eight	All-cause and CVD mortality	<b>Comparing highest to lowest MMDS:</b> <ul style="list-style-type: none"> <li>Stroke mortality for men: HR=0.98 (95% CI: 0.85 to 1.13; NS)</li> <li>Stroke mortality for women: HR=1.00 (95% CI: 0.87 to 1.17; NS)</li> </ul>
<b>Myocardial Infarction</b>					
Gardener et al, 2011  Prospective Cohort	N=2,568  U.S.  Nine years  FFQ (Block NCI), validated	<i>Mean age:</i> 69±10 years  64% Women  Northern Manhattan Study (NOMAS)	MDS (as MeDi) <i>Total score:</i> Zero to nine	Ischemic stroke, vascular death and MI	MI, comparing the second with the lowest quintile of MDS scores: HR=0.55 (95% CI: 0.31 to 1.00; P<0.05)



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Hansen-Krone et al, 2012  Prospective Cohort	N=18,062  Norway  10.8 years  FFQ (37-item)	25 years to 69 years <i>Mean age: 42±11 years</i>  52% Women  Tromso study	<b>Smart diet score</b> <i>Total score: 15 to 45 (This study: 13 to 39)</i>	MI (fatal and non-fatal)	<b>MI, comparing highest to lowest tertile of Smart Diet scores:</b> HR=0.83 (95% CI: 0.66 to 1.06, P <sub>trend</sub> =0.1; NS)
Hoevenaer-Blom et al, 2012  Prospective Cohort	N=34,708  The Netherlands  11.8 years  FFQ (178-item)	20 years to 65 years MORGEN 50 years to 70 years PROSPECT  75% Women  EPIC-NL	<b>MDS</b> <i>Total score: Zero to nine</i>	Fatal CVD, total CVD, composite CVD, stroke and MI	<b>MI, per two-unit increment in MDS:</b> HR=0.86 (95% CI: 0.79 to 0.93)
Nakamura et al, 2009  Prospective Cohort	N=9,086  Japan  19 years  FFQ (31-item) NIPPON DATA80	<i>Mean age: 49.1±13.5 years to 51.7±13.0 years</i>  56% Women  National Integrated Project for Prospective Observation of Non-Communicable Diseases and Its Trends in the Aged	<b>Reduced-salt Japanese diet score</b> <i>Total score: Zero to seven</i>	CVD, stroke and MI mortality	<b>Acute MI death, comparing highest to lowest tertile of reduced-salt Japanese diet scores:</b> HR=0.84 (95% CI: 0.55 to 1.27; P <sub>trend</sub> =0.42; NS)
Tognon et al, 2012  Prospective Cohort	N=77,151  Sweden  Nine years  Three FFQs (Two 84-item and one 64-item)	30 years to 60 years (included some aged 70 years)  51% Women  VIP	<b>MMDS</b> <i>Total score: Zero to eight</i>	All-cause and CVD mortality	<b>Comparing highest to lowest MMDS:</b> <ul style="list-style-type: none"> <li>MI mortality for men: HR=0.96 (95% CI: 0.89 to 1.04; NS)</li> <li>MI mortality for women: HR=0.84 (95% CI: 0.71 to 0.99; P<sub>trend</sub>&lt;0.05)</li> </ul>
<b>Heart Failure</b>					
Belin et al, 2011  Prospective Cohort	N=79,752 (CVD) N=83,183 (HF)  U.S.  10 years  FFQ (WHI)	50 years to 79 years Women  Postmenopausal  WHI	<b>AHEI</b> <i>Total score: 2.5 to 87.5</i>  <b>Dietary Modification Index (DMI)</b> <i>Total score: Six to 30</i>	Composite CVD (non-fatal MI, CHD death, coronary artery bypass graft/coronary angioplasty, stroke and HF) and HF alone	<b>HF, comparing highest to lowest quintiles:</b> <ul style="list-style-type: none"> <li>DMI: HR=0.91 (95% CI: 0.78 to 1.06; P<sub>trend</sub>=0.045)</li> <li>AHEI: HR=0.70 (95% CI: 0.59 to 0.82; P<sub>trend</sub>&lt;0.001)</li> </ul>



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Levitan et al, 2009a  Prospective Cohort	N=36,019  Sweden  Seven years  FFQ (96-item)	48 years to 83 years  Women  SMC	DASH score of Fung DASH score of Folsom DASH food score of NHLBI DASH nutrient score of NHLBI	Heart failure (HF)	HF, comparing highest to lowest quartile of DASH scores (Fung): HR=0.63 (95% CI: 0.48 to 0.81, P <sub>trend</sub> <0.0001) <ul style="list-style-type: none"> <li>• DASH scores (NHLBI Food Rec): HR=0.69 (95% CI: 0.52 to 0.90, P<sub>trend</sub>=0.007)</li> <li>• DASH scores (NHLBI Nutrient Rec): HR=0.69 (95% CI: 0.51 to 0.93, P<sub>trend</sub>=0.02)</li> <li>• DASH score (Folsom): NS.</li> </ul>
Levitan et al, 2009b  Prospective Cohort	N=38,987  Sweden  Nine years  FFQ (96-item)	45 years to 79 years  Men  CSM	DASH score Total score: Eight to 40	Heart failure (HF)	HF, comparing highest to lowest quartile of DASH scores: RR=0.78 (95% CI: 0.65 to 0.95; P <sub>trend</sub> =0.006).