

# International Blueberry Day

August 1, 2021

**HEALTHY AND SUSTAINABLE  
EATING IS PLANT-BASED**

Mai-Lis Hellénus, professor, MD, Karolinska Institutet,  
Stockholm, Sweden. Advisor in lifestyle medicine, Swedish  
Heart Lung Foundation



**Sustainable Food Culture Exhibition  
Special Celebrations Program**

United Nations 2021 Year of Fruits and Vegetables  
Focus for 4 months

## Organizers

Gourmand World Cookbook Awards  
Hallbars Sustainability Research Institute  
[www.hallbars.org](http://www.hallbars.org)

# HEALTHY AND SUSTAINABLE EATING IS PLANT-BASED



- ✓ what can we learn from science about healthy and sustainable eating?
- ✓ blueberries and health
- ✓ today's eating habits

Mai-Lis Hellénus, MD, PhD, Professor  
Karolinska Institutet, Stockholm, Sweden





# HEALTHY AND SUSTAINABLE EATING IS PLANT-BASED

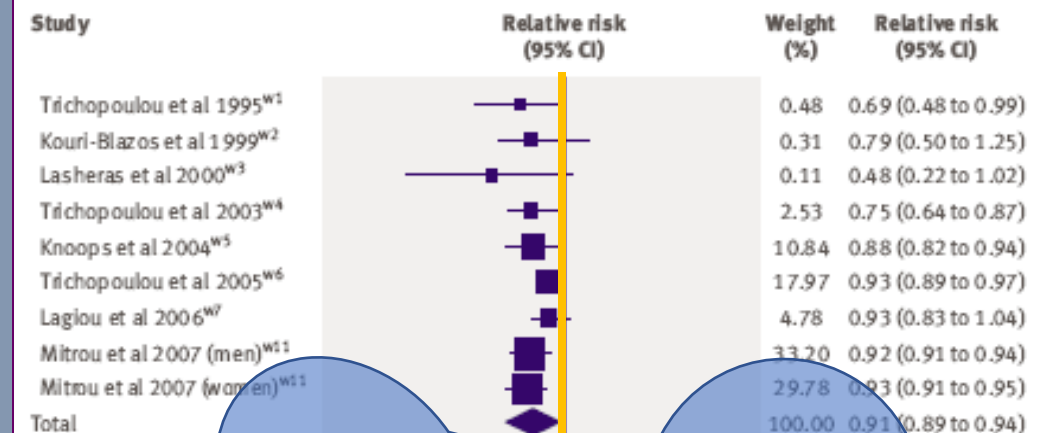


# Adherence to a healthy diet is associated with a healthier and longer life



Meta-analysis, 12 studies, 1 574 299 subjects.  
Follow-up 3–18 years.

