and 31% in women. In contrast, Wong et al,[3] evaluating national data from Australia, reported an increase in age- and sex-adjusted incidence from 1993 to 2010 from 215 to 251 cases per 100 000 person-years.

Our Medicare population differs significantly from the US community-based sample evaluated by Yeh et al[1] owing to higher proportions of older and female patients. Moreover, unlike other investigators studying Medicare patients (eg, Chen et al[4] and Wang et al[5]), we determined the cumulative incidence of ACS, not just AMI, for nearly 2 decades. This study illustrates the disproportionate reduction in the incidence of unstable angina relative to AMI in the most recent decade. Our study is limited, however, by our use of administrative data, which are subject to appropriate coding, and our lack of clinical data.

In conclusion, the declining incidence of ACS from 2002 to 2009 demonstrates that improvement in cardiovascular outcomes extends to Medicare beneficiaries, probably reflecting better implementation of preventive strategies. This parallels a simultaneous reduction in US mortality rates associated with cardiovascular and coronary heart disease.[6] However, our findings indicate that the AMI incidence among Medicare patients is higher than community-based estimates and has declined only modestly in nearly 2 decades, deserving additional attention. Importantly, the trend of declining ACS incidence was driven primarily by a reduction in unstable angina diagnoses, probably reflecting more frequent diagnosis of AMI relative to unstable angina due to expanded use of more sensitive cardiac biomarkers and changing definitions of AMI. These observations have important clinical and economic implications for this vulnerable patient population.

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Baseline Adherence to the Mediterranean Diet and Major Cardiovascular Events: Prevención con Dieta Mediterránea Trial

Lifestyle modification, particularly dietary changes, is the cornerstone of population-based strategies for cardiovascular disease (CVD) prevention.[1] Recently the Prevención con Dieta Mediterránea (PREDIMED) study,[2] a 5-year randomized primary prevention trial (isrctn.org Identifier: ISRCTN35739639), showed a 30% reduction in incident CVD with Mediterranean diet (MeDiet) intervention in comparison with a control diet. At quarterly visits throughout the study, a validated 14-item MeDiet screening tool (**Table 1**) was used to assess conformity with this dietary pattern.[3]

Close monitoring of adherence to dietary instructions for CVD prevention is difficult in the clinical setting. Short dietary assessment tools, such as the PREDIMED screener, are desirable to identify individuals in need of dietary counseling. Given that there is little information on the association of diet scores with disease outcomes in longitudinal studies, we investigated whether the baseline 14-point MeDiet score was related to incident CVD in the PREDIMED cohort.

Methods | *Design*. The PREDIMED study is a large randomized trial testing the effect of 2 MeDiets (supplemented with either extra-virgin olive oil or nuts) compared with a control diet (advice on a low-fat diet) on incident CVD in individuals at high risk for but no CVD diagnosed at enrollment. The trial's design, objectives, and methods have been described.[2] Participants included 7447 men and women (mean age, 67 years) with either diabetes mellitus or 3 or more cardiovascular risk factors. The primary end point was an aggregate of myocardial infarction, stroke, or cardiovascular death. This study was approved by the institutional review board of Hospital Clinic, Barcelona, Spain. Written informed consent was obtained from all participants.

Table 1. Incident Cardiovascular Events by Desired Frequency of Food Intake as Measured With the 14-Point Mediterranean Diet Adherence Screener[a]

Question	Frequency[b]	Model 1, HR (95% CI)[c]	Model 2, HR (95% CI)[d]
1. Do you use olive oil as the principal source of fat for cooking?	Yes	0.75 (0.52-1.08)	0.77 (0.54-1.16)
2. How much olive oil do you consume per day, including that used in frying, salads, meals eaten away from home, etc?	≥54 g[e]	0.82 (0.63-1.06)	0.85 (0.65-1.10)
3. How many servings of vegetables do you consume per day? (count garnish and side servings as ½ point; a full serving is 200 g)	≥2	0.62 (0.52-0.85)	0.65 (0.51-0.83)
4. How many pieces of fruit, including fresh-squeezed juice, do you consume per day?	≥3	0.94 (0.74-1.18)	0.97 (0.77-1.22)
5. How many servings of red meat, hamburger, or sausages do you consume per day? (a full serving is 100-150 g)	<1	0.75 (0.55-1.03)	0.77 (0.57-1.05)
6. How many 12-g servings of butter, margarine, or cream do you consume per day?	<1	0.71 (0.50-1.01)	0.73 (0.52-1.04)
7. How many carbonated and/or sugar-sweetened beverages do you consume per day?	<1	0.97 (0.67-1.39)	0.99 (0.69-1.42)
8. Do you drink wine? How much do you consume per week?	≥700 mL[f]	0.75 (0.58-0.98)	0.81 (0.62-1.06)
9. How many 150-g servings of legumes do you consume per week?	≥3	1.19 (0.93-1.54)	1.21 (0.93-1.59)
10. How many servings of fish/seafood do you consume per week? (100-150 g of fish, 4-5 pieces or 200 g of seafood)	≥3	0.99 (0.78-1.24)	1.00 (0.79-1.28)
11. How many times do you consume commercial (not homemade) pastry, such as cookies or cake, per week?	<2	0.94 (0.73-1.20)	0.92 (0.72-1.18)
12. How many times do you consume nuts per week? (1 serving = 30 g)	≥3	0.72 (0.56-0.93)	0.75 (0.58-0.97)
13. Do you prefer to eat chicken, turkey, or rabbit instead of beef, pork, hamburgers, or sausages?	Yes	0.86 (0.67-1.09)	0.85 (0.66-1.08)
14. How many times per week do you consume boiled vegetables, pasta, rice, or other dishes with a sauce of tomato, garlic, onion, or leeks sautéed in olive oil?	≥2	0.80 (0.63-1.01)	0.80 (0.63-1.02)

