

# ***Nutrizione e salute nell'era della globalizzazione: i dati della più recente letteratura scientifica***

Andrea Poli

NFI - Nutrition Foundation of Italy, Milan

# Potenziali conflitti di interesse

Collaborazioni/Consulenze/speaking fees negli ultimi 24 mesi con:

- |                                       |                                     |
|---------------------------------------|-------------------------------------|
| <input type="checkbox"/> MSD          | <input type="checkbox"/> Pfizer     |
| <input type="checkbox"/> SANOFI       | <input type="checkbox"/> Alfa-Sigma |
| <input type="checkbox"/> ERREKAPPA    | <input type="checkbox"/> IBSA       |
| <input type="checkbox"/> DOC Generici | <input type="checkbox"/> GE         |

Presidente di NFI-Nutrition Foundation of Italy, associazione non profit cui aderiscono 19 aziende alimentari nazionali ed internazionali

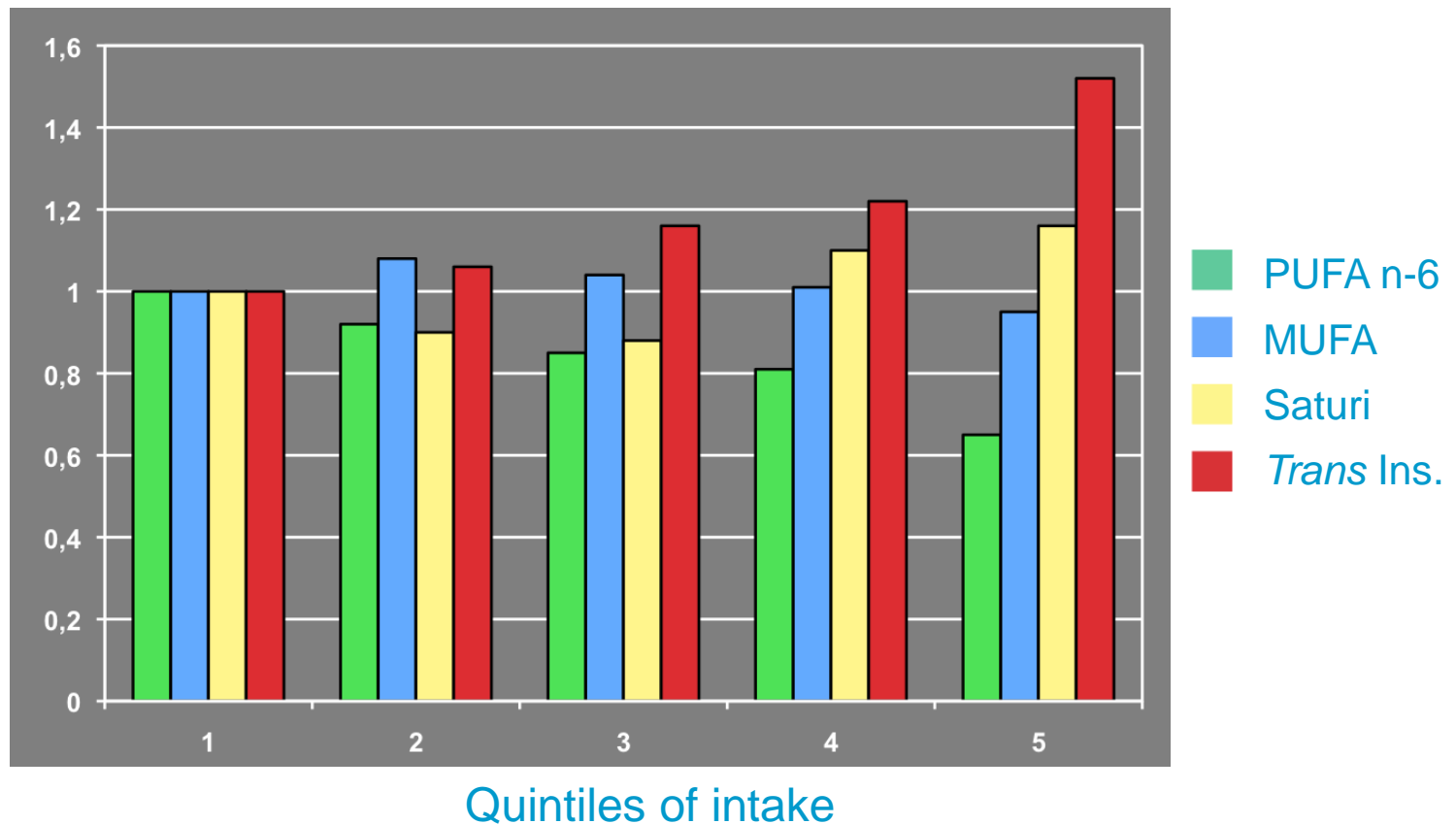
# ***Alcuni aspetti che approfondiremo oggi:***

- ☐ **La globalizzazione dell'epidemiologia (non siamo *Nurses statunitensi*)**
- ☐ **La globalizzazione delle carenze nutrizionali (la *positive nutrition* che non c'è)**
- ☐ **La globalizzazione dei consumi e dei modelli alimentari (*Med diet* sempre e comunque?)**
- ☐ **La globalizzazione (omologazione) dei messaggi al pubblico (scienza o ideologia dietro OMS & friends?)**

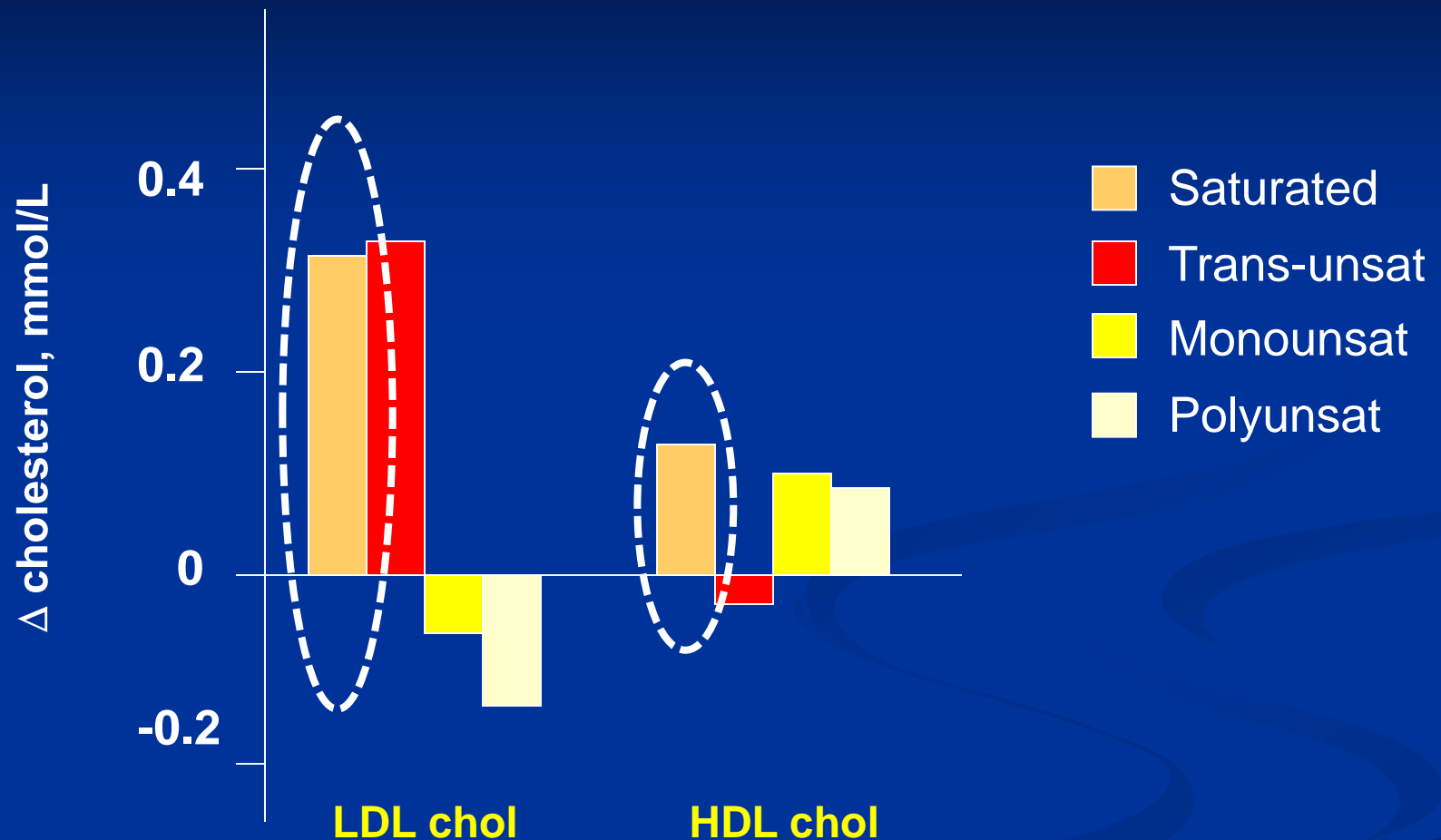
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# Rischio relativo di eventi coronarici e apporto dei differenti grassi alimentari nel Nurses' Health Study



# Effects of SAT, *trans* MONO, *cis* MONO, and *cis* POLY Fatty Acids on LDL and HDL Cholesterol



Values obtained by meta-analysis of 32 controlled dietary trials in humans

JUNE 23, 2014

# TIME

June 12th, 2014

## Eat Butter.

Scientists labeled fat the enemy. Why they were wrong

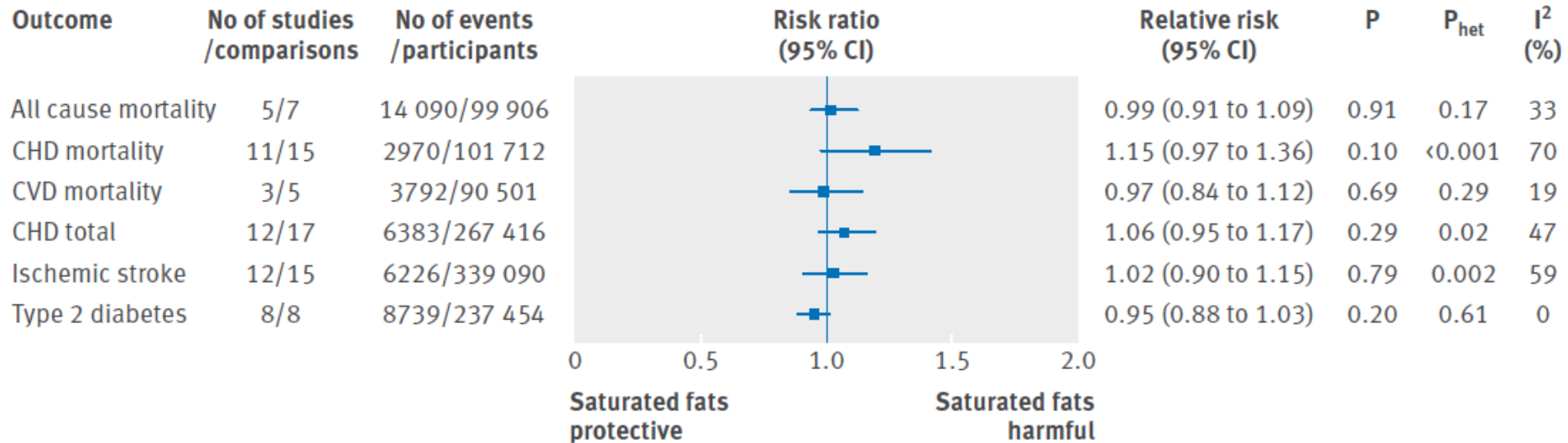
BY BRYAN WALSH



time.com

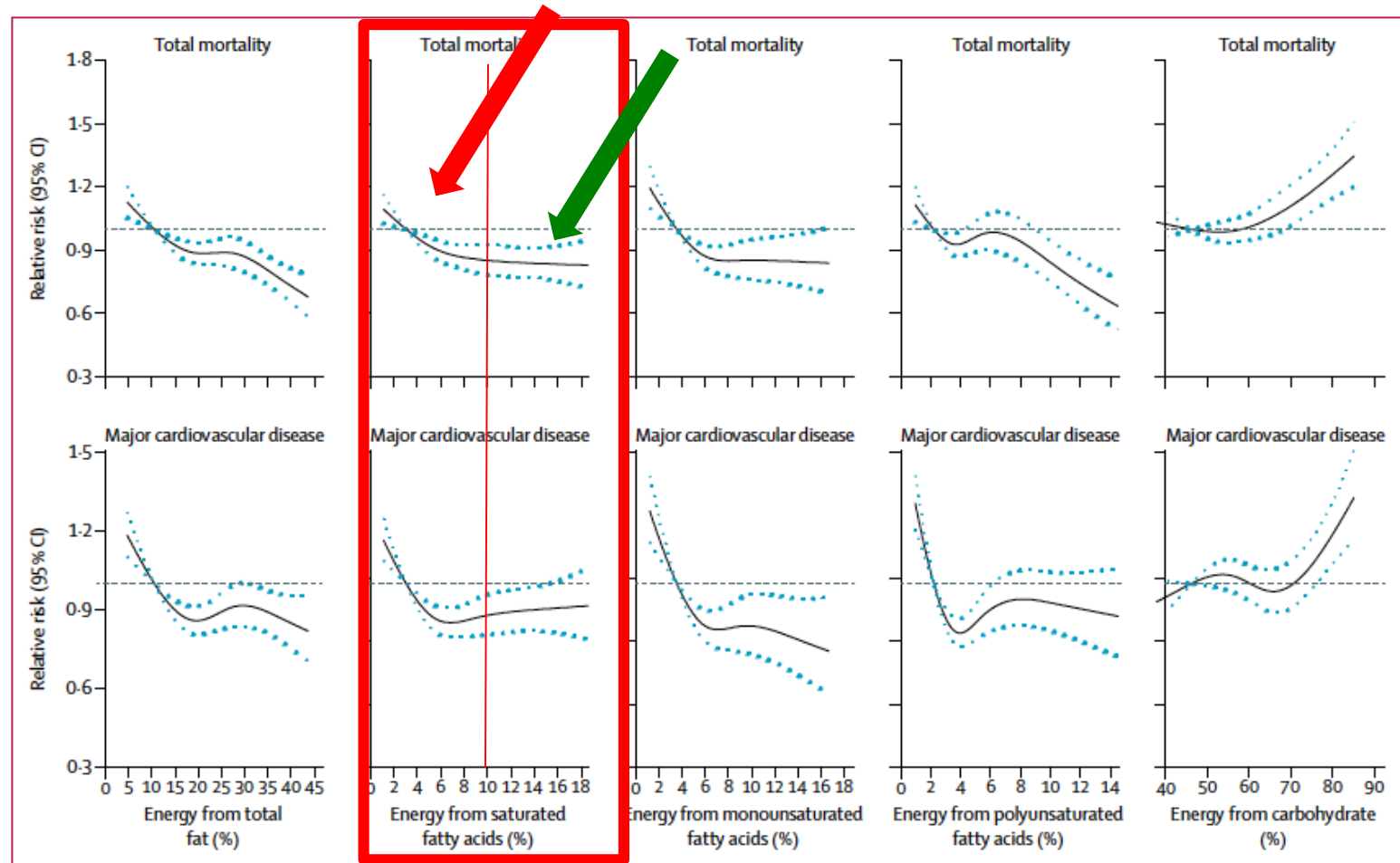
# Intake of saturated and *trans* unsaturated fatty acids and risk of all cause mortality, CVD, and type 2 diabetes: systematic review and meta-analysis of observational studies

## saturated fats





# Associazione tra il consumo alimentare di grassi e il rischio di eventi CV e di mortalità: lo studio PURE



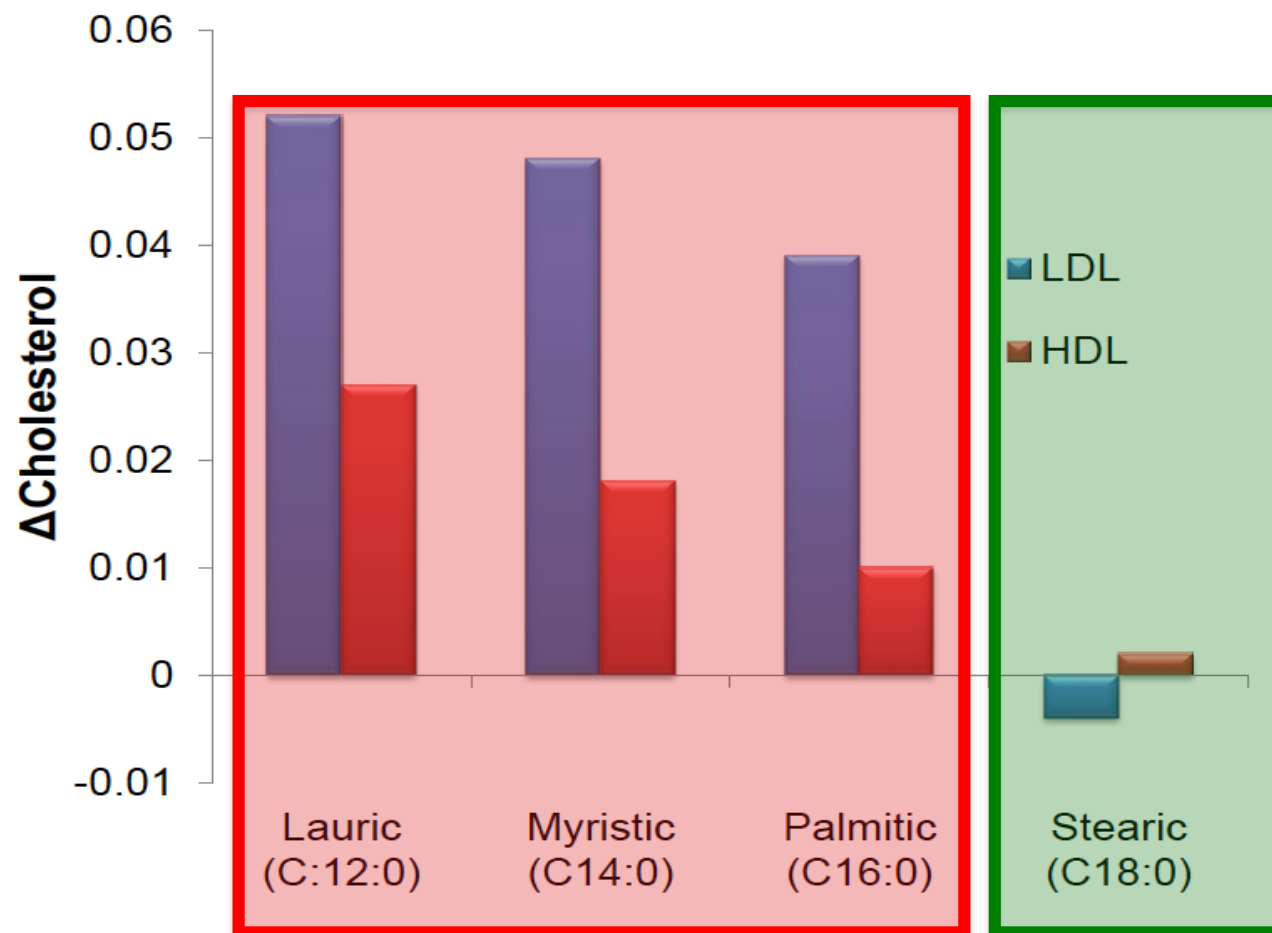
135m persons, 35-70 yrs,  
18 countries, av. follow-up 7.4 yrs

# Apporto degli acidi grassi saturi e rischio di eventi coronarici: i dati dello studio EPIC-NL

Multivariable HRs with 95% CIs for the associations between the intake of total and individual SFAs with incidence of ischemic heart disease in 35,597 subjects from the EPIC-NL cohort<sup>1</sup>

	Median intake, en%	HR expressed per en%	Model 1 <sup>2</sup>	Model 2 <sup>3</sup>	Model 3 <sup>4</sup>	Model 4 <sup>5</sup>
Total SFAs	14.9	5	1.14 (1.05, 1.24)	1.02 (0.94, 1.10)	0.94 (0.86, 1.02)	0.83 (0.74, 0.93)
Sum of butyric (4:0) to capric (10:0) acid	0.62	0.27	0.99 (0.94, 1.03)	0.85 (0.81, 0.90)	0.95 (0.90, 1.00)	0.93 (0.89, 0.99) <sup>a</sup>
Lauric acid (12:0)	0.61	0.24	1.04 (1.00, 1.09)	0.88 (0.84, 0.93)	0.96 (0.91, 1.00)	0.97 (0.91, 1.02) <sup>6</sup>
Myristic acid (14:0)	1.44	0.44	1.05 (1.01, 1.10)	0.92 (0.87, 0.96)	0.95 (0.90, 0.99)	0.90 (0.83, 0.97) <sup>6</sup>
Palmitic acid (16:0)	6.5	1.19	1.06 (1.02, 1.11)	1.05 (1.01, 1.10)	0.98 (0.94, 1.03)	1.00 (0.91, 1.10) <sup>6</sup>
Sum pentadecylic (15:0) and margaric (17:0) acids	0.35	0.11	1.03 (0.99, 1.08)	0.91 (0.87, 0.95)	0.96 (0.91, 1.01)	0.91 (0.83, 0.99) <sup>6</sup>
Stearic acid (18:0)	3.2	0.66	1.08 (1.03, 1.13)	1.08 (1.03, 1.12)	1.00 (0.95, 1.04)	1.05 (0.97, 1.14) <sup>6</sup>

## Lipid and lipoprotein effects: Saturated FA are not created equal...



Effect of replacing 1% of energy as carbohydrate with different saturated fatty acids  
*-meta-analysis of 60 controlled trials*