**Overall mortality**  
in relation to adherence to Med Diet,  
a two point increase in adherence score

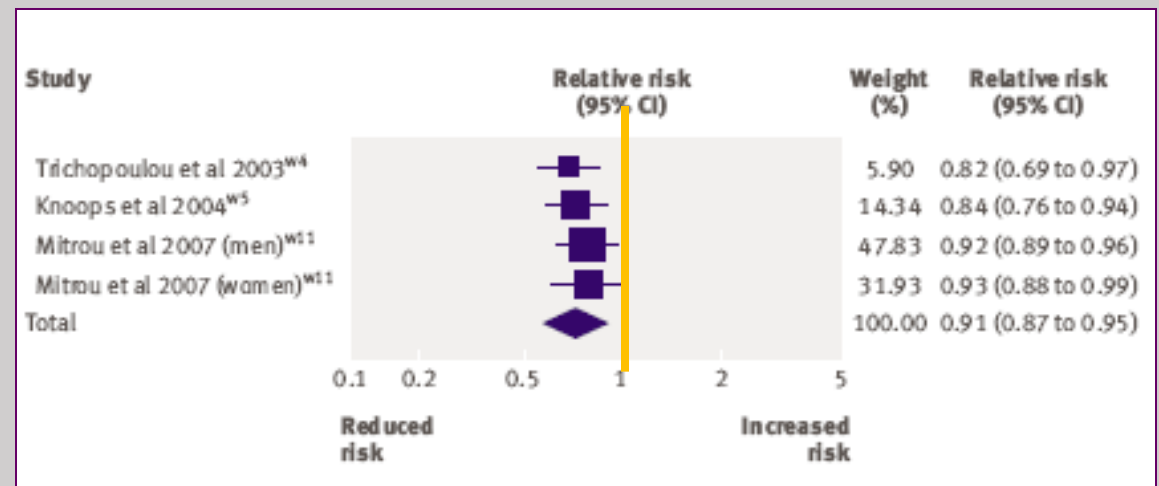


*Longer life*  
Reduced risk

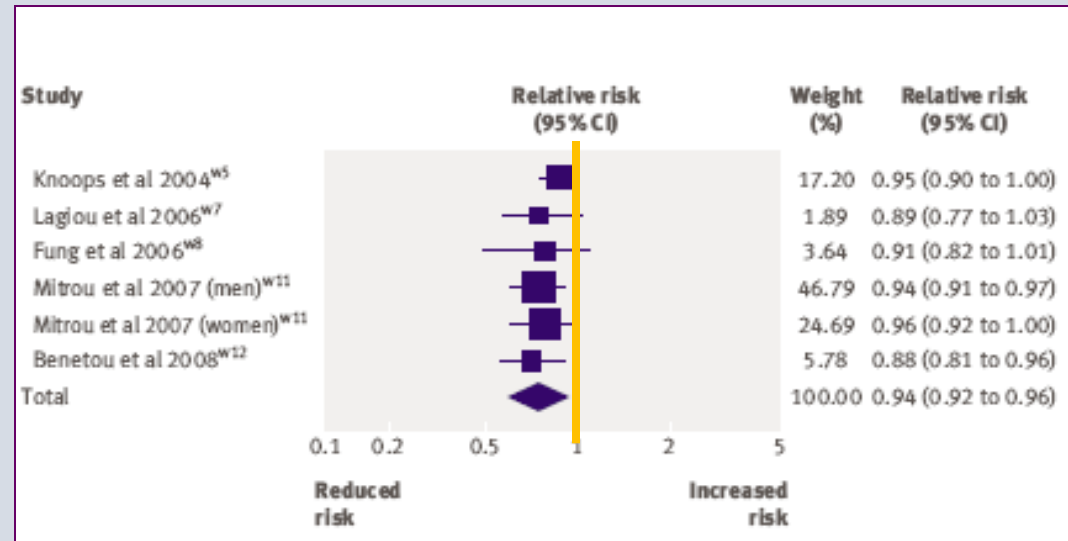
*Shorter life*  
Increased risk



# ...and lower risk of cardiovascular death

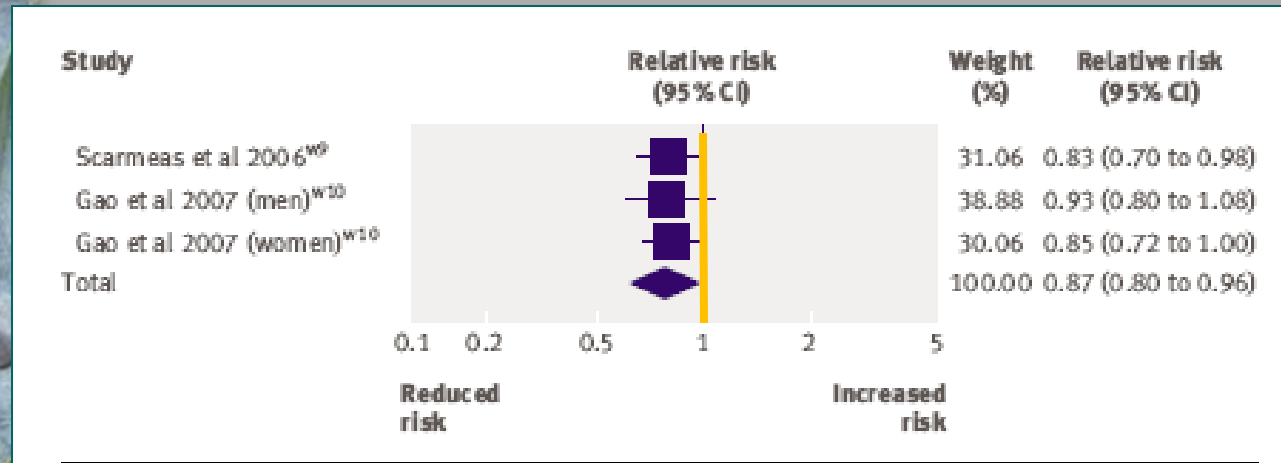


# ...and lower risk of cancer





# ...and lower risk of Parkinson's disease and Alzheimer's disease



Sofi F et al. BMJ 2008;337:1344 (e pub)