Abbreviation: HR, hazard ratio.

[a] Cardiovascular events included death, myocardial infarction, or stroke.

[b] If the criteria listed were met, 1 point was assigned; if these were not met, 0 was recorded.

[c] Adjusted for sex and age.

[d] Additionally adjusted for smoking, leisure-time physical activity, diabetes mellitus, hypertension, hypercholesterolemia, educational level, intervention group, recruiting center, weight, and family history of premature coronary heart disease.

[e] Fifty-four grams is 4 tbsp.

[f] One hundred milliliters is 1 c.

Table 2. Incidence of Cardiovascular Disease by Each 2-Point Increase in the 14-Point MeDiet Score

Characteristic	No. of Patients	No. of CVD Events[a]	14-Point MeDiet Score, HR (95% CI)	
			Unweighted	Weighted
All variables[b]	7447	288	0.79 (0.70-0.89)	0.75 (0.67-0.84)
By sex[b]				
Men	3165	171	0.73 (0.62-0.86)	0.72 (0.63-0.84)
Women	4282	117	0.90 (0.73-1.10)	0.83 (0.67-0.99)
By intervention arm[c]				
MeDiet with extra-virgin olive oil	2543	96	0.75 (0.60-0.93)	0.74 (0.61-0.89)
MeDiet with nuts	2454	83	0.67 (0.53-0.86)	0.70 (0.56-0.86)
Control diet	2450	109	0.90 (0.73-1.11)	0.81 (0.67-0.97)
By type of event[c]				
Myocardial infarction	7447	106	0.73 (0.59-0.89)	0.68 (0.57-0.81)
Stroke	7447	139	0.82 (0.68-0.98)	0.79 (0.67-0.92)
Cardiovascular death	7447	87	0.72 (0.58-0.90)	0.69 (0.57-0.85)

Abbreviations: CVD, cardiovascular disease; HR, hazard ratio; MeDiet, Mediterranean diet.

[a] Myocardial infarction, stroke, or cardiovascular death.

[b] Adjusted for age, smoking, diabetes mellitus, hypertension, dyslipidemia, body mass index, family history of premature coronary heart disease, recruiting center, intervention group, leisure-time physical activity, and educational level.

[c] Additionally adjusted for sex.

Statistical Analysis. General linear modeling procedures were used to compare baseline characteristics of participants by score categories of the 14-point MeDiet screener. Multiple-adjusted Cox proportional hazards regression models were fitted to assess the association between the MeDiet score (or each component) and the major end point. We also generated a weighted MeDiet score to determine whether weighting each score's item modified the magnitude of the hazard ratios for the association with the outcome.

Results | During a median follow-up of 4.8 years totaling 31 979 person-years, 288 participants sustained CVD events (139 strokes, 106 myocardial infarctions, and 87 cardiovascular deaths). A 2-point increase in unweighted and weighted scores was associated with 21% and 25% reductions in CVD events, respectively, in fully adjusted models (**Table 2**). Associations between MeDiet scores and CVD were weaker in women and in the control group, but were strengthened by using weighted scores. The proportional hazards assumption was tested (un-

weighted $P > .99$; weighted $P = .74$). Among individual score components, only increased consumption of vegetables and nuts were related to reduced CVD events (Table 1).

Discussion | As assessed by a short 14-item screener, baseline adherence to the MeDiet in the PREDIMED trial showed an inverse association with incident CVD, independent of lifestyle and classical risk factors. Our findings further document the beneficial effect of the MeDiet on CVD in the PREDIMED trial[2] and support the 14-item MeDiet screener as a useful tool to identify individuals needing dietary counseling. It is not surprising that the overall score showed an inverse association with CVD and that most individual score components did not show an inverse association. The combination of foods in an overall healthy dietary pattern is likely to provide stronger protection because this approach captures potential interactions and synergies between different foods and nutrients, reflecting the effect of the whole diet.[4] In the present study, a 2-point increase in the 14-point MeDiet score was associated with a 21% reduction in CVD risk. Weighting the strength of each score component increased the magnitude of the association. The extent of the MeDiet's protective effect estimated by the screener was similar or greater than that reported for MeDiet scores derived from complex, time-consuming food frequency questionnaires.[5,6] This screener is thus a useful, simple tool to identify and educate individuals who would benefit most from dietary intervention to reduce future CVD risk.

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