# Apporto degli acidi grassi saturi e rischio di eventi coronarici: i dati dello studio EPIC-NL

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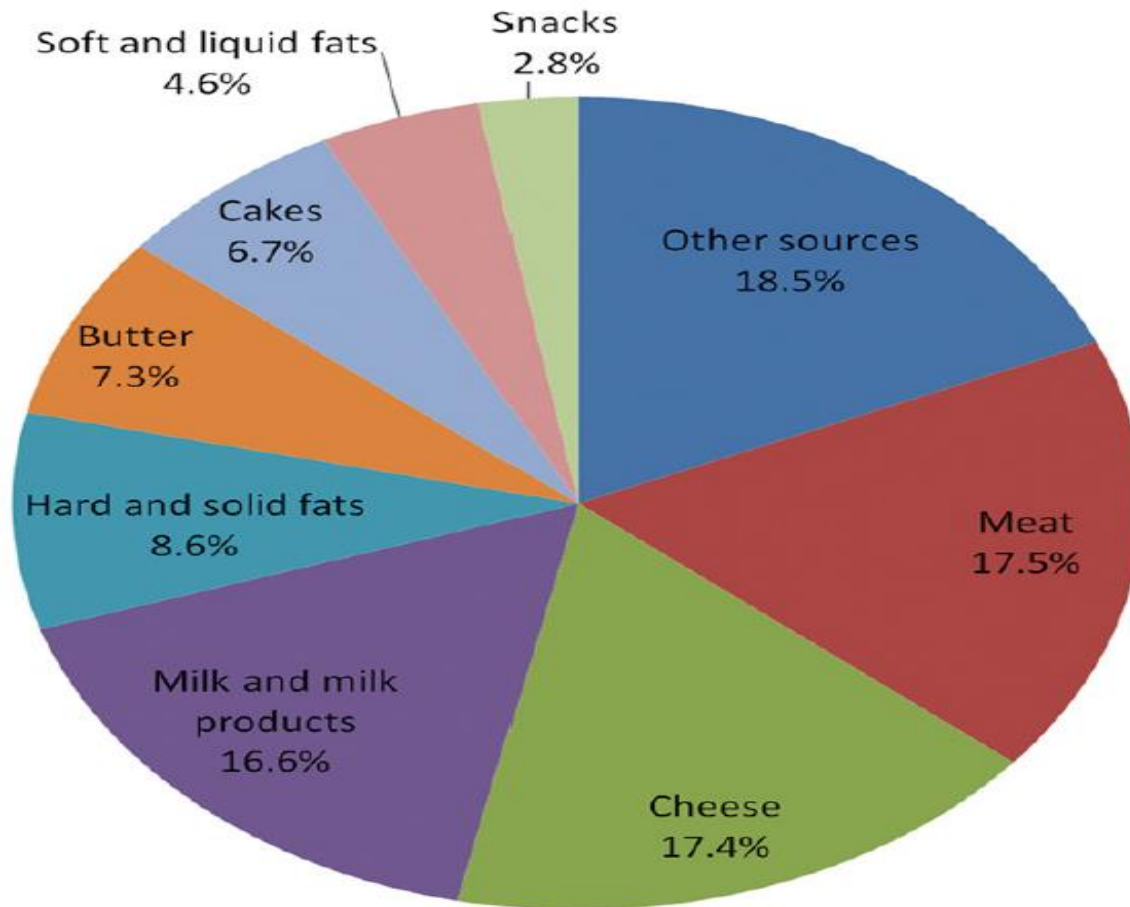
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# Association of specific dietary fats with total mortality: saturated fats

**Table 2. Associations Between Total and Specific Types of Fat Intake and Total Mortality (Comparison Is Isocaloric Substitution for Total Carbohydrates)**

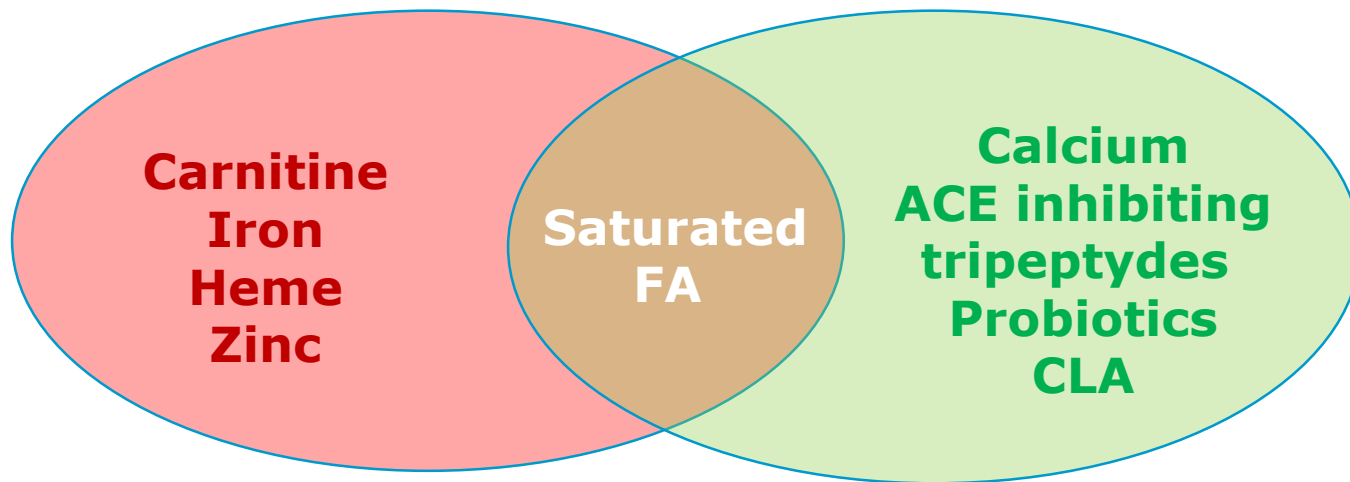
	Quintile of Dietary Fatty Acid Intake					P Value for Trend	HR (95% CI) <sup>a</sup>
	1	2	3	4	5		
Saturated fat intake							
NHS							
Median, % of energy	8.2	10.2	11.8	13.5	16.5	NA	NA
No. of deaths	5660	4729	4217	3376	2332	NA	NA
HPFS							
Median, % of energy	7.1	9.0	10.2	11.5	13.5	NA	NA
No. of deaths	2606	2662	2602	2548	2572	NA	NA
Pooled <sup>b</sup>							
Age-adjusted model	1 [Reference]	1.16 (1.12-1.19)	1.32 (1.27-1.36)	1.45 (1.40-1.50)	1.71 (1.65-1.78)	<.001	1.45 (1.42-1.48)
MV-adjusted model <sup>c</sup>	1 [Reference]	1.04 (1.00-1.08)	1.09 (1.05-1.14)	1.09 (1.04-1.14)	1.08 (1.03-1.14)	<.001	1.08 (1.04-1.11)

# Fonti degli acidi grassi saturi in Olanda: i dati EPIC-NL



**FIGURE 2** Contributions (in percentages) of food groups to the baseline total SFA intake in 35,597 men and women of the European Prospective Investigation into Cancer and Nutrition–Netherlands cohort.

## A possible explanation:



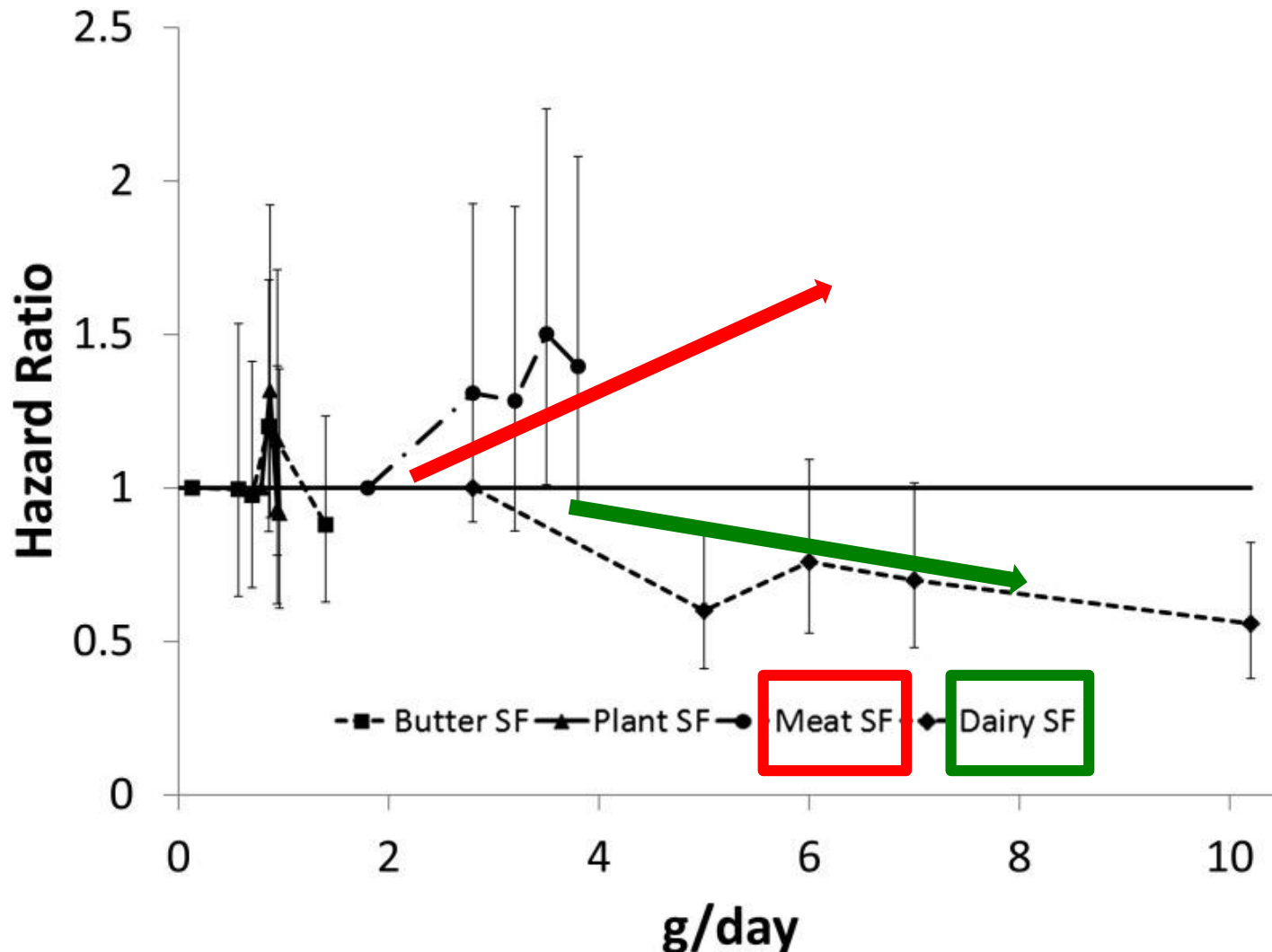
***Meat***

*Main/important source of SFA in USA*

***Dairy***

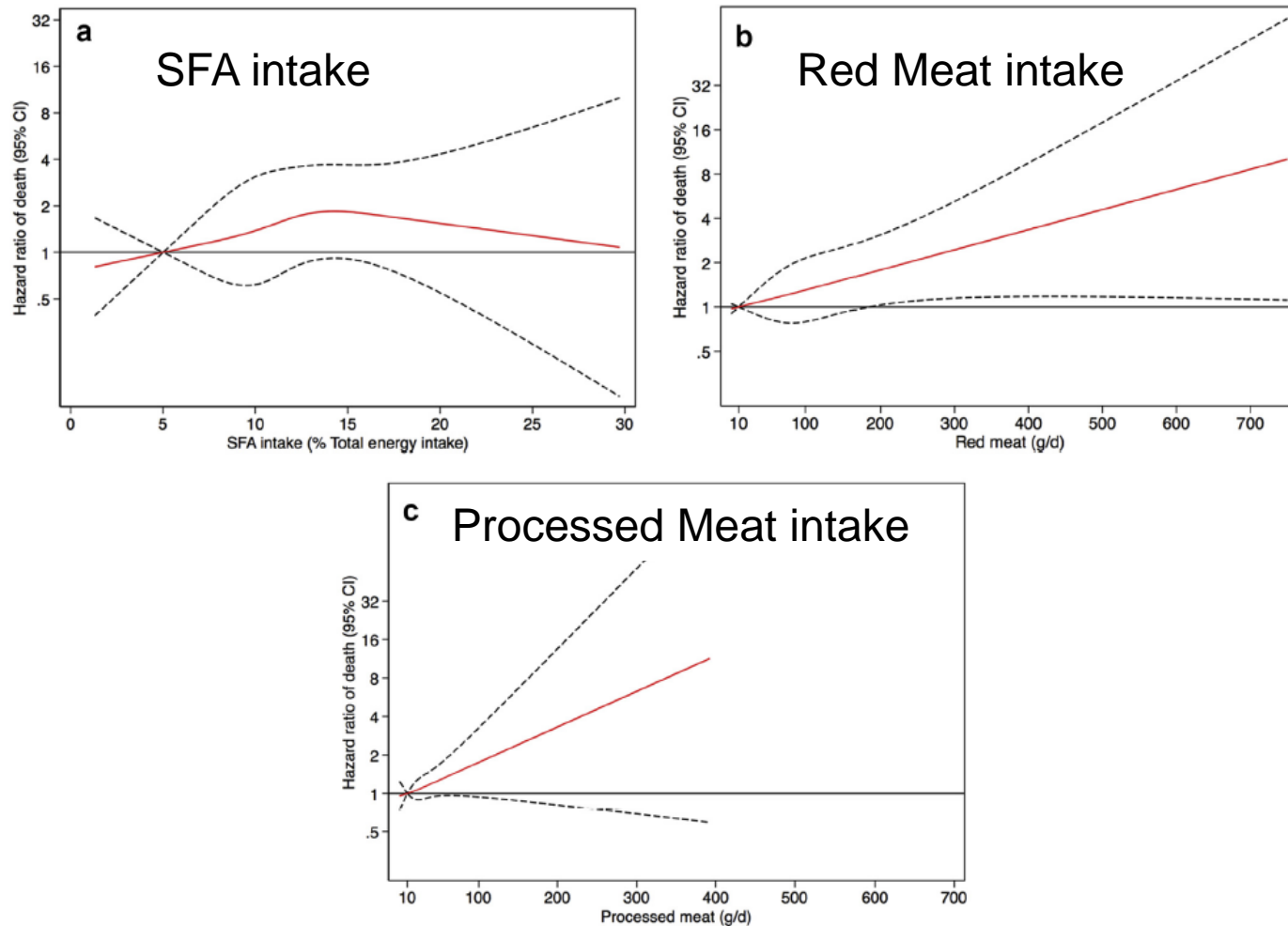
*Main/important source of SFA in Europe*

# Assunzione di grassi saturi da differenti fonti alimentari ed eventi CV: lo studio MESA.

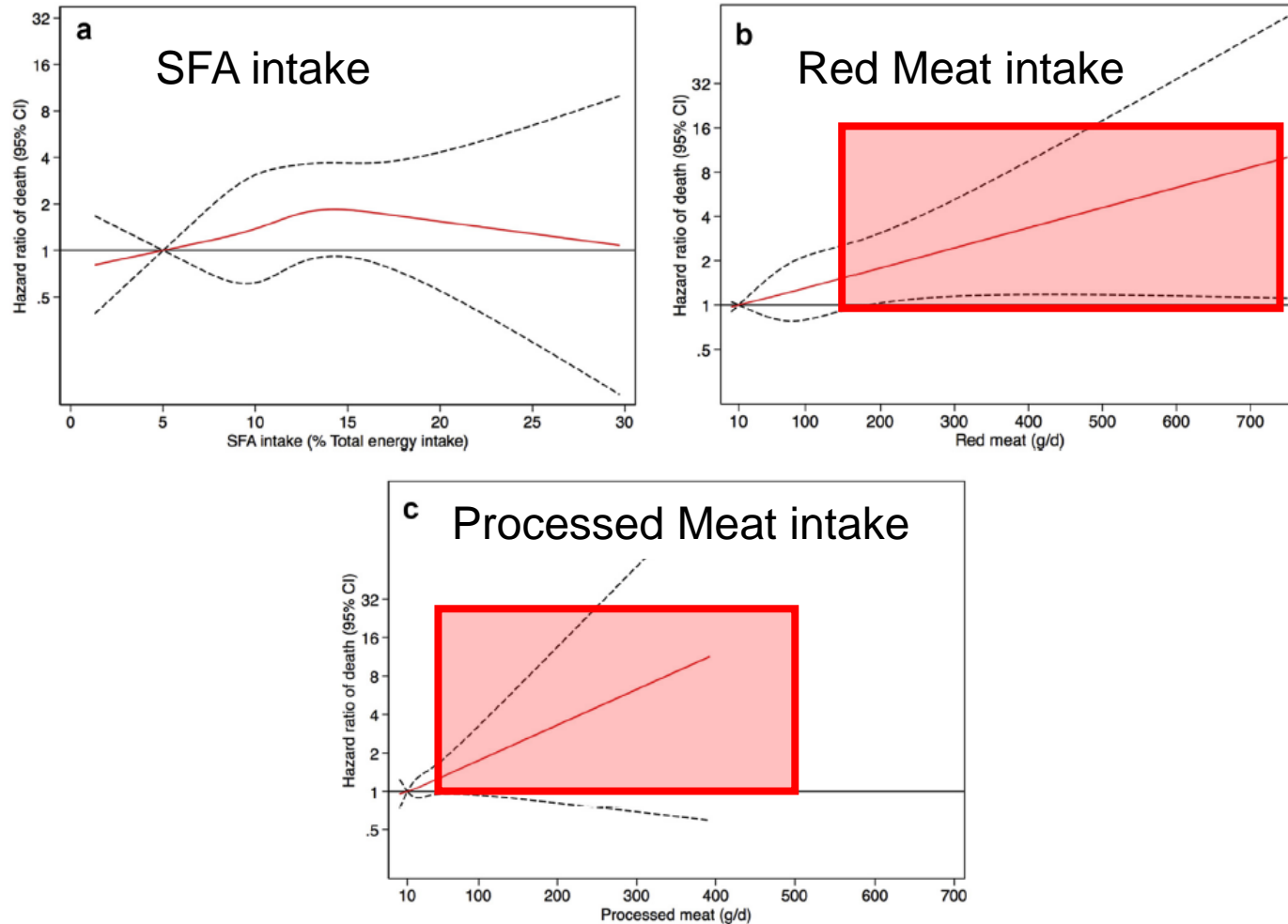




# Should we recommend reductions in saturated fat intake or in red/processed meat consumption? The SUN prospective cohort study



# Should we recommend reductions in saturated fat intake or in red/processed meat consumption? The SUN prospective cohort study





[Perspective](#) > [Medscape Diabetes & Endocrinology](#)

COMMENTARY

# The Problem With Diet Studies: We Don't Eat Macronutrients

Jocelyne R. Benatar, MBChB, MD

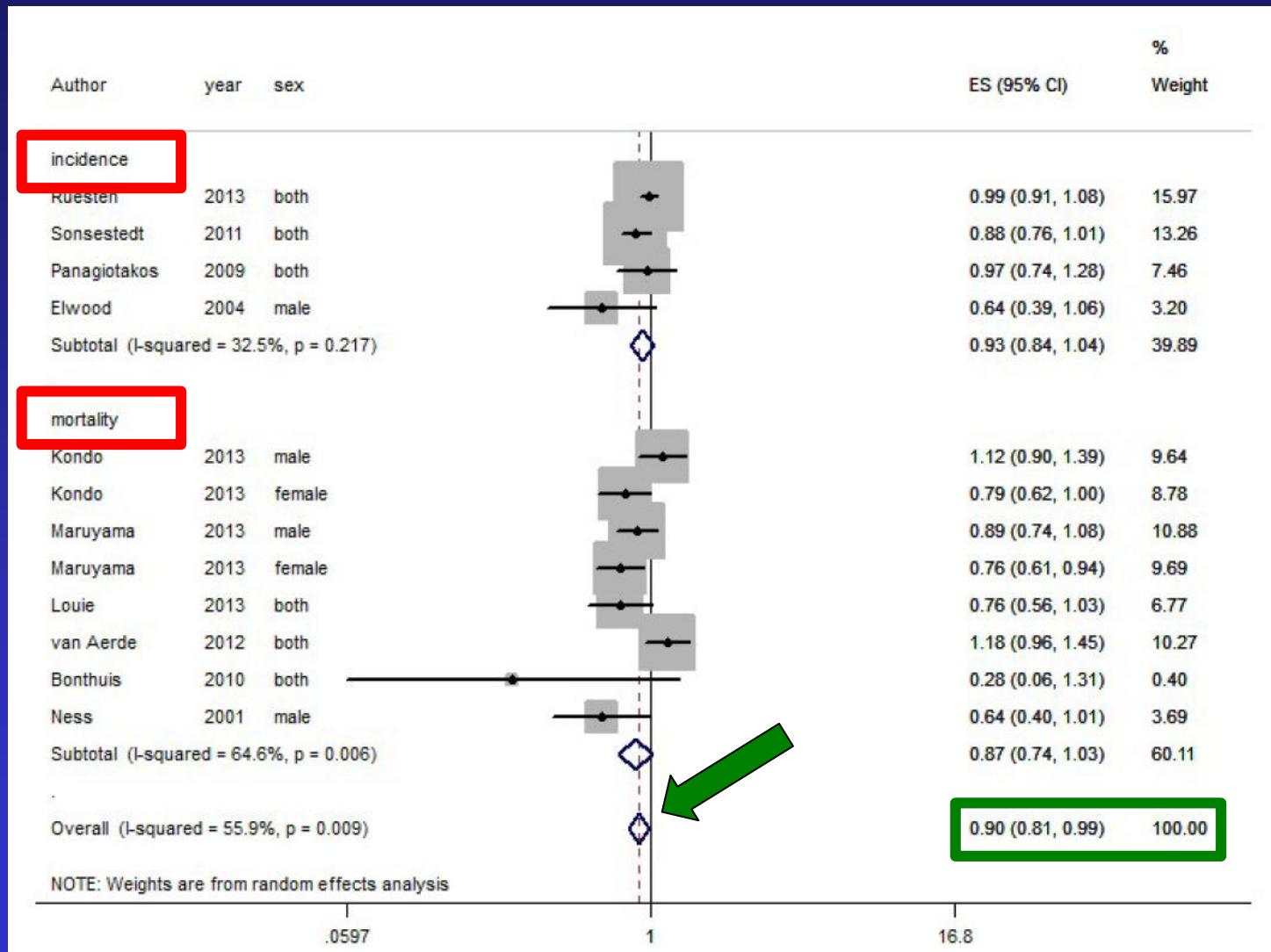
[DISCLOSURES](#) | September 05, 2018

# Dietary recommendation to improve the lipoprotein profile: 2016 EAS/ESC guidelines

**Table 13** Dietary recommendations to lower low-density lipoprotein-cholesterol and improve the overall lipoprotein profile