# A healthy dietary pattern and health

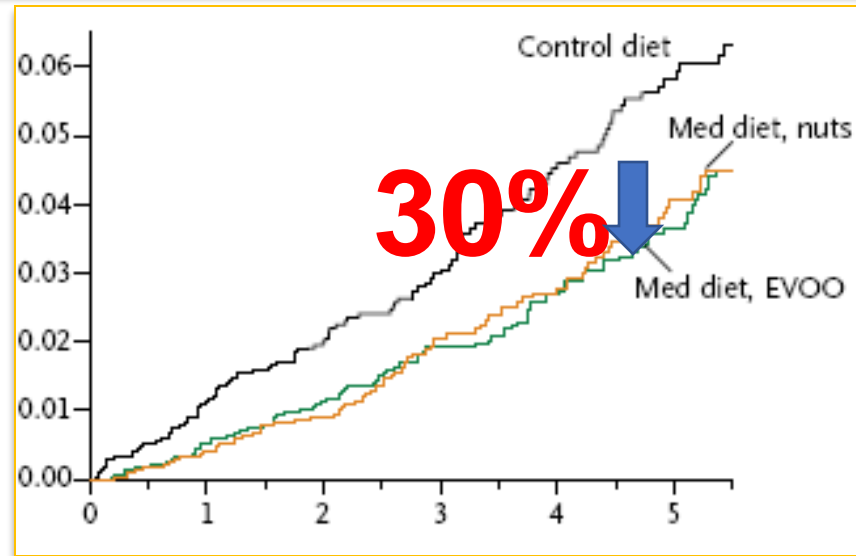
- ✓ meta-analysis
- ✓ 113 prospective studies
- ✓ 3.2 million participants

**DECREASED RISK OF**  
cardiovascular diseases  
cancer  
type 2 diabetes  
neurodegenerative diseases  
total death  
**After cancer decreased risk**  
cancer death  
total death

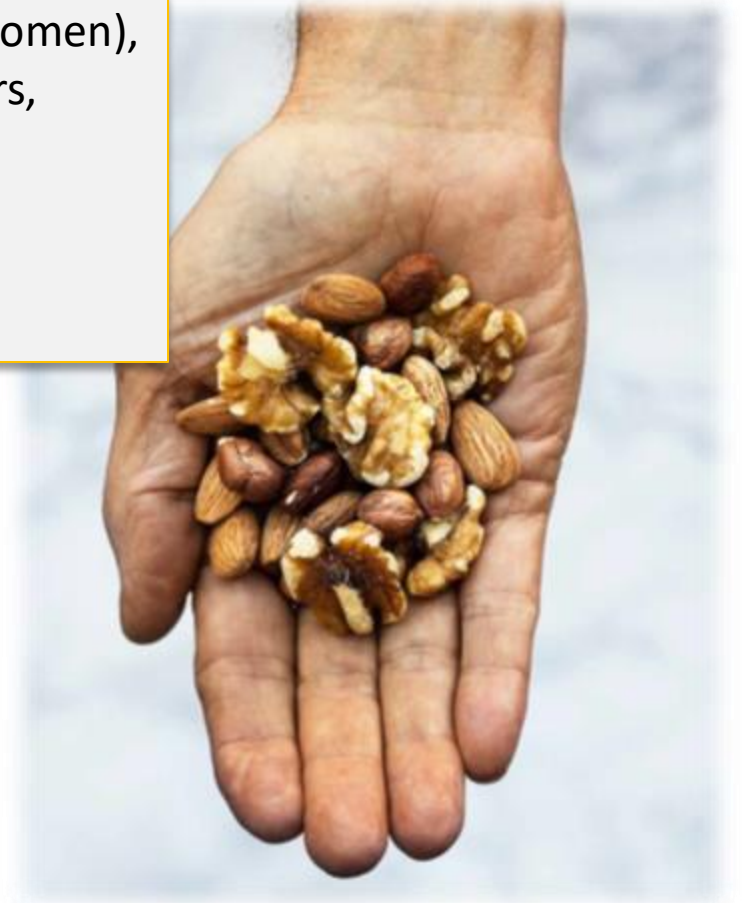


# PREDIMED - Mediterranean diet reduce the risk of cardiovascular disease

- ✓ 7447 Spanish men and women (55-80 years, 57% women),
- ✓ high-risk individuals, type-2 diabetes or 3 risk factors,
- ✓ followed for 4,8 years
- ✓ Mediterranean diet plus extra virgine olive oil
- ✓ Mediterranean diet plus nuts and almonds
- ✓ Control diet



myocardial infarction, stroke, death from CVD



[www.predimed.es](http://www.predimed.es)

# The effects of a healthy dietary pattern

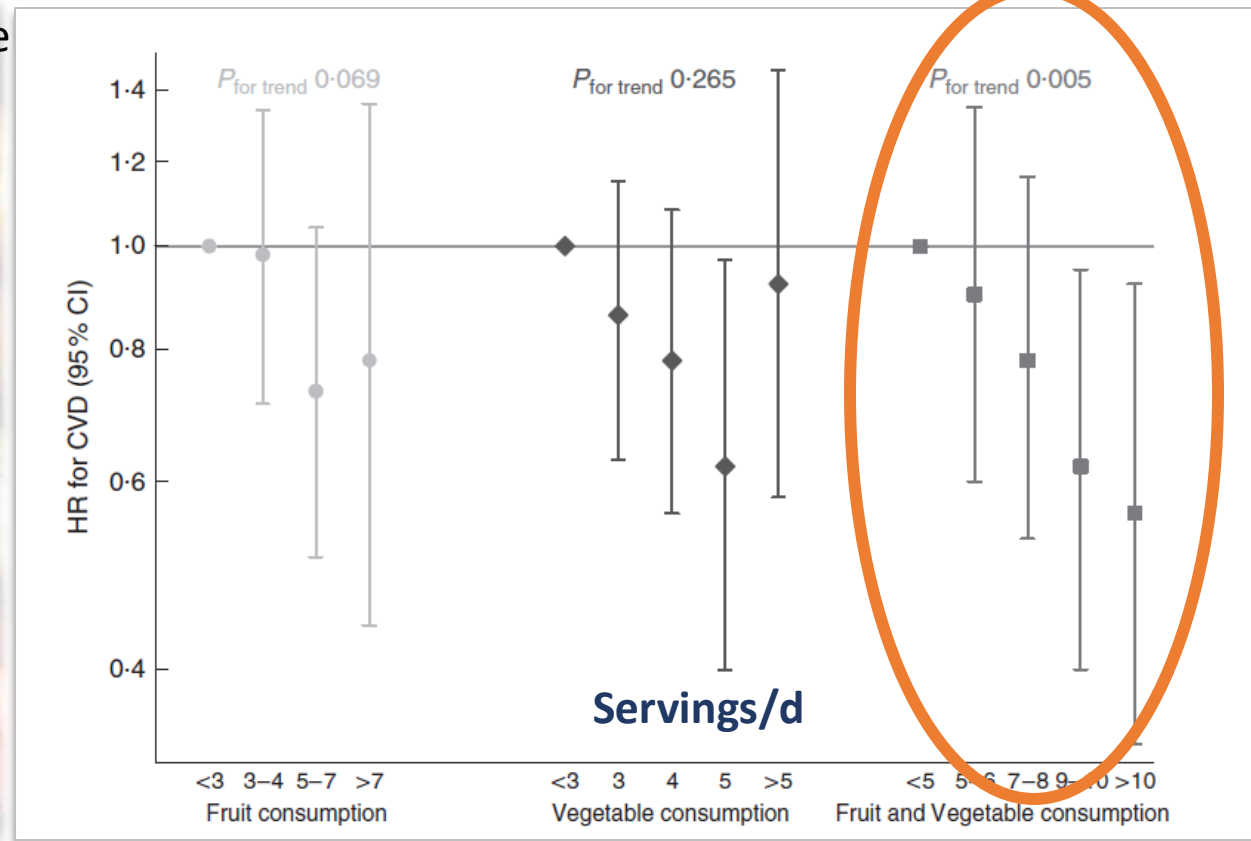
## Reduced risk of

- ✓ cardiovascular disease
- ✓ type 2 diabetes
- ✓ breast cancer in women
- ✓ depression
- ✓ cognitive impairment and dementia