	To be preferred	To be used with moderation	To be chosen occasionally in limited amounts
Cereals	Whole grains	Refined bread, rice and pasta, biscuits, corn flakes	Pastries, muffins, pies, croissants
Vegetables	Raw and cooked vegetables	Potatoes	Vegetables prepared in butter or cream
Legumes	Lentils, beans, fava beans, peas, chickpeas, soybean		
Fruit	Fresh or frozen fruit	Dried fruit, jelly, jam, canned fruit, sorbets, popsicles, fruit juice	
Sweets and sweeteners	Non-caloric sweeteners	Sucrose, honey, chocolate, candies	Cakes, ice creams, fructose, soft drinks
Meat and fish	Lean and oily fish, poultry without skin	Lean cuts of beef, lamb, pork or veal, seafood, shellfish	Sausages, salami, bacon, spare ribs, hot dogs, organ meats
Dairy food and eggs	Skim milk and yogurt	Low-fat milk, low-fat cheese and other milk products, eggs	Regular cheese, cream, whole milk and yogurt
Cooking fat and dressings	Vinegar, mustard, fat-free dressings	Olive oil, non-tropical vegetable oils, soft margarines, salad dressing, mayonnaise, ketchup	Trans fats and hard margarines (better to avoid them), palm and coconut oils, butter, lard, bacon fat
Nuts/seeds		All, unsalted (except coconut)	Coconut
Cooking procedures	Grilling, boiling, steaming	Stir-frying, roasting	Frying

# Dairy consumption and the prevention of CVD: a meta-analysis of prospective studies



# ***Alcuni aspetti che approfondiremo oggi:***

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# Cardiovascular mortality attributable to dietary risk factors in 51 countries in the WHO European Region from 1990 to 2016: a systematic analysis of the Global Burden of Disease Study

	Number of deaths		95% Uncertainty interval	Uncertainty ratio
Diet low in whole grains	429,220		374,656 492,324	0.27
Diet low in nuts and seeds	341,185	49,5 %	297,925 391,234	0.27
Diet low in fruits	261,965		211,927 317,216	0.40
Diet high in sodium	251,437	12,5 %	179,195 328,682	0.59
Diet low in seafood omega-3 PUFA	227,276		182,913 276,161	0.41
Diet low in vegetables	188,915		146,685 234,904	0.46
Diet low in legumes	148,668	37,5 %	121,269 179,024	0.38
Diet low in fiber	120,241		101,607 141,269	0.33
Diet low in PUFA	78,101		62,833 94,923	0.41
Diet high in processed meat	34,113		23,666 45,238	0.63
Diet high in trans fatty acids	16,182	2,5 %	11,369 21,318	0.61
Diet high in sugar-sweetened beverages	2,334		1,917 2,717	0.31
Sum	2,099,637		1,708,193 2,532,859	0.39



# Cardiovascular mortality attributable to dietary risk factors in 51 countries in the WHO European Region from 1990 to 2016: a systematic analysis of the Global Burden of Disease Study

- Diet low in whole grains
- Diet high in sodium
- Diet low in nuts and seeds
- Diet low in fruits
- Diet low in seafood omega-3 fatty acids
- Diet low in legumes
- Diet low in polyunsaturated fatty acids
- Diet low in fiber
- Diet low in vegetables
- Diet high in processed meat
- Diet high in trans fatty acids
- Diet low in sugar-sweetened beverages

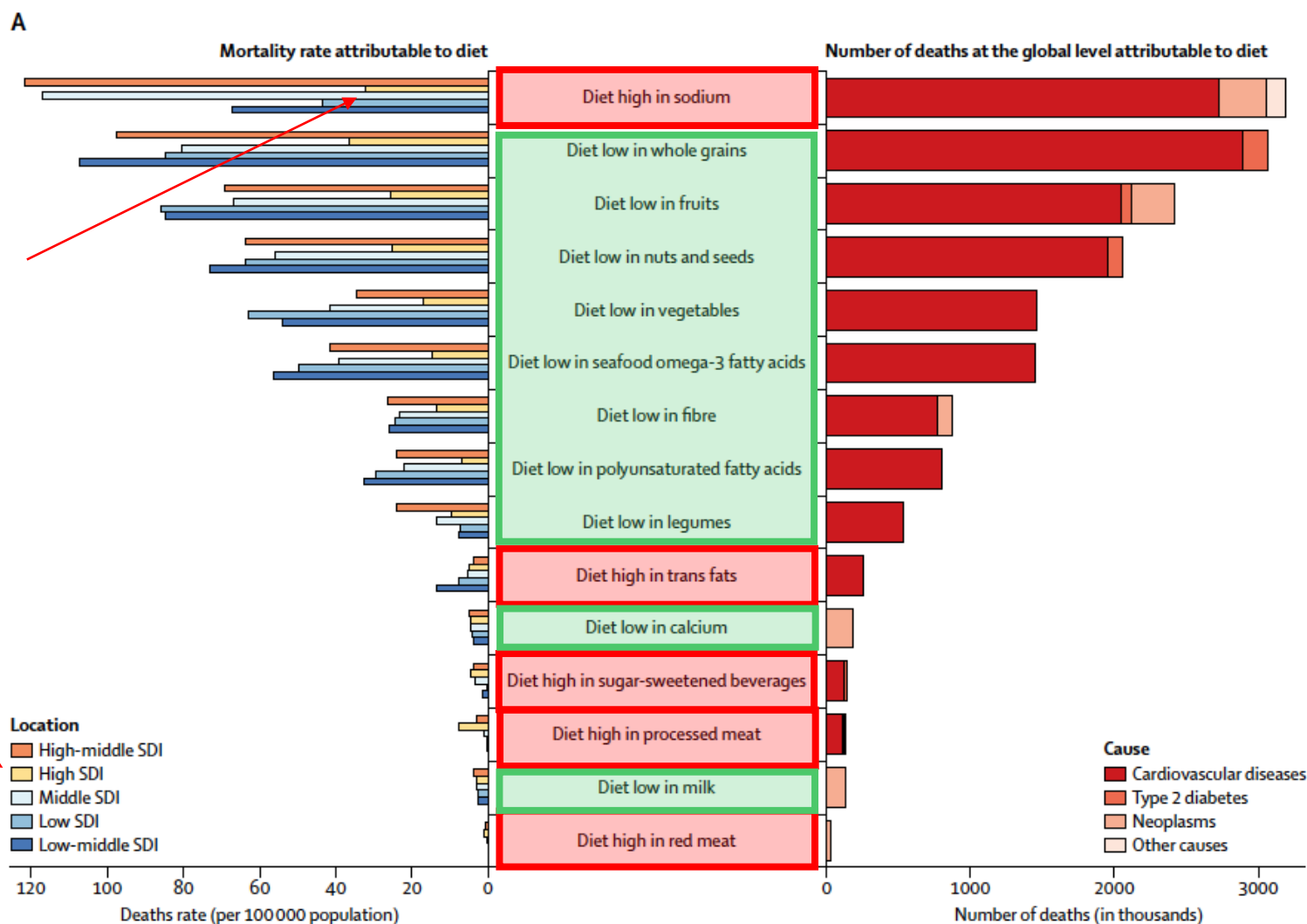


Italy

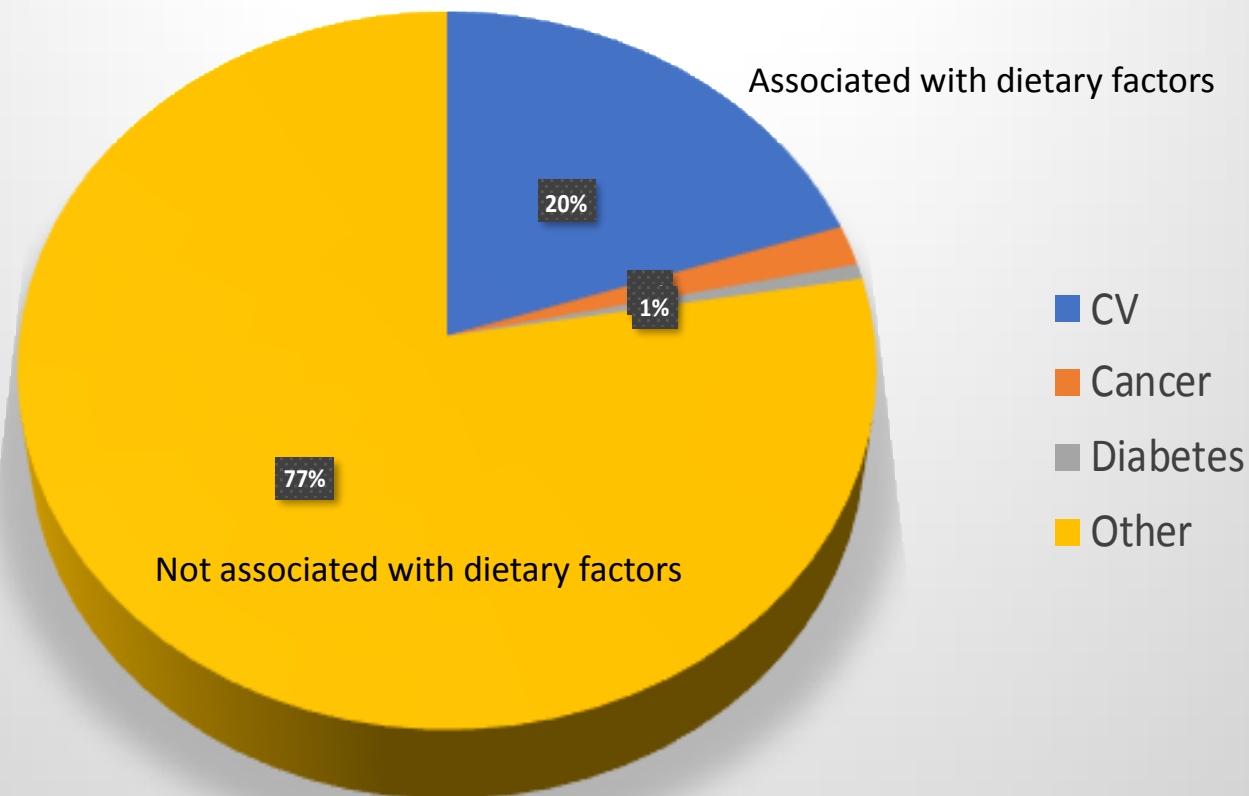
	al	Uncer- tainty ratio
Diet lo	4	0.27
Diet lo	4	0.27
Diet lo	6	0.40
Diet hi	2	0.59
Diet lo	1	0.41
Diet lo	4	0.46
Diet lo	4	0.38
Diet lo	9	0.33
Diet lo	3	0.41
Diet hi	3	0.63
Diet hi	3	0.61
Diet hi	7	0.31
Sum	9	0.39



# Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017



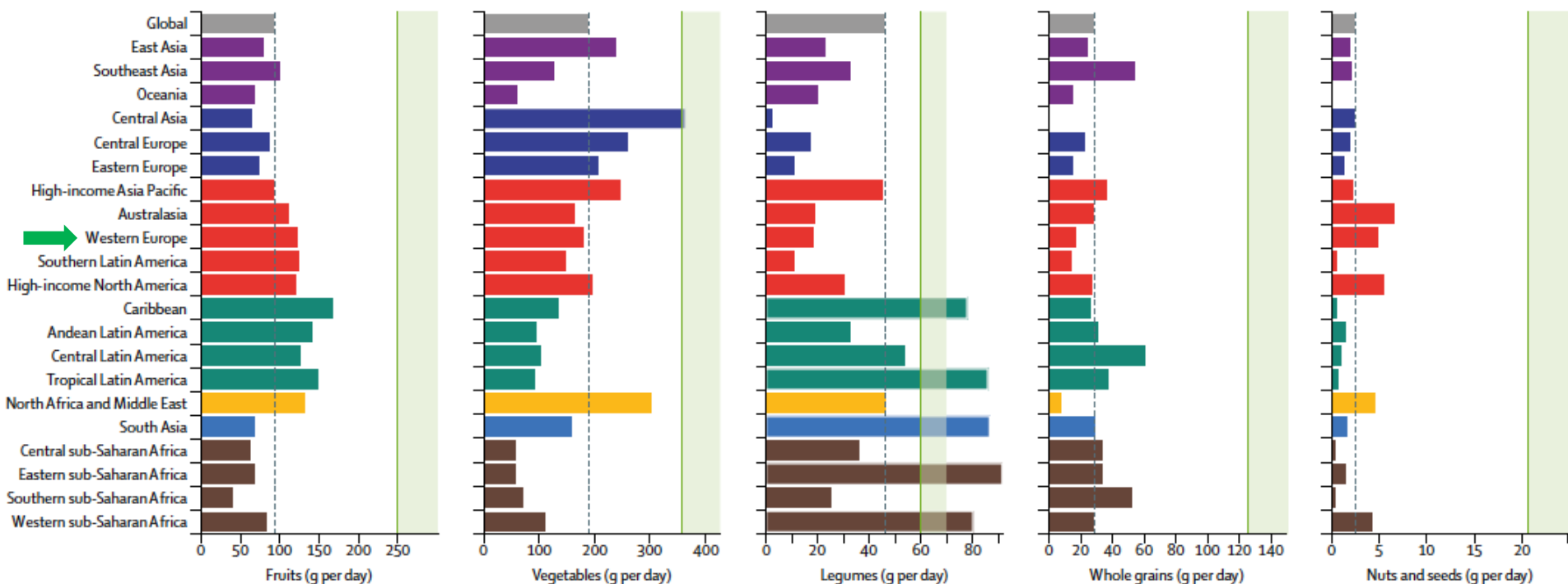
## Dietary factors associated Deaths in the world - 2017



Globally, in 2017, **dietary risks were responsible for 11 million deaths** (22% of all deaths among adults).

**CVD was the leading cause of diet related deaths (10 million deaths), followed by cancers (913,090 deaths) and type 2 diabetes (338,714 deaths).**

# Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017

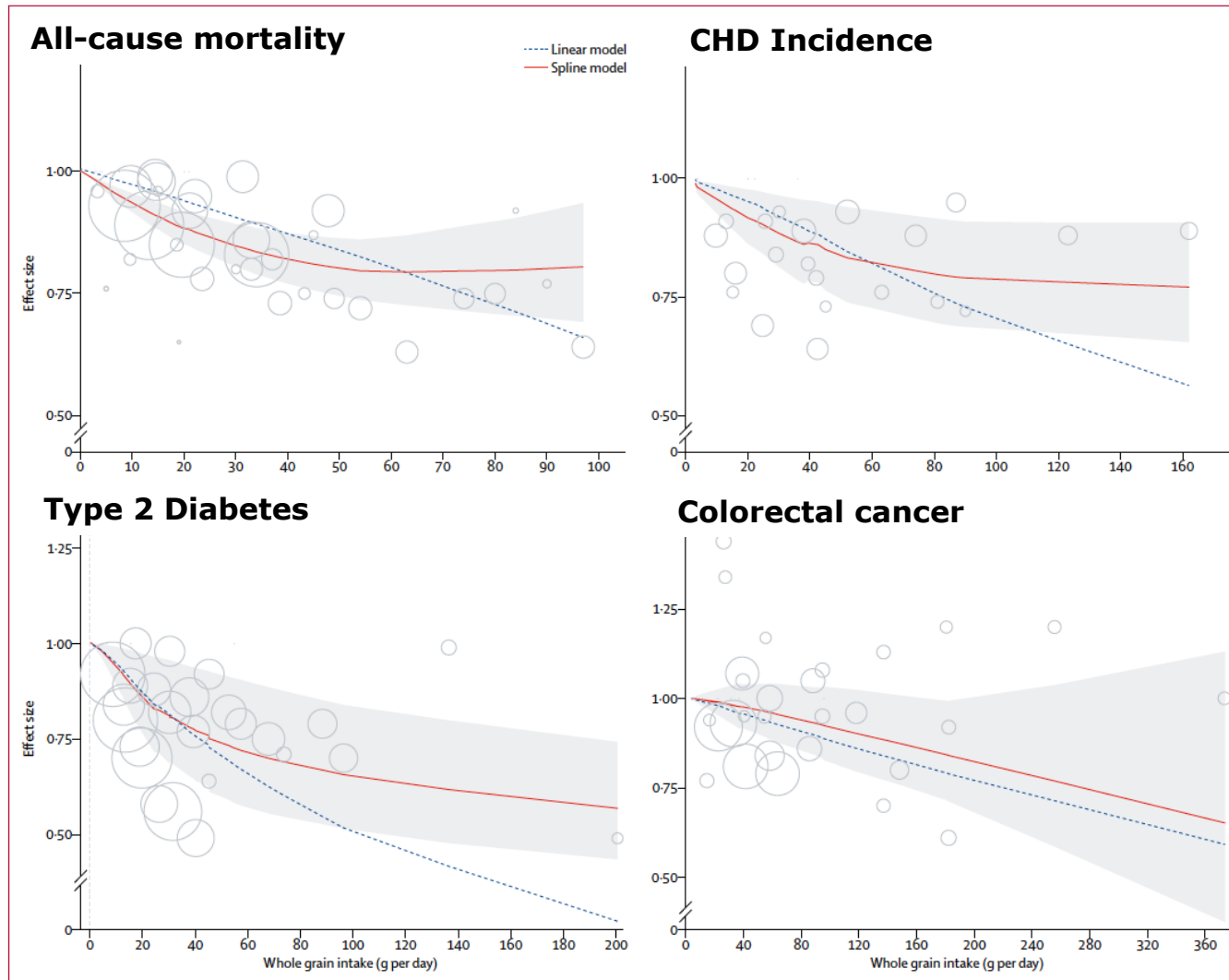


## Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017

Our findings show that suboptimal diet is responsible for more deaths than any other risks globally, including tobacco smoking,<sup>11,12</sup> highlighting the urgent need for improving human diet across nations. Although sodium, sugar, and fat have been the main focus of diet policy debate in the past two decades,<sup>27,28</sup> our assessment shows that the leading dietary risk factors for mortality are diets high in sodium, low in whole grains, low in fruit, low in nuts and seeds, low in vegetables, and low in omega-3 fatty acids; each accounting for more than 2% of global deaths. This finding suggests that dietary policies focusing on promoting the intake of components of diet for which current intake is less than the optimal level might have a greater effect than policies only targeting sugar and fat, highlighting the need for a comprehensive food system interventions to promote the production, distribution, and consumption of these foods across nations.

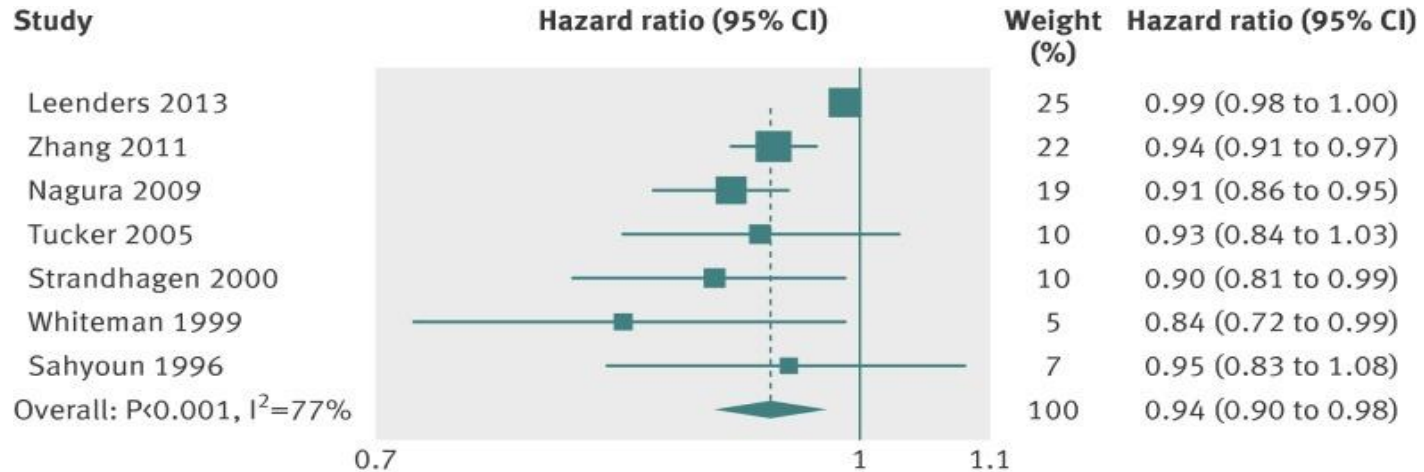
# Carbohydrate quality and human health: a series of systematic reviews and meta-analyses

Whole grains intake and clinical end-points  
Prospective studies

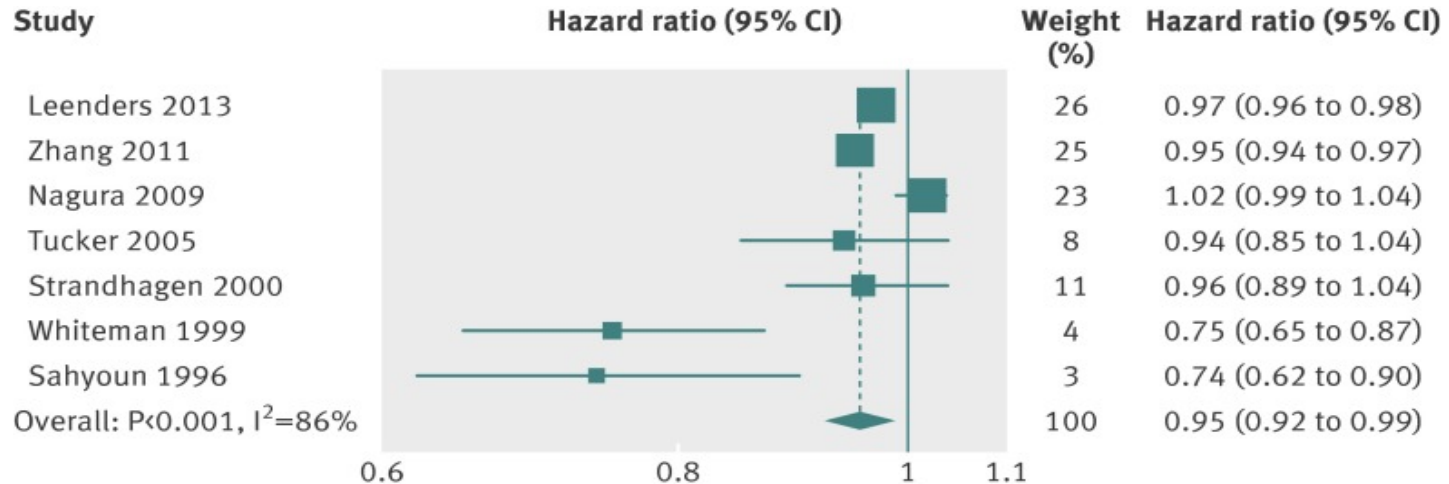


# Fruit and vegetable consumption and mortality from all causes, cardiovascular disease, and cancer: systematic review and dose-response meta-analysis of prospective cohort studies

fruit

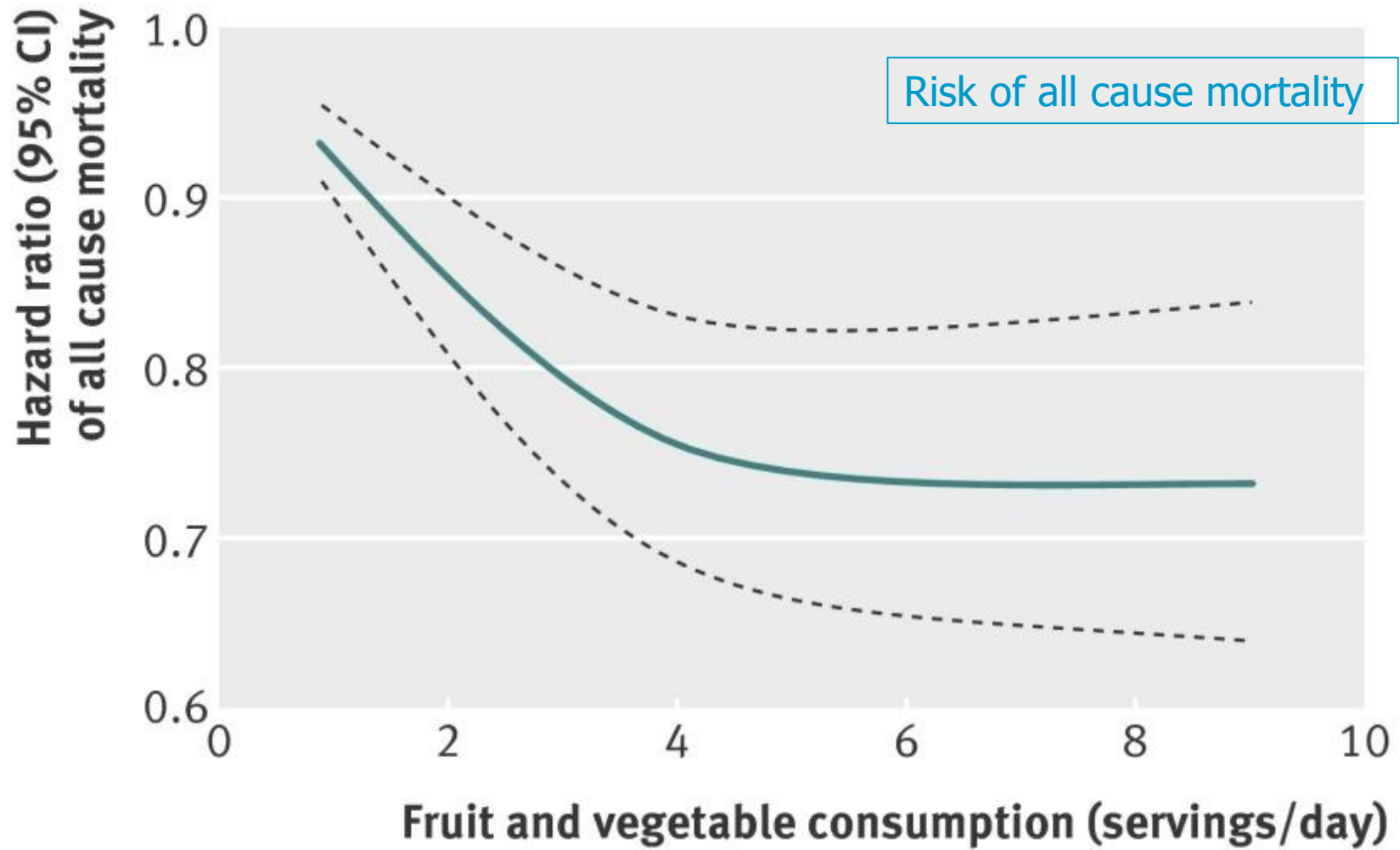


vegetables



Risk of all cause mortality associated with servings/day of fruit and vegetables

# Fruit and vegetable consumption and mortality from all causes, cardiovascular disease, and cancer: systematic review and dose-response meta-analysis of prospective cohort studies



# Why fruit and vegetable consumption is favorable for health?

☐ Appetite reduction (less unhealthy foods)

☐ Potassium

☐ Polyphenols

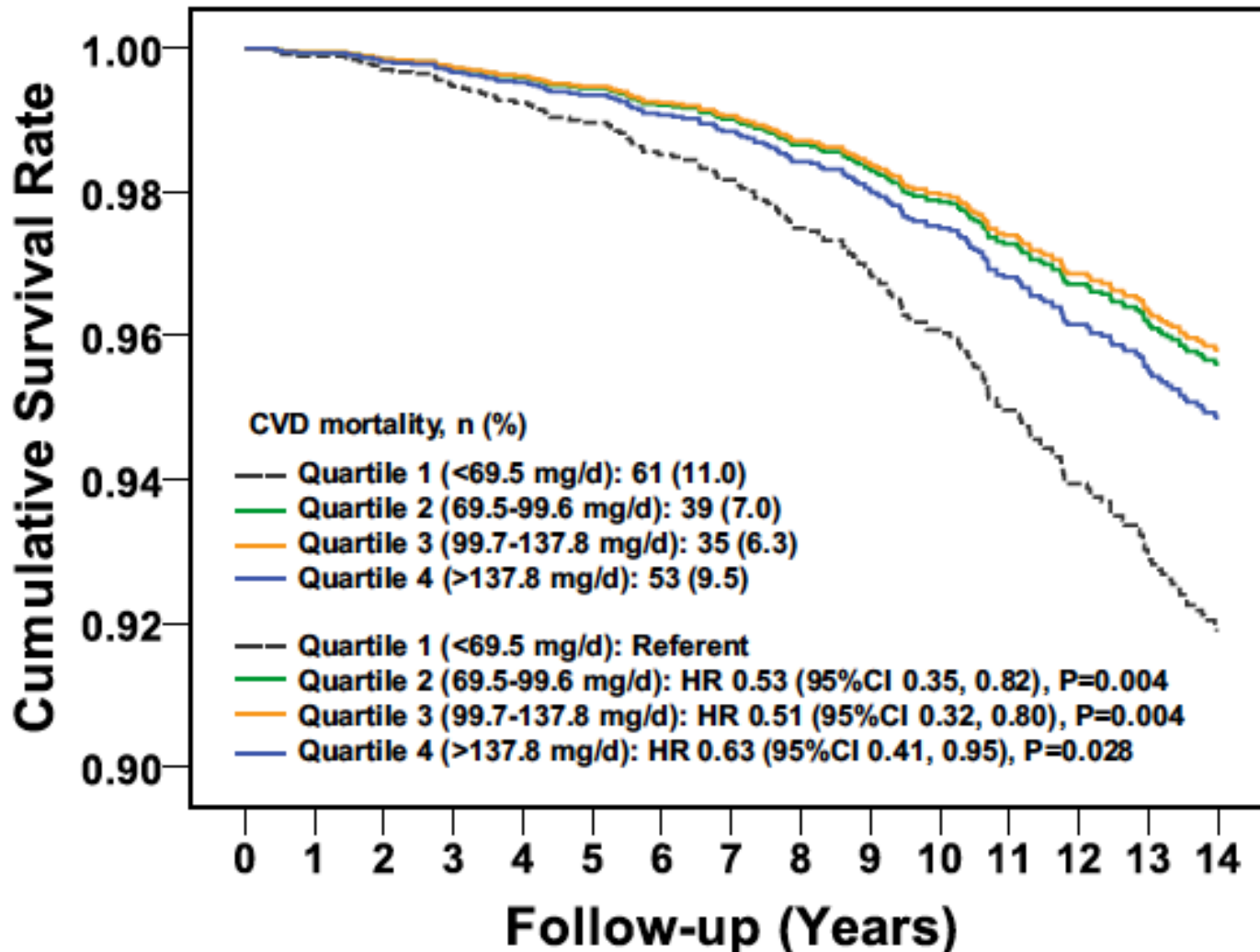
- *Antinflammatory, antioxidant*
- *Prebiotic*

☐ Fiber

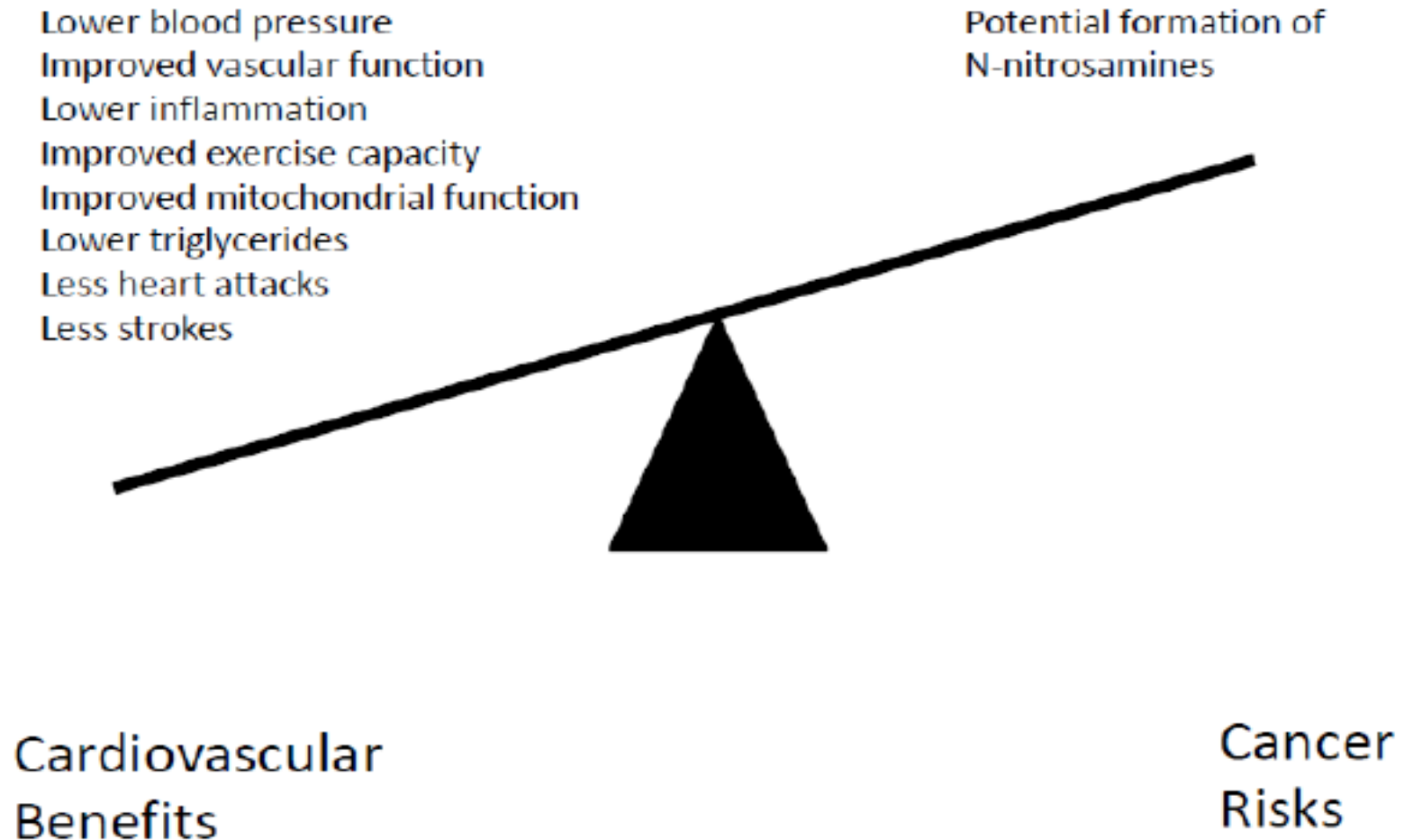
☐ Nitrates



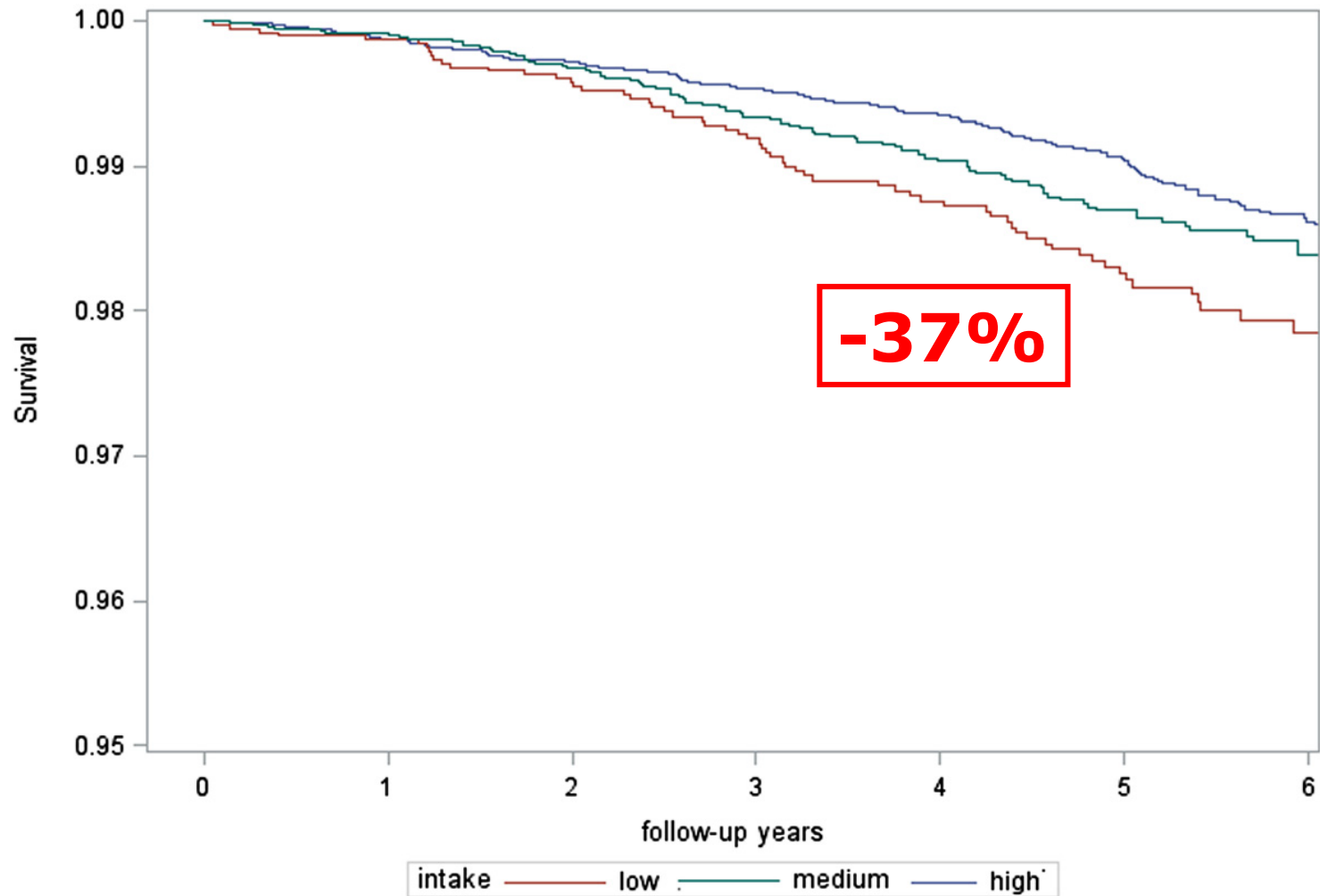
# Dietary nitrate intake from vegetables and CVD mortality: a prospective study in a cohort of older Australians



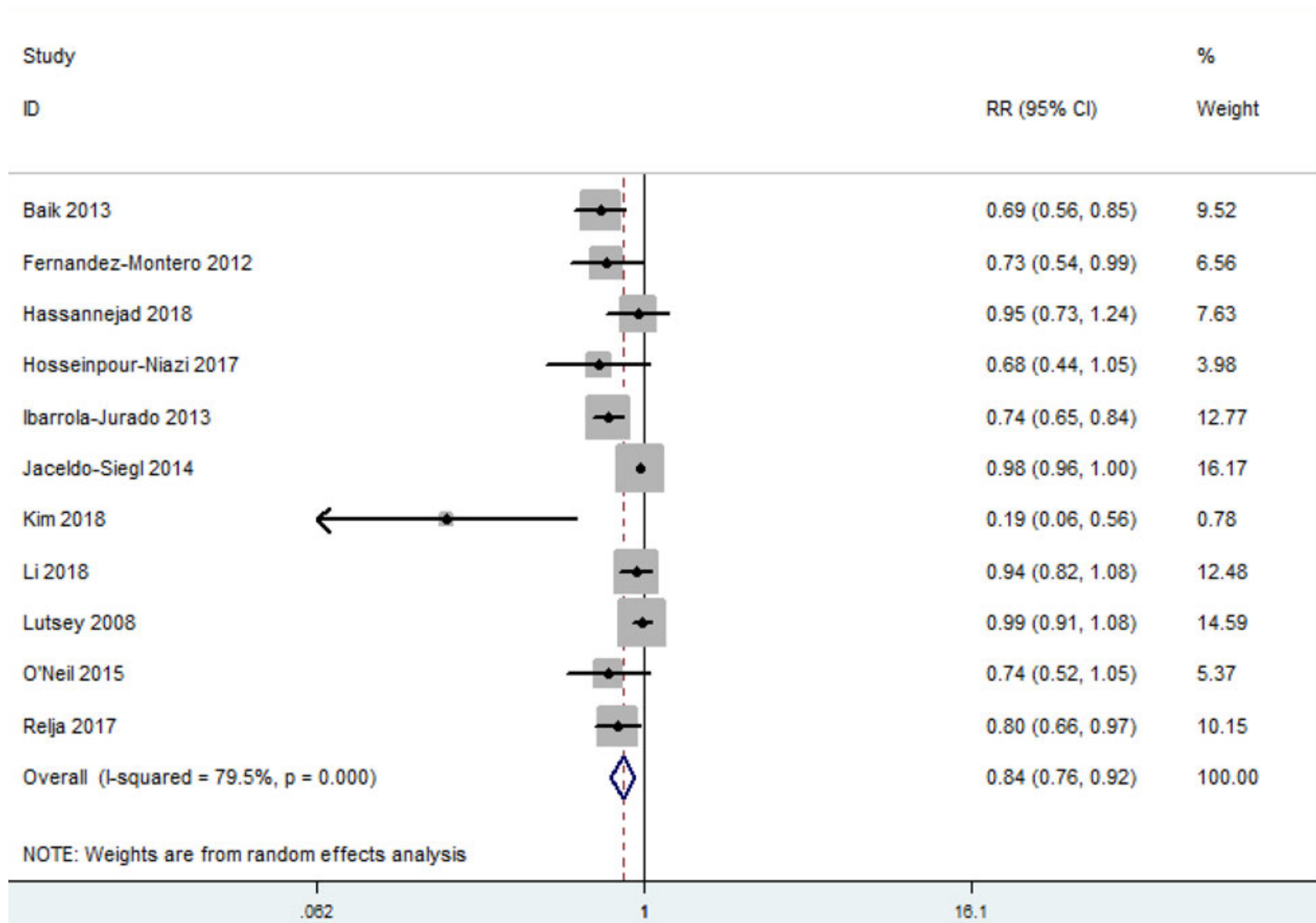
# Health effects of dietary Nitrates: CV vs. Cancer



# Polyphenol intake and all-cause mortality risk: a re-analysis of the PREDIMED trial

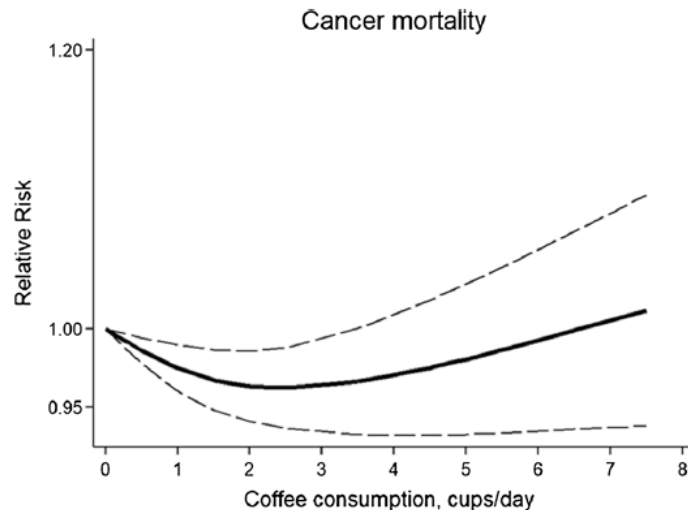
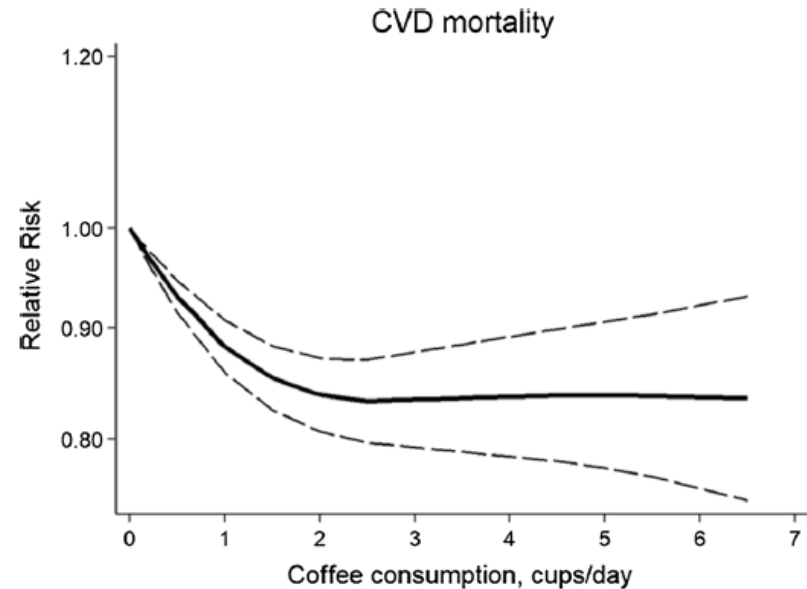
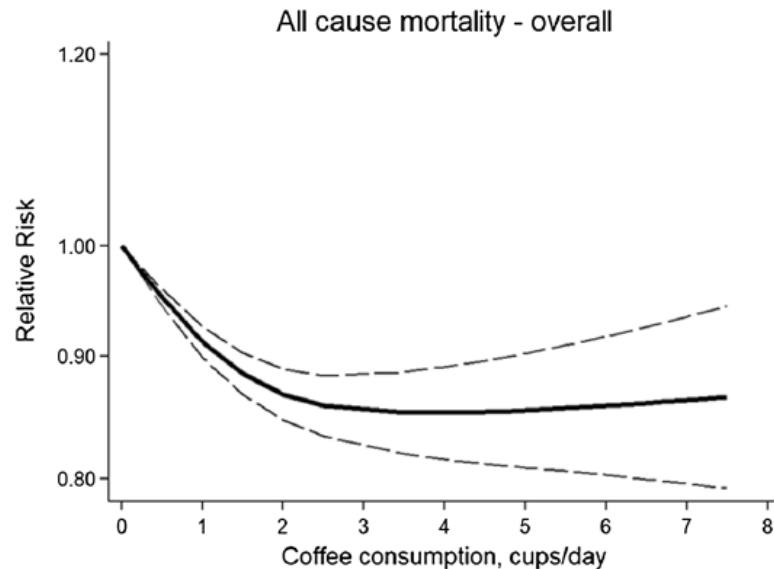


# Relation between Nut consumption and Metabolic Syndrome: a meta-analysis of Observational studies



# Coffee consumption and all-cause and cause-specific mortality: a meta-analysis by potential modifiers

40 studies including 3,852,651 subjects and 450,256 all-cause and cause-specific deaths.