# PREDIMED – intake of fruits, berries and vegetables and risk of cardiovascular disease



*Adjusted for many relevant factors like age, sex, smoking, type 2 diabetes at baseline, alcohol and education.*

# Consumption of fruit and berries and risk of type 2 diabetes

66 105 women Nurses Health Study 1984-2008

85 104 women Nurses Health Study II 1986-2008

36 173 men Health Professional Study 1986-2008

**187 382 healthy women and men followed for decades**

3 464 641 person years of follow-up

12 198 cases of type 2 diabetes

**Lower risk of type 2 diabetes for every three servings/week**

**Blueberries 26 %**

**Grapes 12 %**

**Prunes 7 %**

**Apples, pears 5 %**







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# Blueberries and health

*Silva S et al. Critical Review in Food Science and Nutrition 2020;60:181-200.*



## Blueberry composition

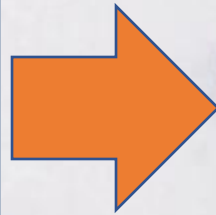
- ✓ low in calories
- ✓ high in nutritive compounds
- ✓ vitamins
- ✓ monounsaturated and polyunsaturated fatty acids
- ✓ dietary fibres
- ✓ minerals
- ✓ diversity of bioactive compounds;
- ✓ phenolic compounds and organic acids, 15 different anthocyanins
- ✓ many other flavonoids, quercetin, catechin

# Blueberries and health

*Silva S et al. Critical Review in Food Science and Nutrition 2020;60:181-200.*

## Effects

- ✓ antioxidant activity
- ✓ anti-mutagenic
- ✓ anti-inflammatory
- ✓ anti-tumoural
- ✓ immunomodulatory
- ✓ anti-microbial activity
- ✓ prebiotic



## Prevention of chronic disease

- ✓ obesity
- ✓ cardiovascular disease
- ✓ type 2 diabetes
- ✓ cancer
- ✓ dementia and Alzheimer's disease