## Sex

Male	18	0.87	0.81–0.94	0.86
Female	18	0.88	0.83–0.93	

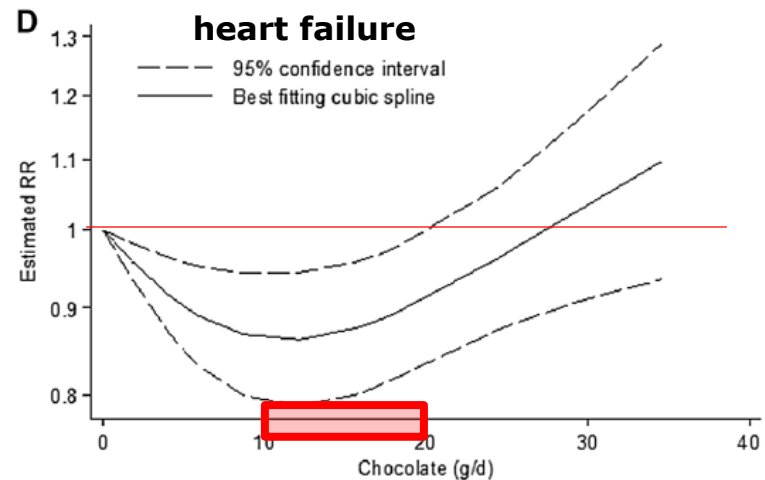
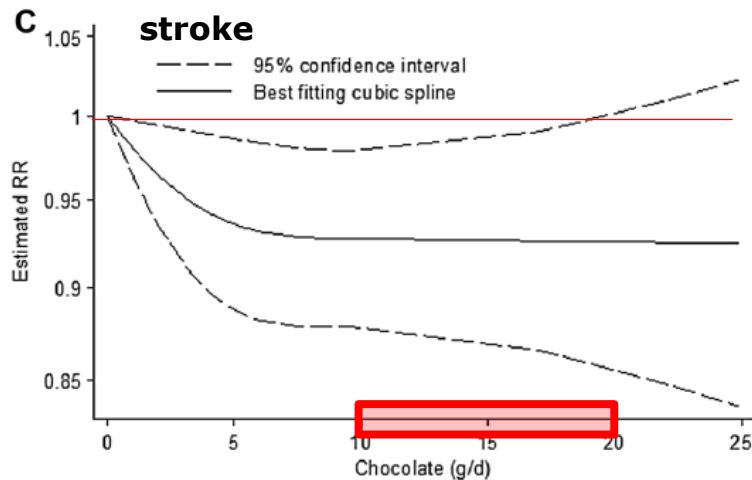
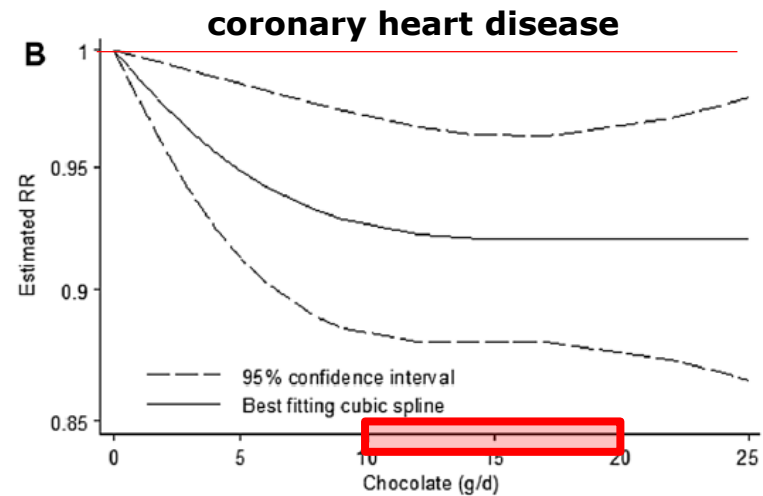
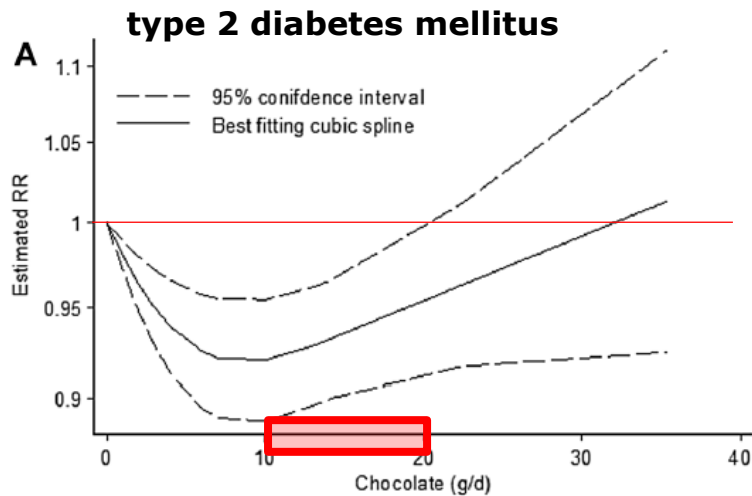
## Geographic region

US	14	0.96	0.89–1.03	
Europe	15	0.81	0.74–0.88	0.01 <sup>a</sup>
Asia	6	0.83	0.76–0.91	0.05 <sup>b</sup>

## By caffeine content of coffee

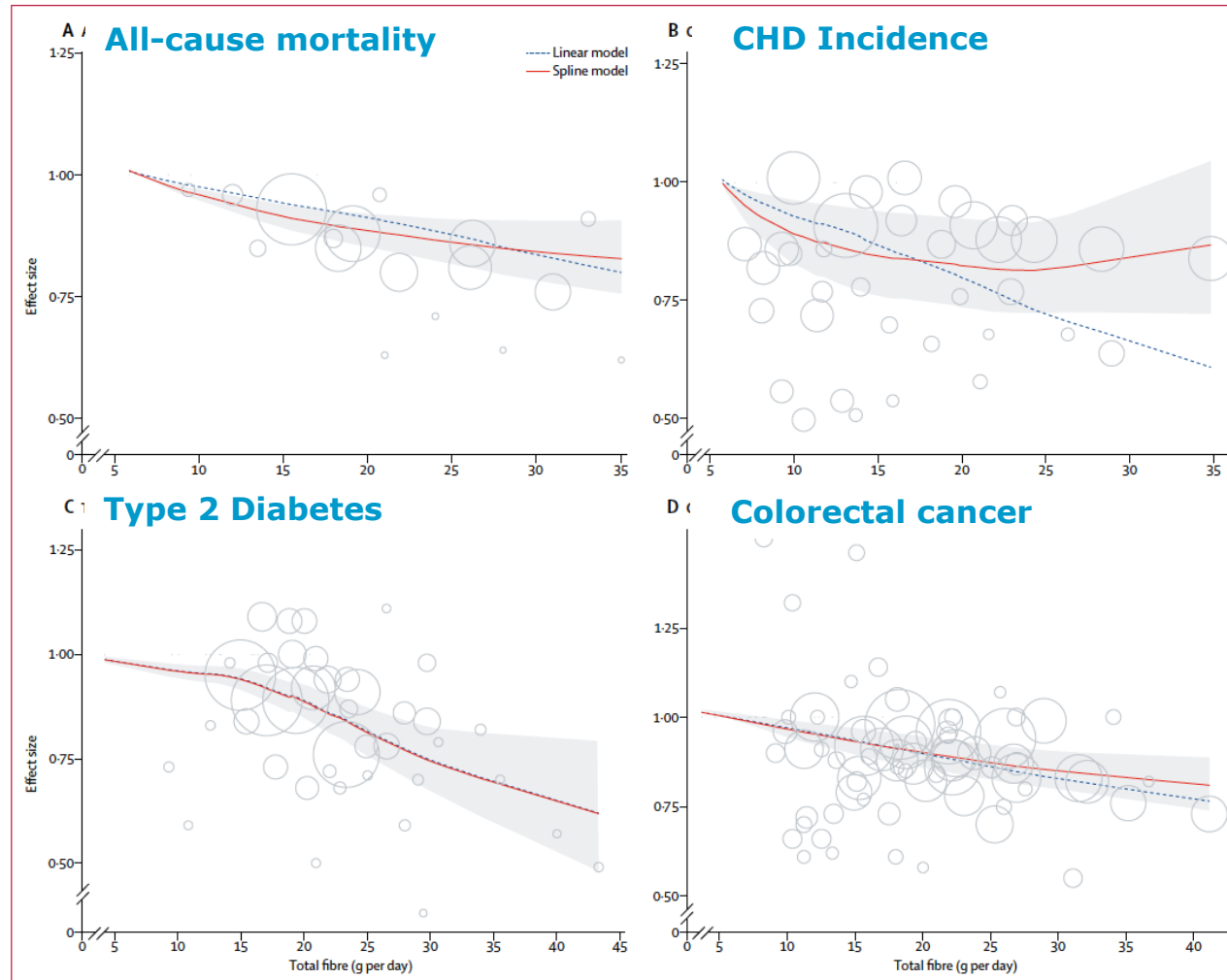
Decaffeinated	11	0.89	0.85–0.93	0.75
Caffeinated	8	0.90	0.82–0.99	

# Chocolate and risk of chronic disease: a systematic review and dose response metanalysis

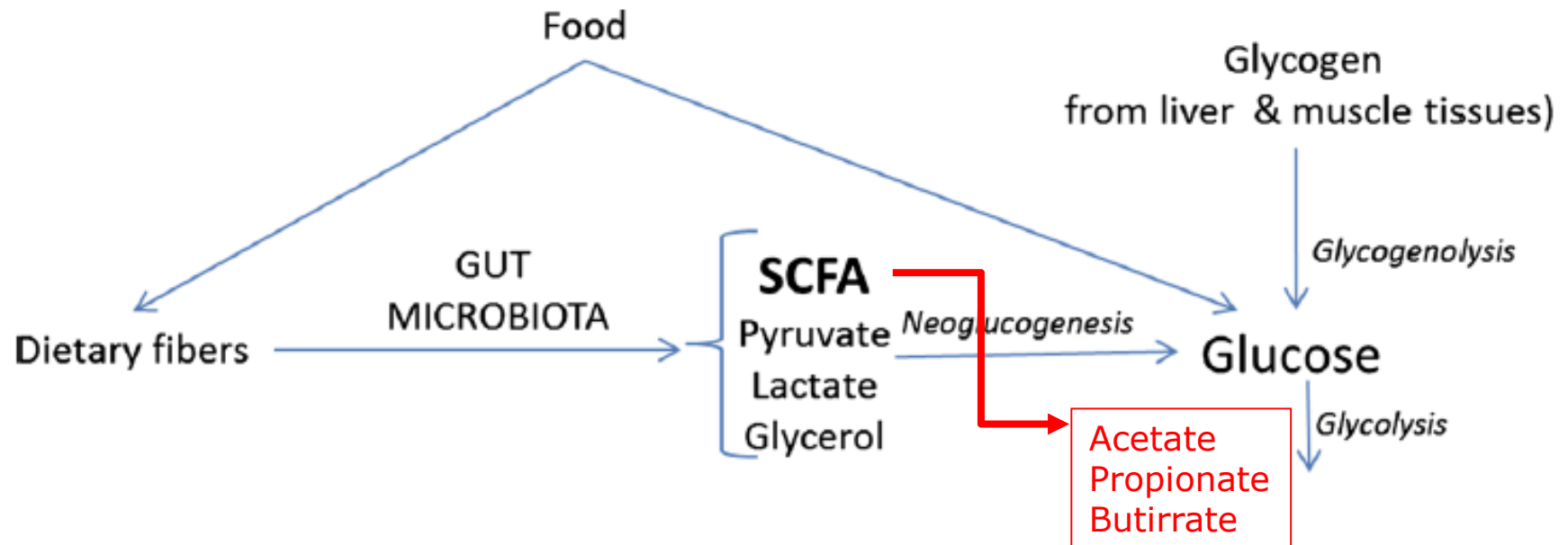


# Carbohydrate quality and human health: a series of systematic reviews and meta-analysis

## Fiber intake and clinical end-points - Prospective studies



# microbiota and fiber metabolism: SCFA and other energy sources

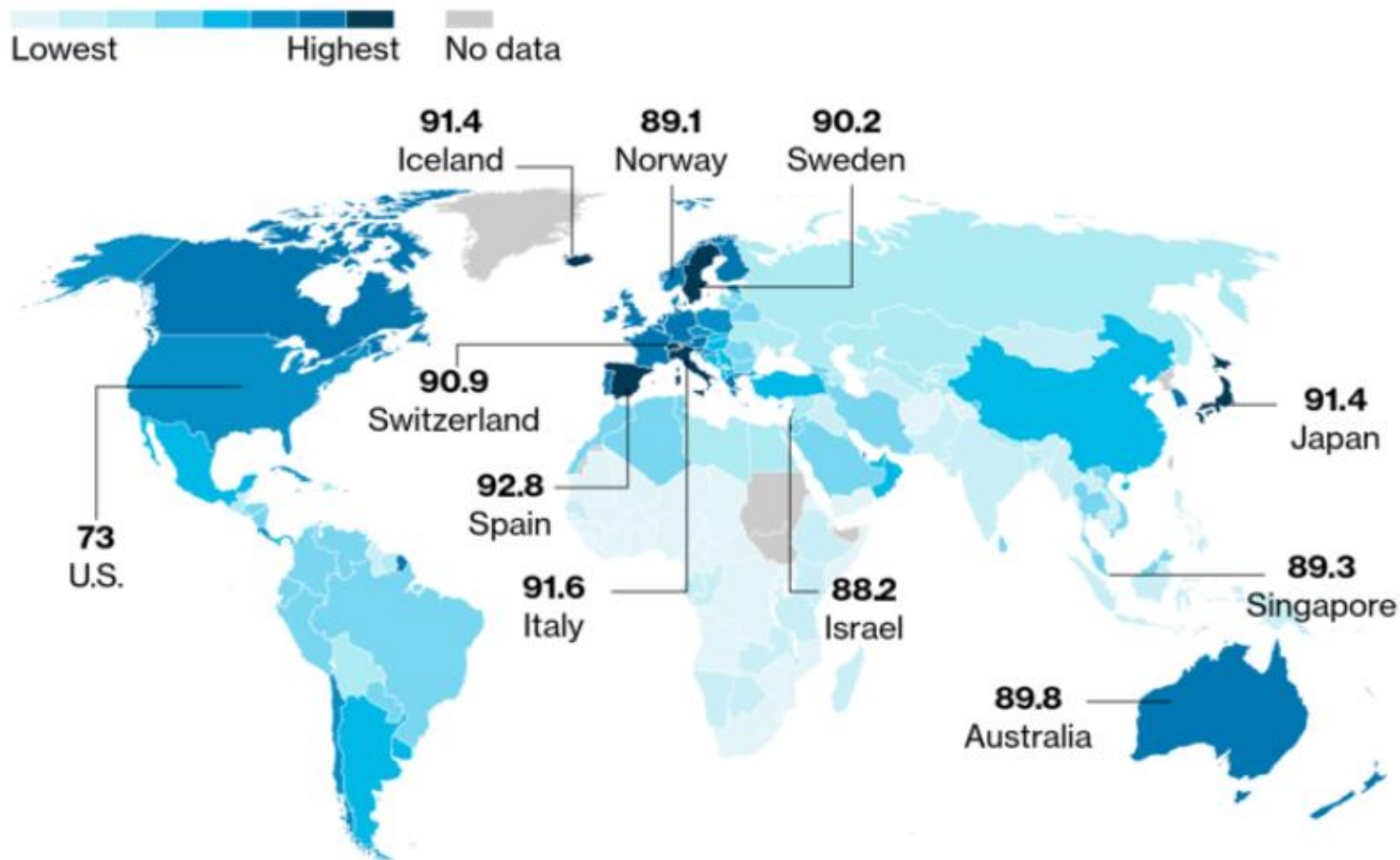




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# Global Health Index 2019: healthiest countries in the world



# The Mediterranean Diet: what it was

In their 1975 book, "How to Eat Well and Stay Well the Mediterranean Way", Ancel and Margaret Keys vividly described the Mediterranean Diet, southern Italian style:

"... a hearty dish of beans and short lengths of macaroni (pasta e fagioli); lots of bread ... never served with any kind of spread; great quantities of fresh vegetables; a modest portion of meat or fish perhaps twice a week; wine ...; always fresh fruits for dessert ... for the possible prevention of coronary heart disease it would be hard to do better than imitate the diet of the common folk of Naples in the early 1950s."

# Mean daily food intake of men and women in Nicotera, Italy (1960, mean of three seasons)

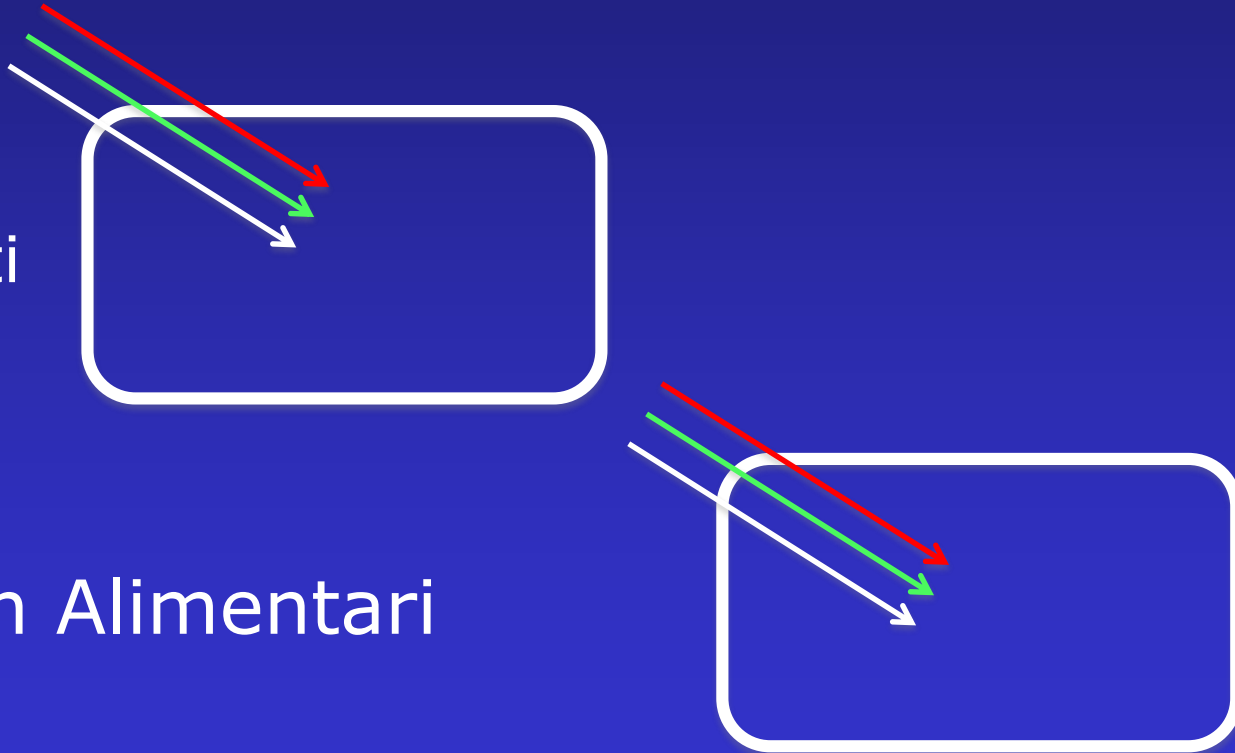
	Males			Females		
	13–19 years	20–59 years	>60 years	13–19 years	20–59 years	>60 years
<i>n</i>	37	107	14	45	115	10
Cereals	538	488	452	319	348	241
Vegetables	286	344	401	236	274	177
Legumes	55	49	62	32	36	13
Fruit	70	101	70	80	76	100
Fish	25	42	34	20	30	43
Edible fats	38	46	52	30	36	27
Meat	34	53	27	26	29	35
Eggs	11	20	11	12	11	7
Cheese	13	15	33	9	12	16
Milk (ml)	45	33	24	15	37	24
Sugar products	26	24	28	20	19	14
Wine (ml)	88	293	216	35	52	31

# Nutrienti, Alimenti o Pattern alimentari complessi?

Nutrienti

Alimenti

Pattern Alimentari

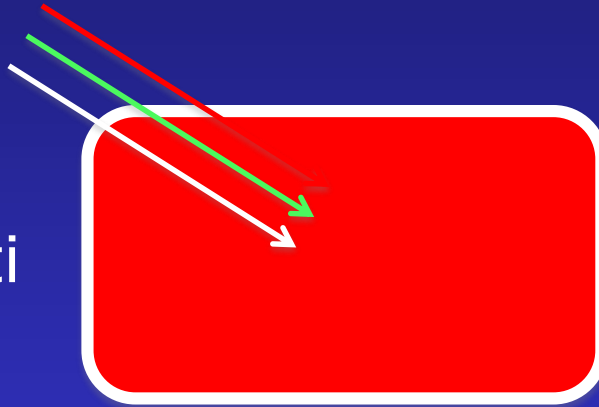


# Nutrienti, Alimenti o Pattern alimentari complessi?

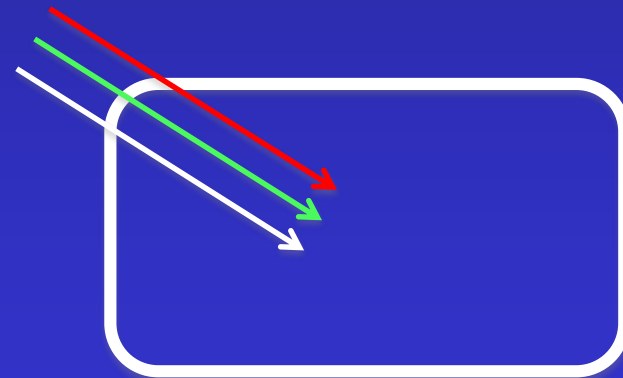
Nutrienti

Alimenti

Pattern Alimentari



Se un alimento è sfavorevole,  
può avere effetti opposti, e "trasformare"  
un nutriente ad effetto neutro in  
sfavorevole

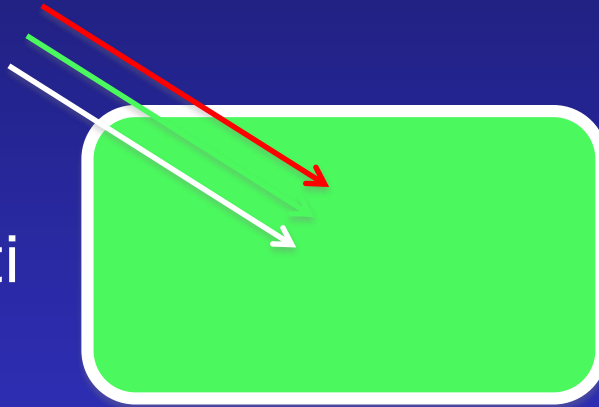


# Nutrienti, Alimenti o Pattern alimentari complessi?

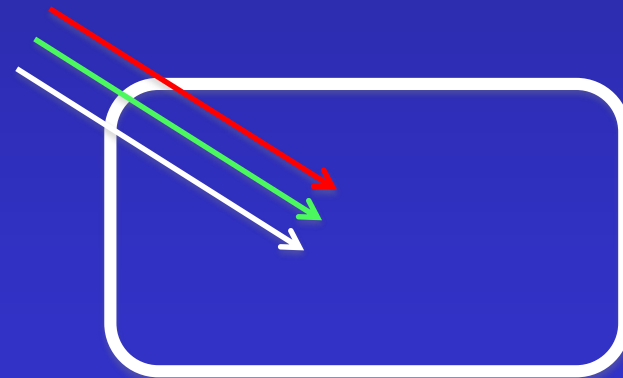
Nutrienti

Alimenti

Pattern Alimentari



Se un alimento è protettivo,  
può “tollerare” nutrienti ad effetto non  
favorevole, e “trasformare” un nutriente  
ad effetto neutro in favorevole



# Il caso dell'olio di Oliva

- L'olio di oliva extravergine ha effetti positivi in tutti gli studi condotti (incluso il Predimed, un RCT)
- Il confronto tra gli effetti di EVOO ed OO suggerisce il prevalente effetto dei polifenoli ...



# Il caso dell'olio di Oliva

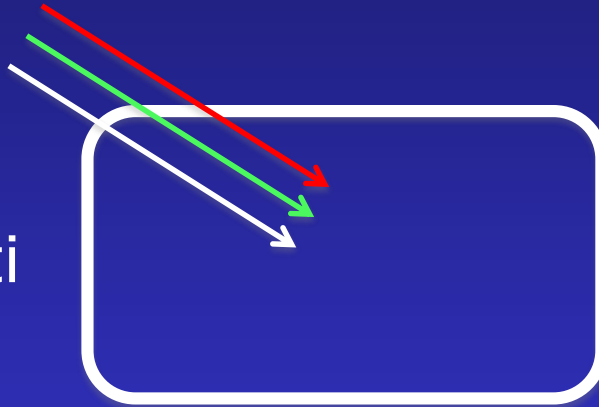
- L'olio di oliva extravergine ha effetti positivi in tutti gli studi condotti (incluso il Predimed, un RCT)
- Il confronto tra gli effetti di EVOO ed OO suggerisce il prevalente effetto dei polifenoli ...
- ... ma il loro effetto favorevole si "trasferisce" concettualmente anche ai monoinsaturi ...
- ... che pure negli studi USA (dove i monoinsaturi derivano dalle carni, specie di pollo) non si osservano.

# Nutrienti, Alimenti o Pattern alimentari complessi?

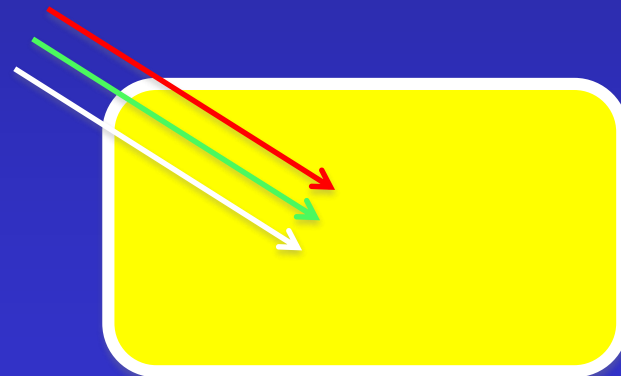
Nutrienti

Alimenti

Pattern Alimentari



Se un pattern è protettivo, può “tollerare” nutrienti ad effetto non favorevole, e “trasformare” un nutriente ad effetto neutro in favorevole



The Mediterranean diet includes foodstuffs derived from animal and plant species that originated in different regions of the world.



Echeverrià et al. Mediterranean Identities — Environment, Society, Culture. IntechOpen, 2017

# Mediterranean Diet Pyramid: a lifestyle for today

Guidelines for Adult population

Serving size based on frugality  
and local habits



Wine in moderation  
and respecting social beliefs



© 2010 Fundación Dieta Mediterránea  
The use and promotion of this pyramid is recommended without any restriction



Fundación  
Dieta Mediterránea

ICAF

International Commission on the  
Anthropology of Food and Nutrition



FORUM ON  
MEDITERRANEAN  
FOOD CULTURES

*Predimed*  
Prevención con Dieta Mediterránea



fens  
Federation of  
European  
Nutrition  
Societies

# ***Alcuni aspetti che approfondiremo oggi:***

- ❑ La globalizzazione dell'epidemiologia (non siamo *Nurses statunitensi*)
- ❑ La globalizzazione delle carenze nutrizionali (la *positive nutrition* che non c'è)
- ❑ La globalizzazione dei consumi e dei modelli alimentari (*Med diet* sempre e comunque?)
- ❑ La globalizzazione (omologazione) dei messaggi al pubblico (scienza o ideologia dietro OMS & friends?)

# Il Working document elaborato dal WHO e posto in consultazione pubblica

Draft guidelines on free sugars released for public consultation, 5 March 2014

## Guideline: Sugars intake for adults and children

### **Recommendations**

- WHO recommends reduced intake of free sugars throughout the life-course (*strong recommendation*<sup>1</sup>).
- In both adults and children, WHO recommends that intake of free sugars not exceed 10% of total energy<sup>2</sup> (*strong recommendation*).
- WHO suggests further reduction to below 5% of total energy (*conditional recommendation*<sup>3</sup>).

<sup>1</sup> With **strong recommendations**, the guideline communicates the message that the desirable effects of adherence to the recommendation outweigh the undesirable effects. This means that, in most situations, the recommendation can be adopted as policy (1).

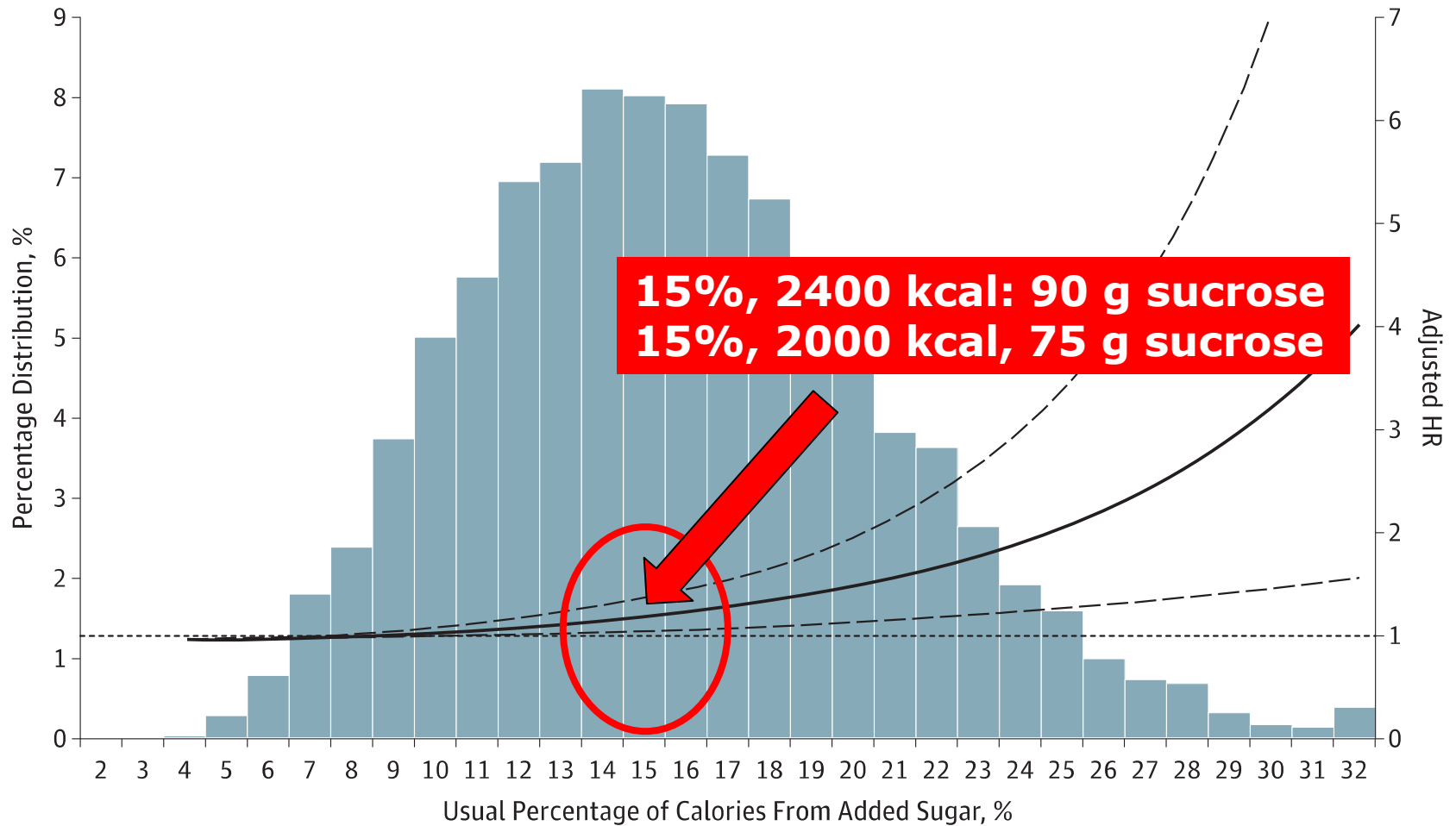
<sup>2</sup> Total energy intake is the sum of all daily calories or kilojoules consumed from food and drink. Energy comes from macronutrients, such as fat (9 kcal or 37.7 kJ per gram), carbohydrate (4 kcal or 16.7 kJ per gram) including total sugars (free sugars + intrinsic sugars + milk sugars) and dietary fibre, protein (4 kcal or 16.7 kJ per gram) and ethanol (i.e. alcohol) (7 kcal or 29.3 kJ per gram). Total energy intake is calculated by multiplying these energy factors by the number of grams of each type of food and drink consumed, and then adding all values together. A percentage of total energy intake is therefore a percentage of total calories or kilojoules consumed per day.

<sup>3</sup> **Conditional recommendations** are made when there is greater uncertainty about the four factors (i.e. quality of evidence, balance of benefits versus harms and burdens, values and preferences, and resource use); or if local adaptation has to account for a greater variety in values and preferences; or when resource use makes the intervention suitable for some locations but not others. This means that there is a need for substantial debate and involvement of stakeholders before this recommendation can be adopted as policy (1).

## Remarks

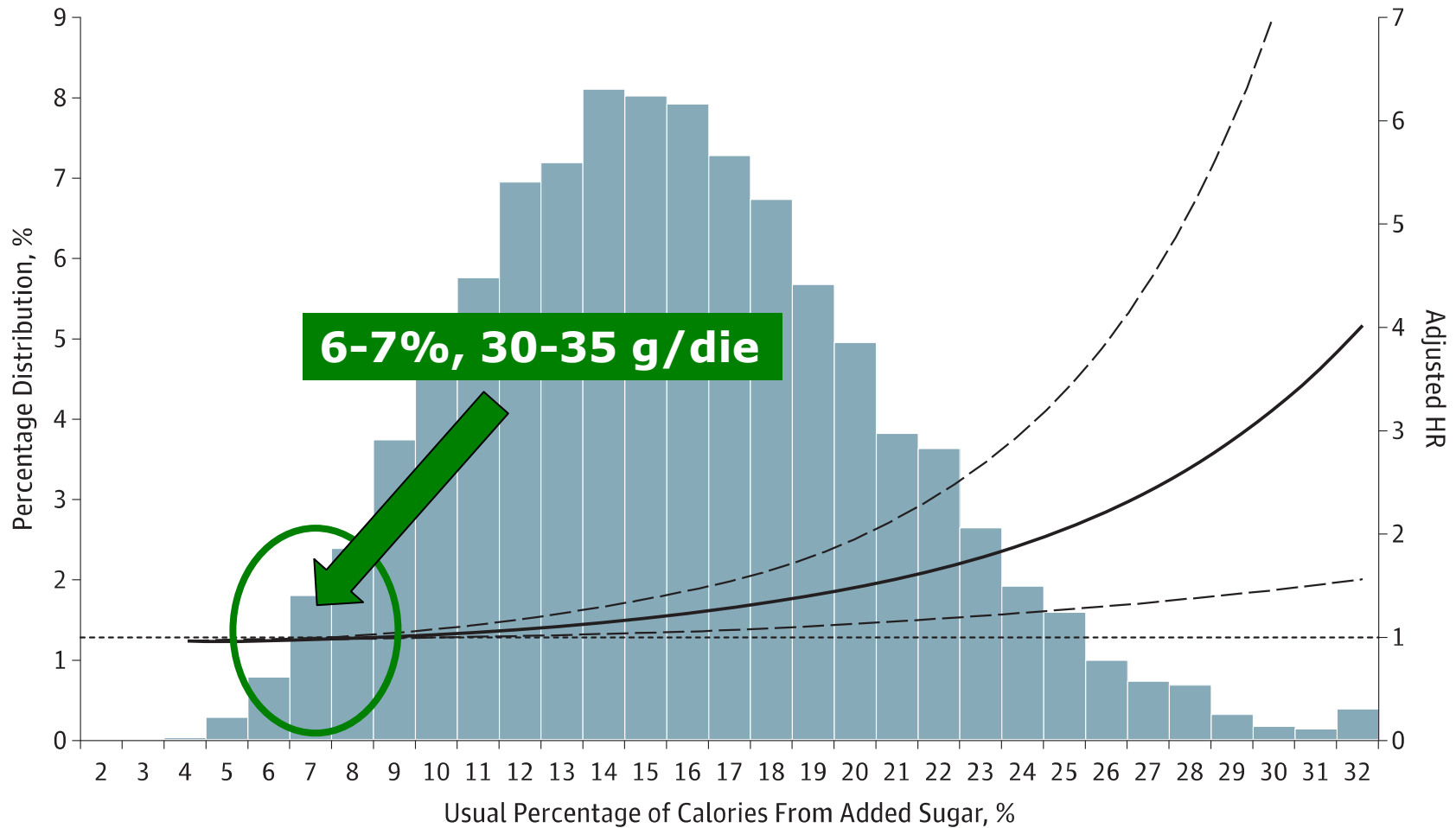
- Increasing or decreasing dietary sugars is associated with parallel changes in body weight, and the relationship is present regardless of the level of intake of free sugars. The excess body weight associated with free sugars intake results from excess energy intake.
- The recommendation to limit free sugars intake to less than 10% of total energy is based on observational studies that use dental caries as an outcome.
- The recommendation to further limit free sugars intake to less than 5% of total energy is based on ecological studies in which a linear relationship between sugars intake and dental caries was observed.
- The recommendation to further limit free sugars intake to less than 5% of total energy is further based on the recognition that dental caries tracks from childhood to adulthood (16); in order to minimize lifelong risk of dental caries, the consumption of free sugars should be as low as possible.
- There is no harm associated with reducing the intake of free sugars to less than 5% of total energy, particularly when considering the risk of dental caries throughout the life-course.
- Although exposure to fluoride reduces dental caries at a given age and delays the onset of the cavitation process (16, 17), it does not completely prevent dental caries. Dental caries still progresses in populations exposed to fluoride (18-20).

# Added Sugar Intake and Cardiovascular Diseases Mortality Among US Adults

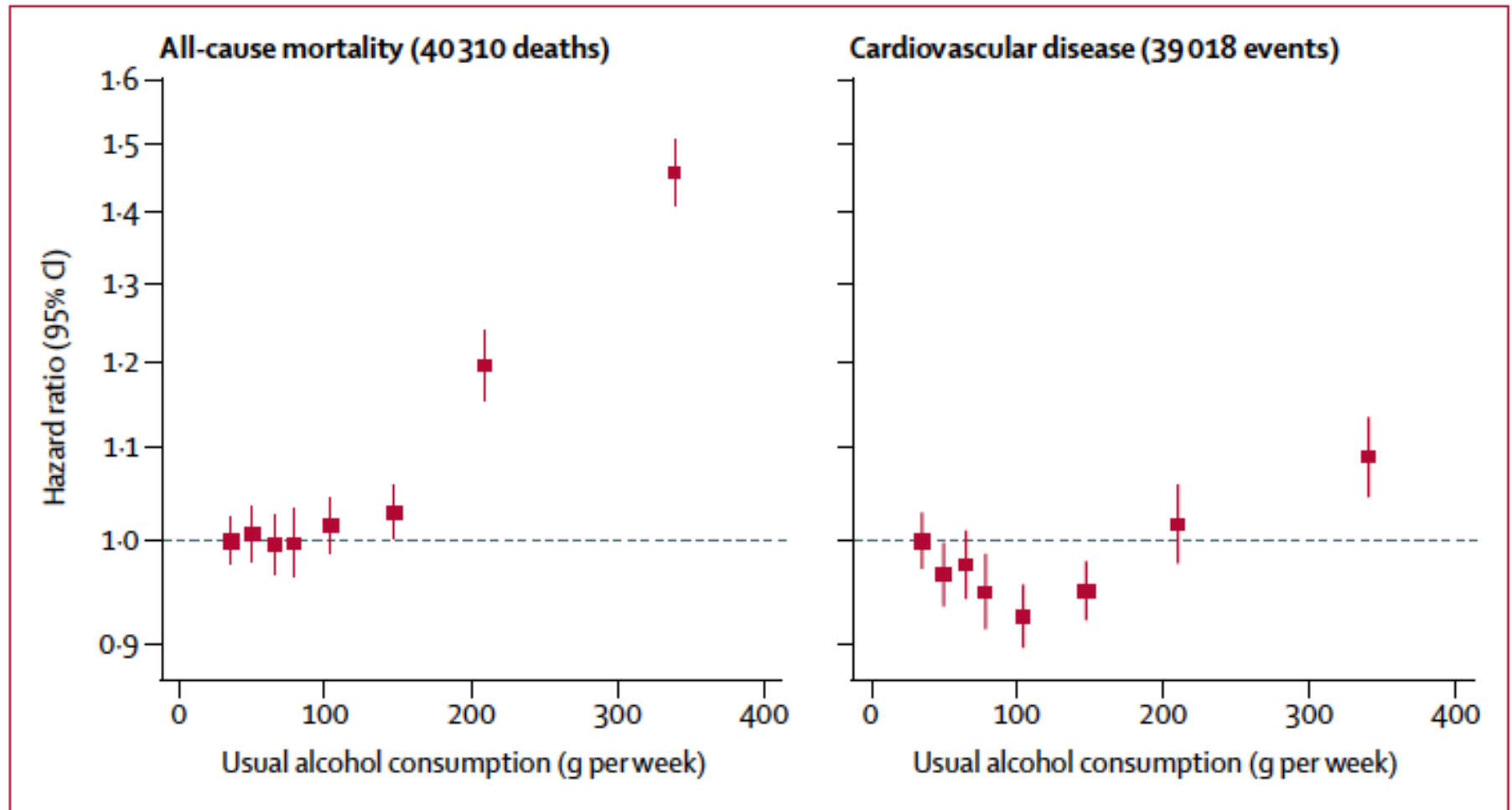




# Added Sugar Intake and Cardiovascular Diseases Mortality Among US Adults



# Risk thresholds for alcohol consumption: combined analysis of individual-participant data for 599 912 current drinkers in 83 prospective studies