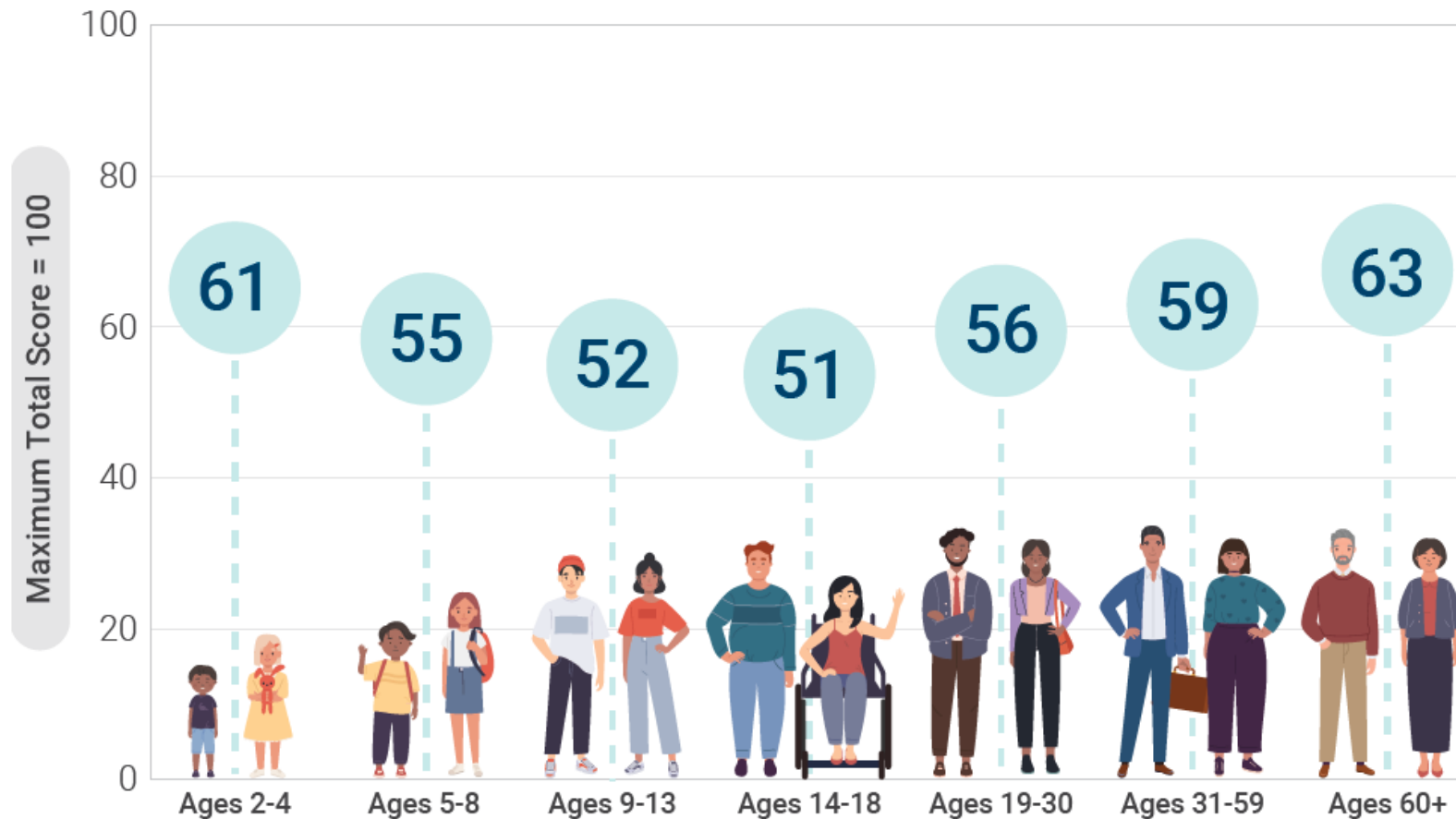


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# Low adherence to a healthy diet

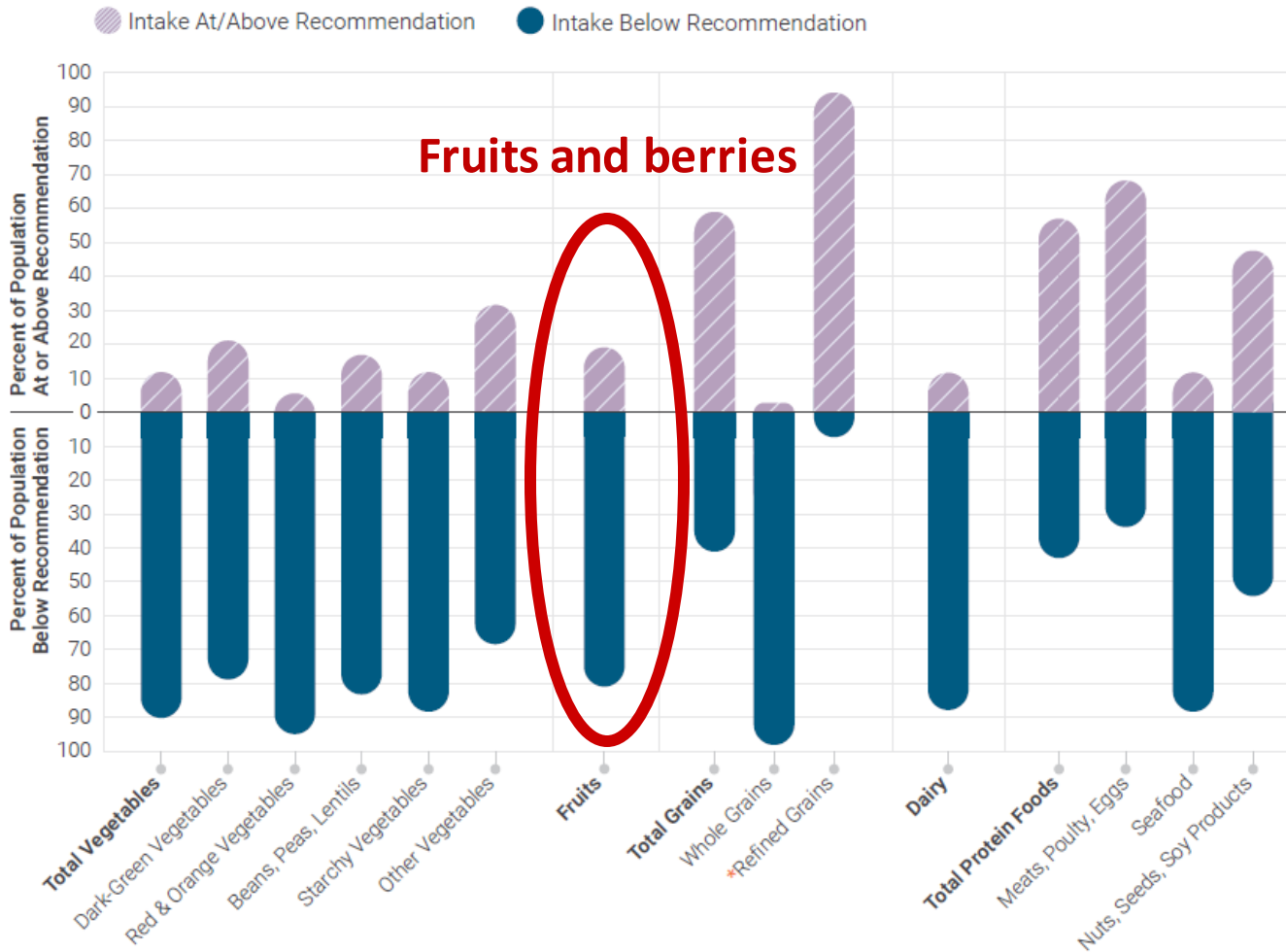
Adherence of the U.S. Population to the *Dietary Guidelines* Across Life Stages, as Measured by Average Total Healthy Eating Index-2015 Scores