# Risk thresholds for alcohol consumption: combined analysis of individual-participant data for 599 912 current drinkers in 83 prospective studies

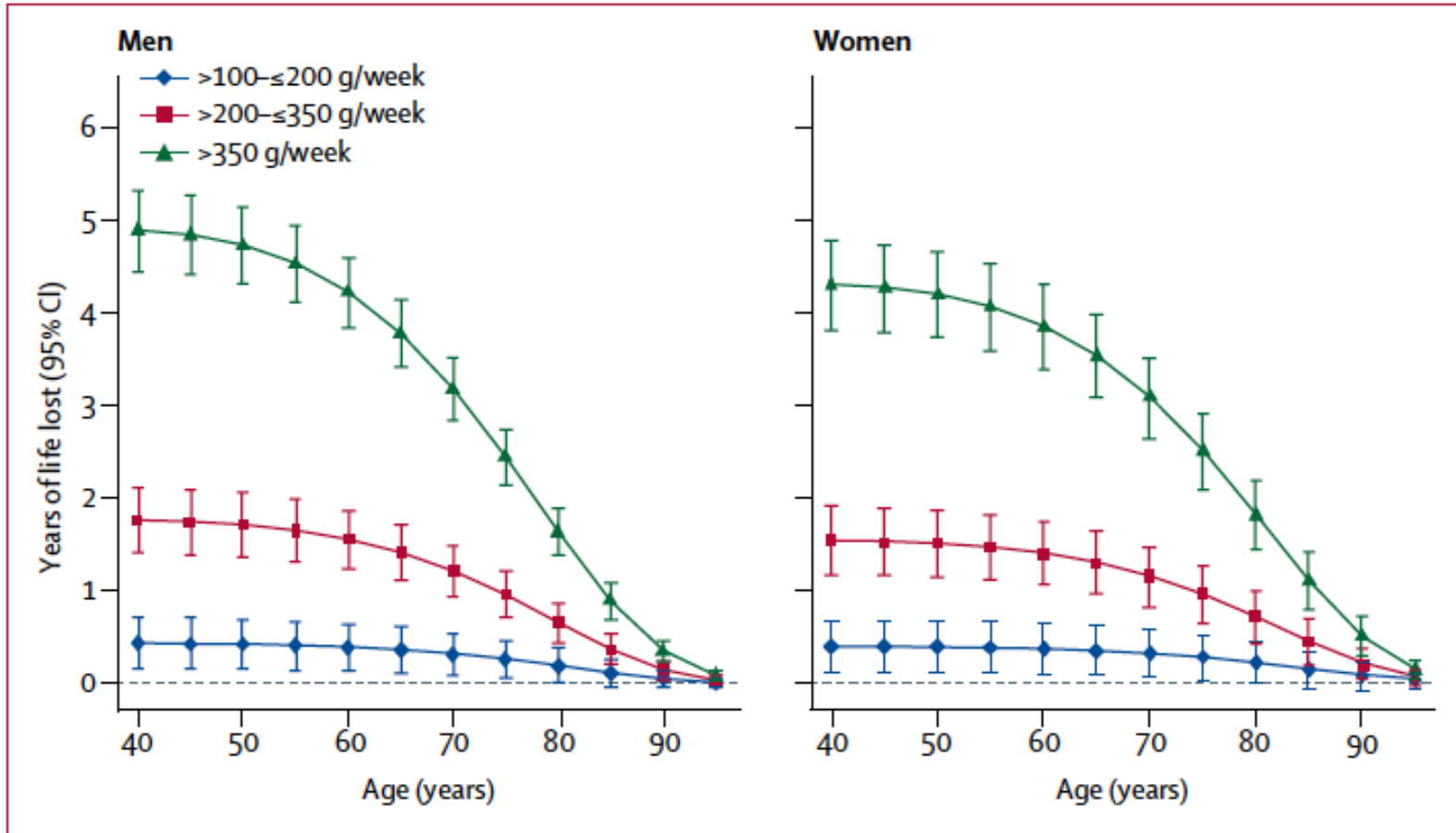


Figure 4: Estimated future years of life lost by extent of reported baseline alcohol consumption compared with those who reported consuming  $>0\text{--}\leq 100$  g per week

# Non esiste un livello sicuro di alcol Solo il consumo zero non è pericoloso

Un ampio studio pubblicato su Lancet afferma che l'effetto protettivo su malattie cardiache è superato da altri rischi per la salute. Nel 2016 quasi 3 milioni di morti per l'alcol **i ricercatori: «I due bicchieri al giorno sono solo un mito»**



Thresholds for safer alcohol use might need lowering

## "L'alcol accorcia la vita, 4 anni in meno con 18 bicchieri a settimana"

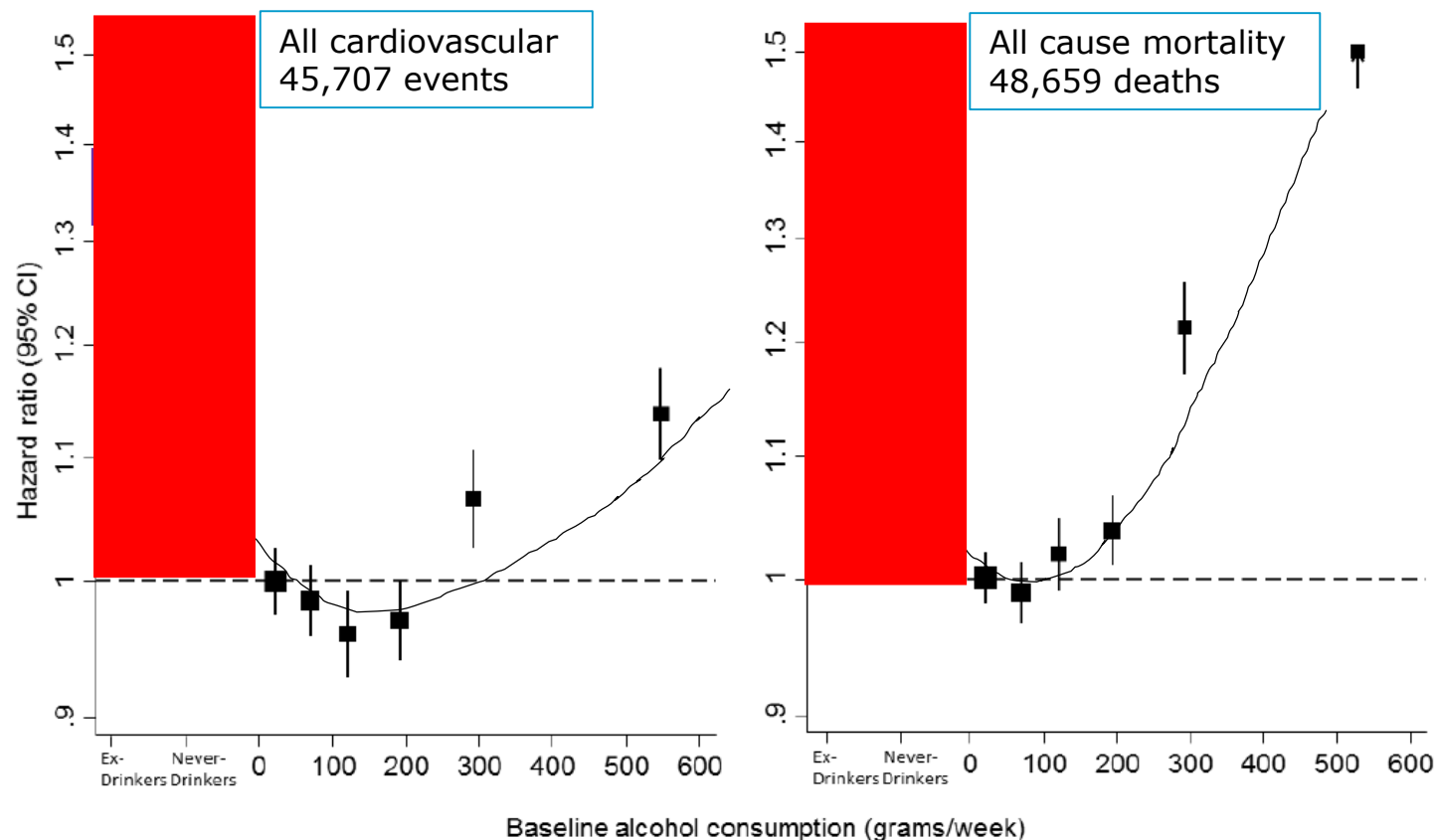
[ANSA.it](#) · [Salute&Benessere](#) · [Alimentazione](#) · [Alcol, con oltre 5-6 bicchieri a settimana sale rischio morte](#)

*Lo rivela un  
conclusioni  
abbassati"*

### Alcol, con oltre 5-6 bicchieri a settimana sale rischio morte

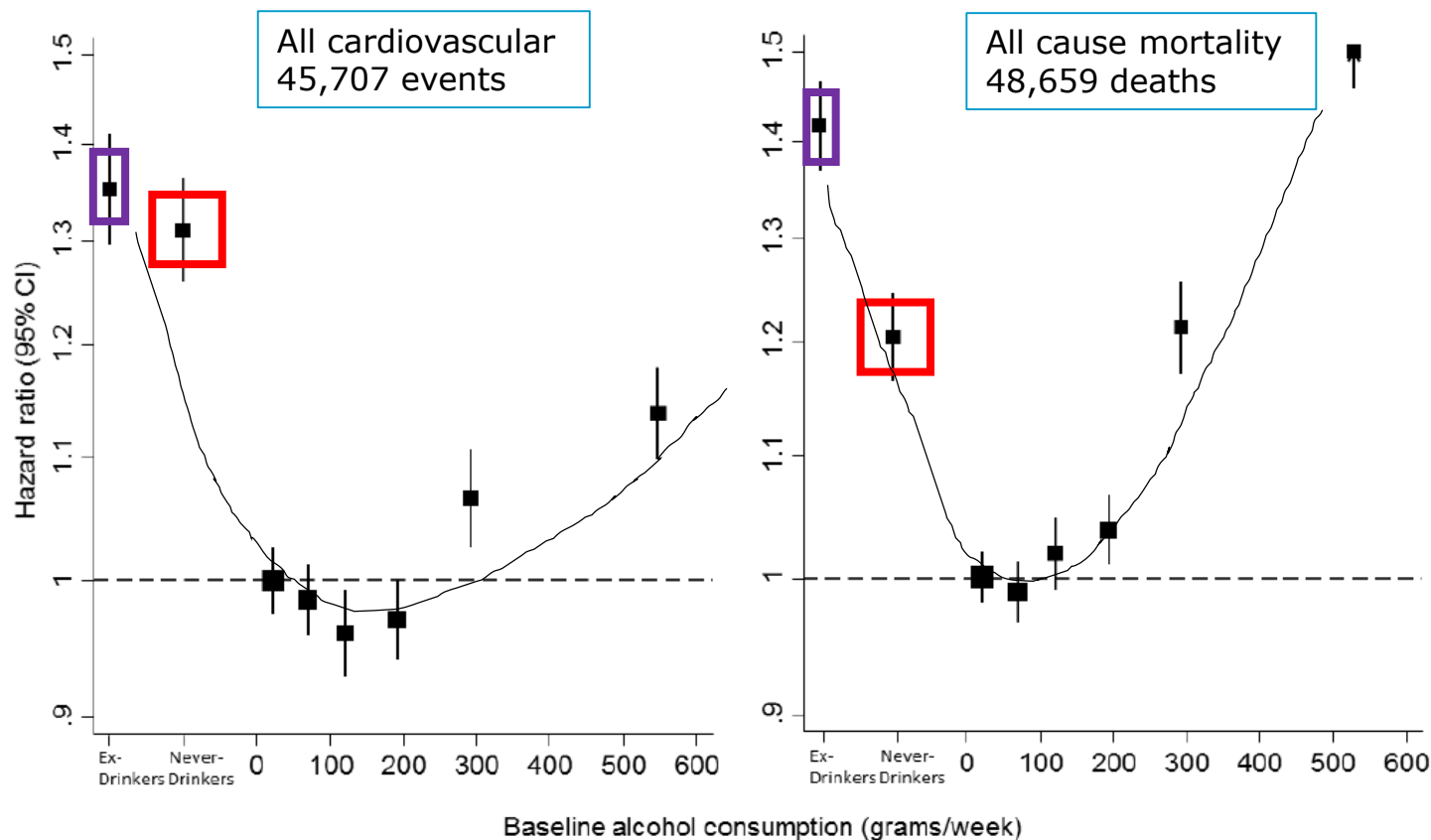
Quantità inferiore ai limiti attualmente raccomandati

# Shape of the association between baseline alcohol consumption, including ex- and non-drinkers with cardiovascular disease and all cause mortality



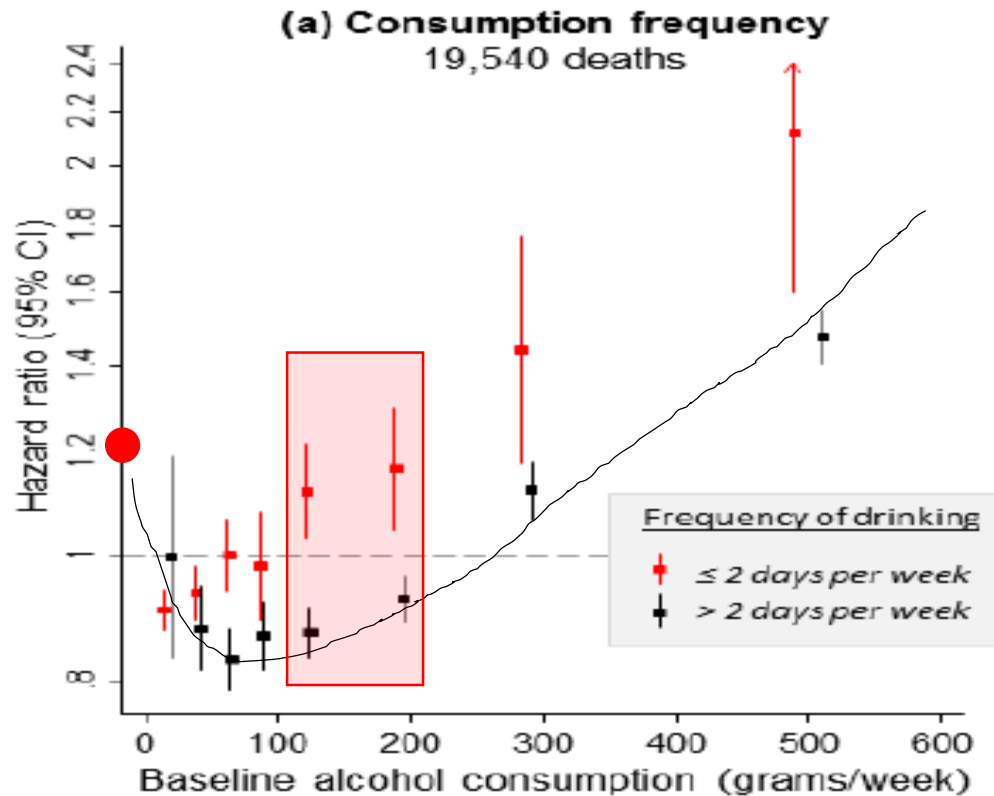
Adjusted for age, smoking and history of diabetes, and stratified by sex and EPIC centre. Alcohol consumption categories amongst current drinkers were >0-≤50 grams/week, >50-≤100 grams/week, >100-≤150 grams/week, >150-≤250 grams/week, >250-≤350 grams/week and >350 grams/week. The reference category is the lowest baseline alcohol consumption category (>0 and ≤50g/week). Studies with fewer than five events of any outcome were excluded from the analysis of that outcome. The sizes of the boxes are proportional to the inverse of the variance of the log-transformed hazard ratios. Vertical lines represent 95% CIs. Individuals for whom we were unable to distinguish as ex- or never- drinkers were excluded from the analysis.

# Shape of the association between baseline alcohol consumption, including ex- and non-drinkers with cardiovascular disease and all cause mortality



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# Shape of the association between baseline alcohol consumption, with all cause mortality considering drinking frequency



Se il consumo è suddiviso in più di 2 dosi settimanali la mortalità è ridotta fino a 250 g/settimana

# Alcohol use and burden for 195 countries and territories, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016

DALYS  
Mix mondiale  
TBC  
CHD, Diabete

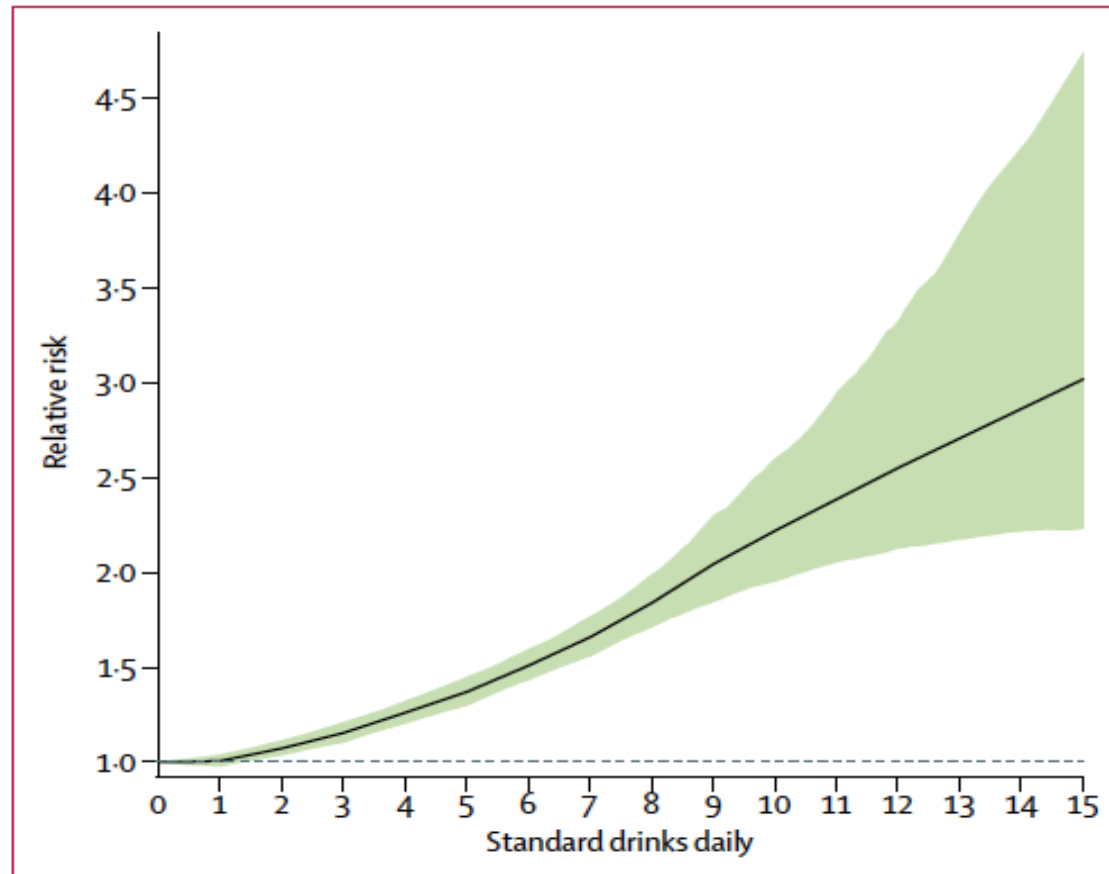


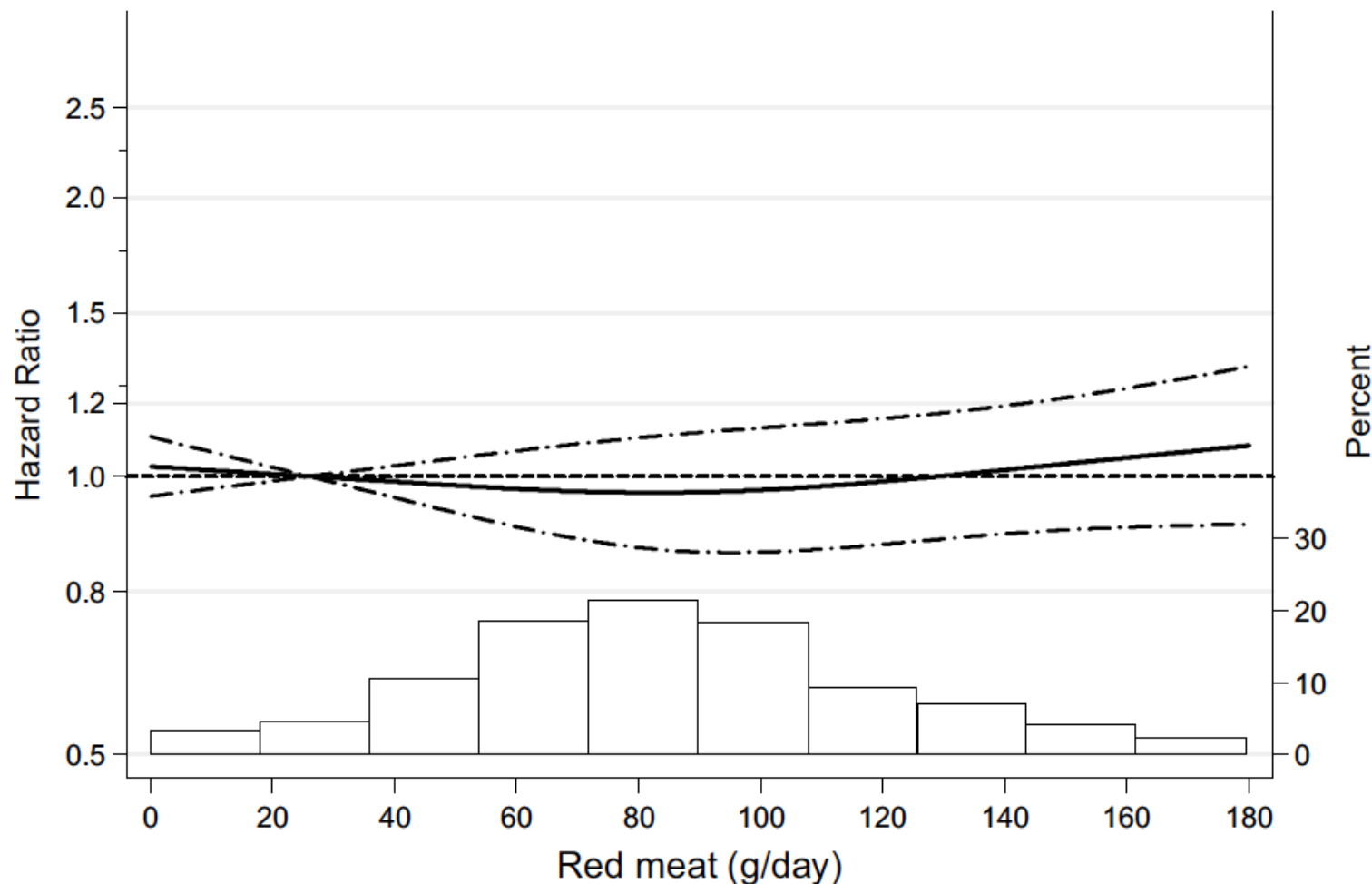
Figure 5: Weighted relative risk of alcohol for all attributable causes, by standard drinks consumed per day



# **Carni rosse e trasformate: un problema reale**

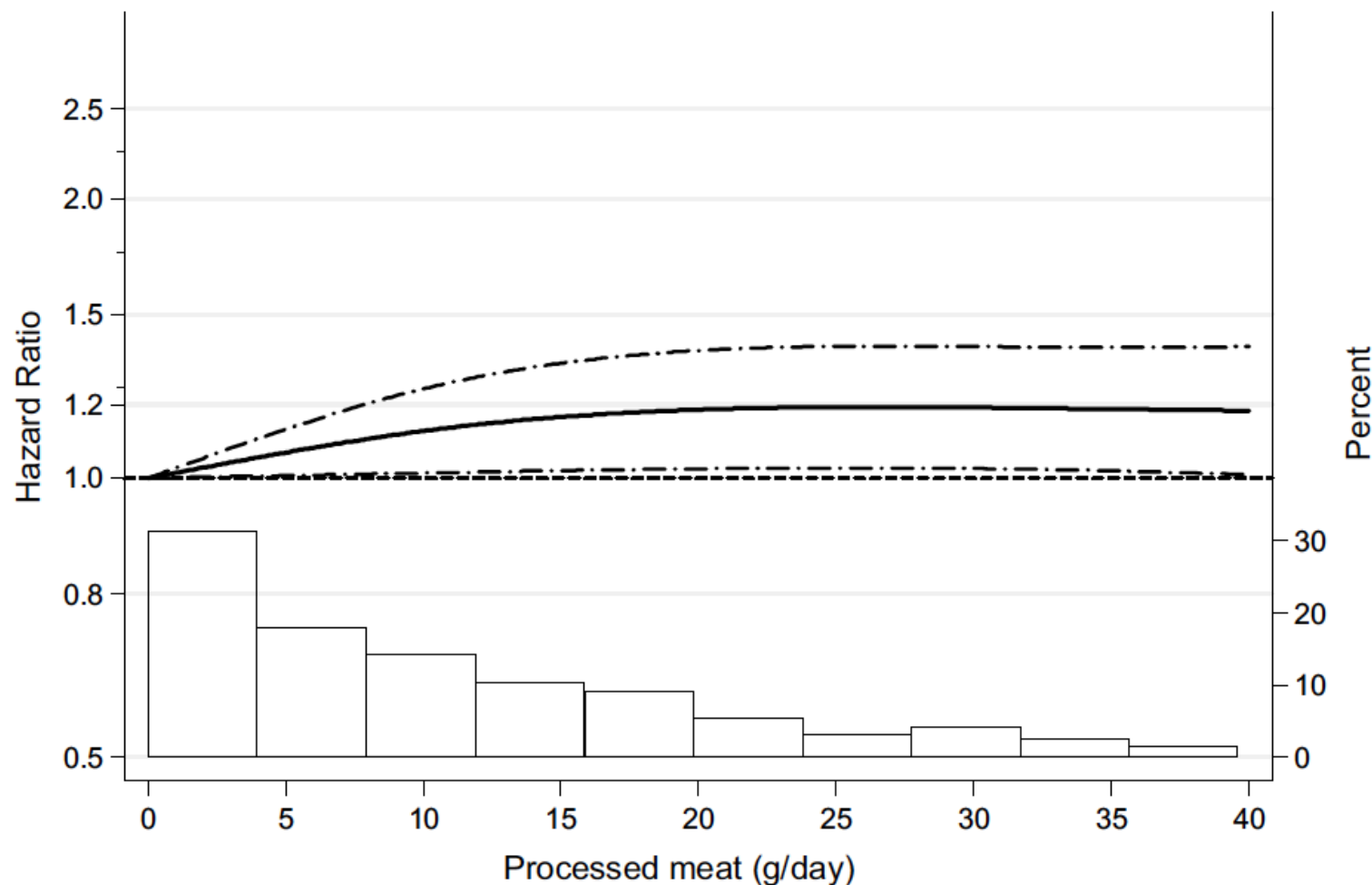
... ma nutrizionale o eco-ambientale?

# Red meat, processed meat, and other dietary protein sources and risk of mortality in The Netherlands Cohort Study



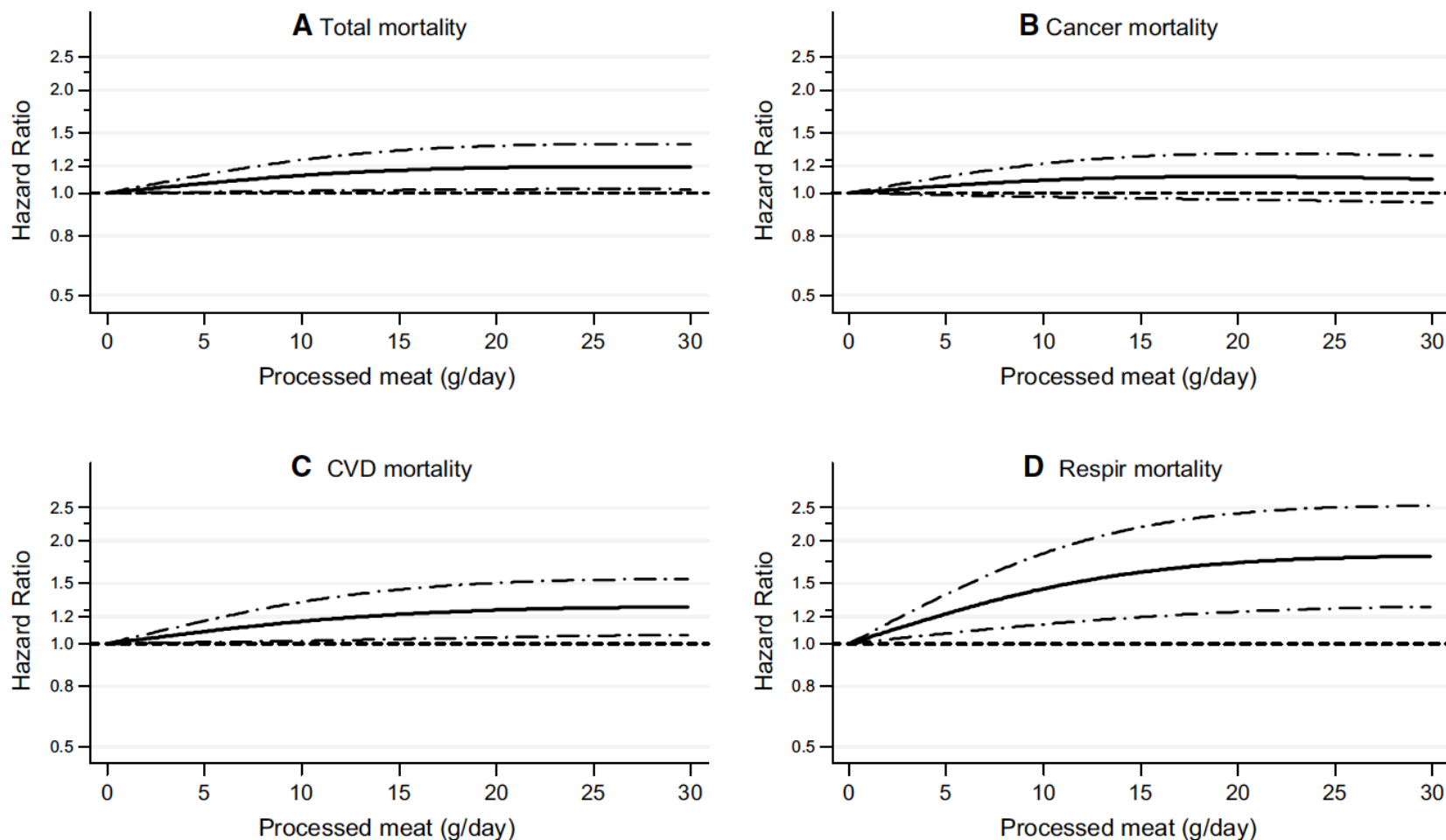
**120,852 men and women aged 55–69; 10 yrs follow-up**

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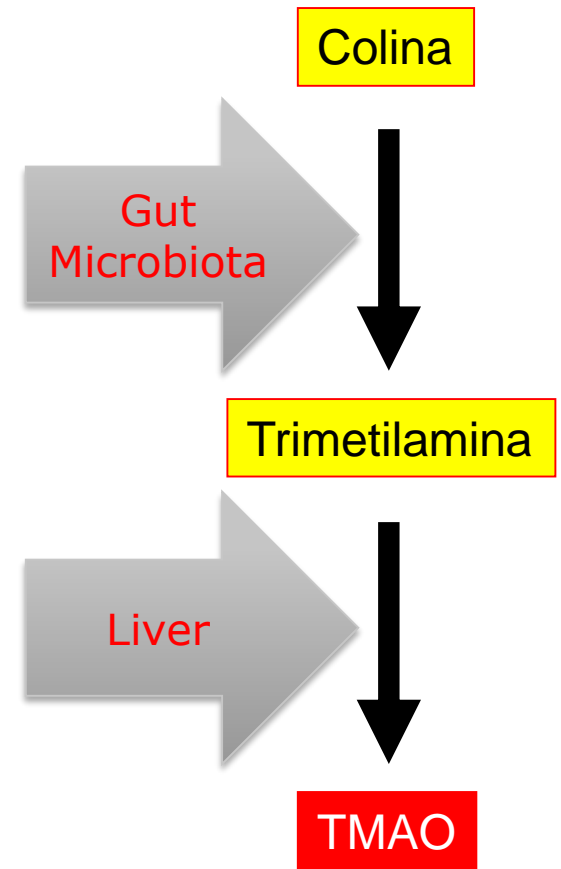
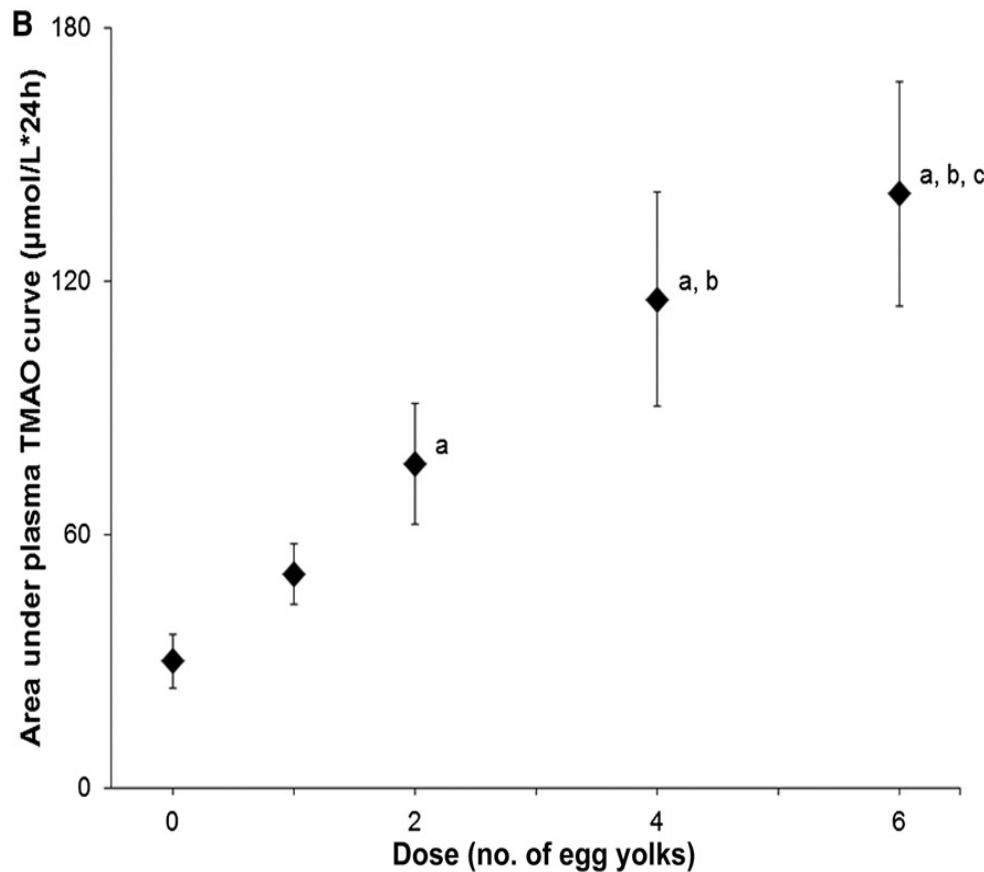
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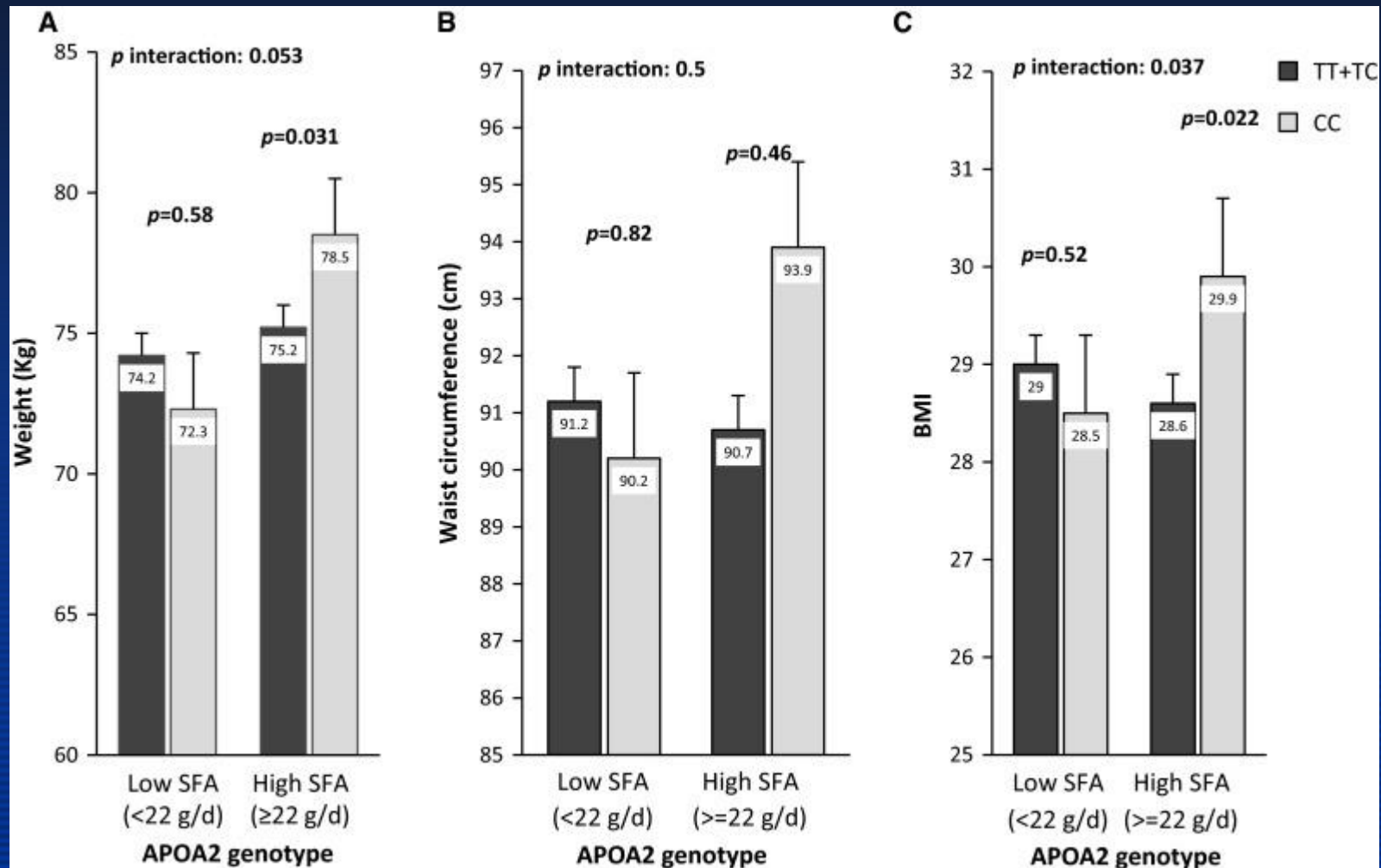
# Uova, colina, produzione di TMAO e aterogenesi



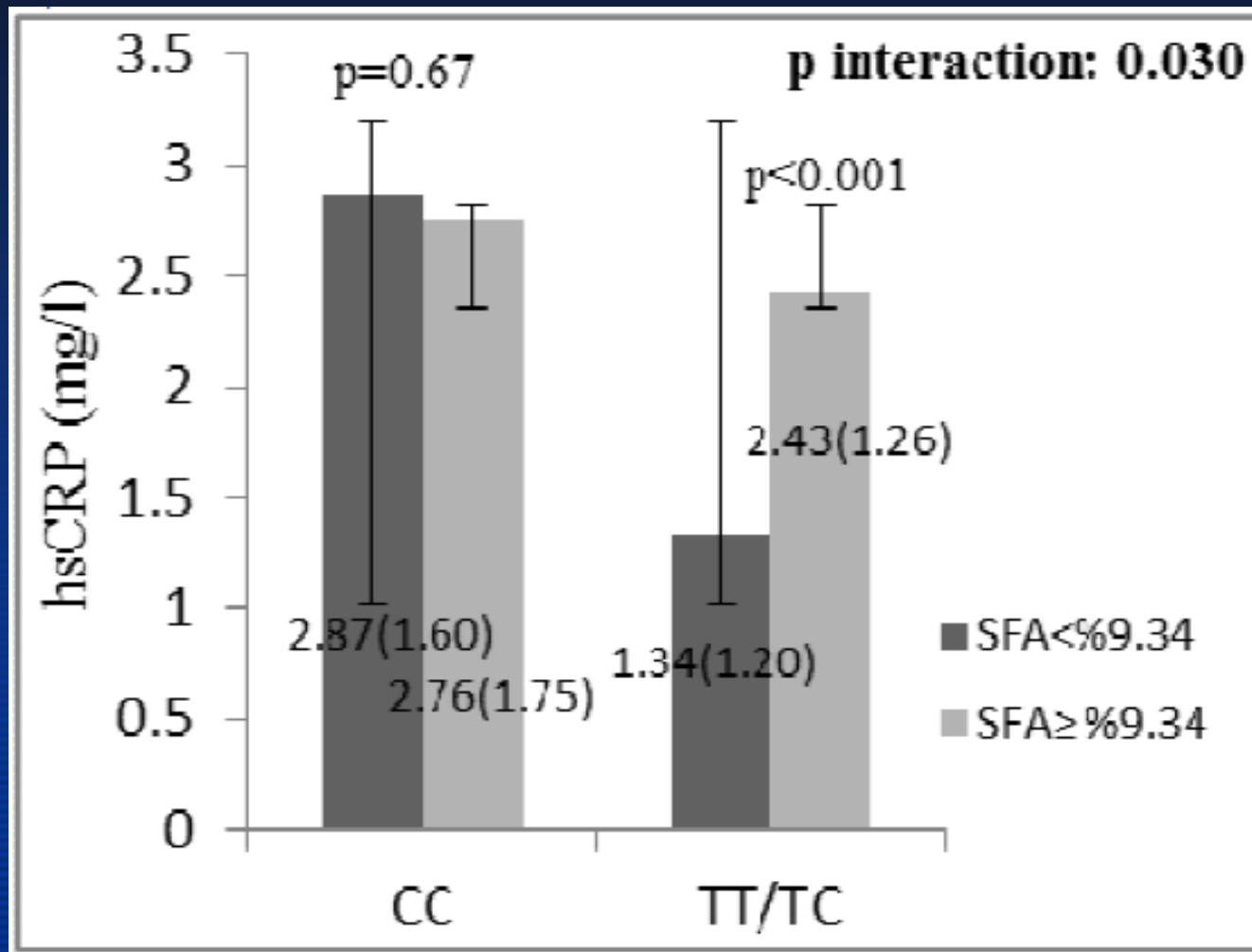
## **Il futuro?**

Nutrizione personalizzata su base genetica?

# APOA2 – 256T>C polymorphism and saturated FA intake: effect on BMI, waist, weight in type 2 diabetic patients



# **APOA2 –256T>C polymorphism and SFA intake: effect on CRP in type 2 diabetic patients**





# Possibili conclusioni:

- Non c'è una vera conclusione; la visione delle cose, in ambito nutrizionale, sta cambiando
- L'epidemiologia non sembra supportare in maniera chiara molte raccomandazioni tradizionali; ricordiamoci in ogni caso che viviamo in Italia
- Forse dovremmo preoccuparci più delle cose che non consumiamo a sufficienza, piuttosto di quelle che consumiamo in eccesso, ragionando più in termini di alimenti che di nutrienti
- I veri passi in avanti verranno probabilmente dalla genetica e dalla genomica



*'Qualcosa proprio non va - la nostra aria è pulita,  
la nostra acqua è pura, tutti noi facciamo molto esercizio fisico,  
tutto quello che mangiamo è biologico,  
eppure nessuno di noi vive più di trent'anni....'*

**[www.nutrition-foundation.it](http://www.nutrition-foundation.it)**