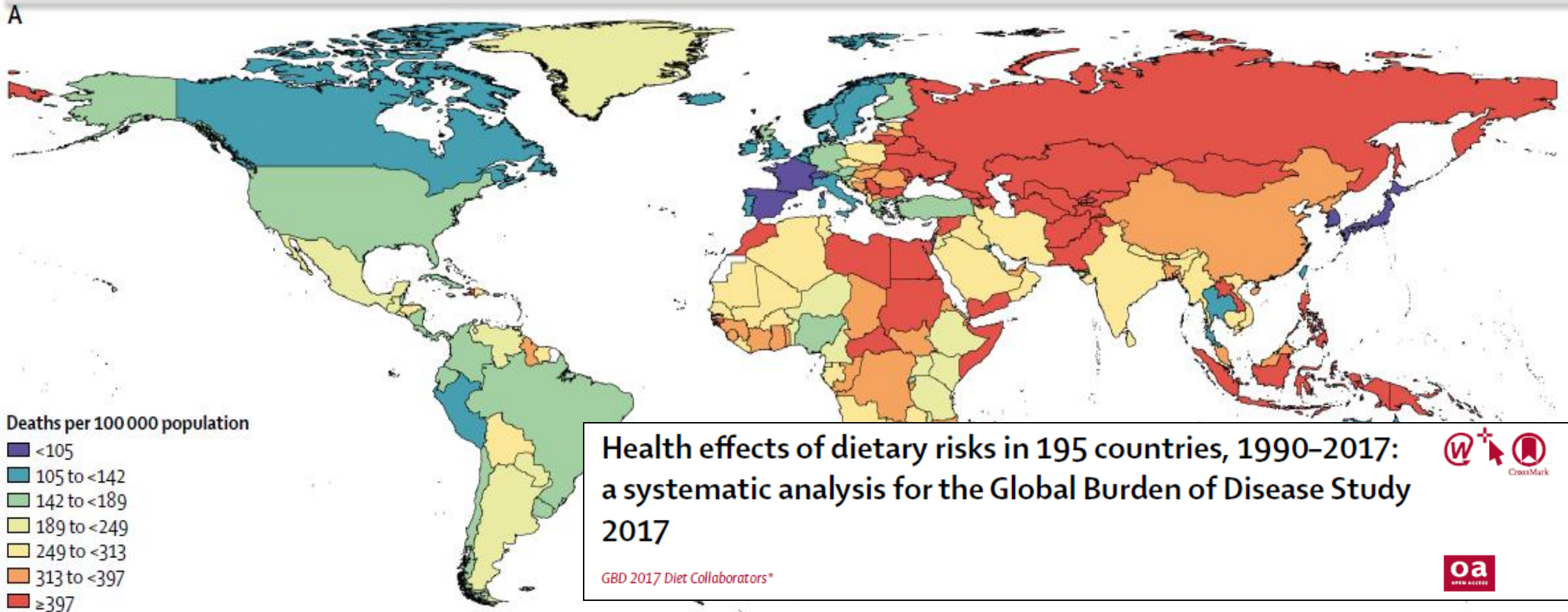
# More fruit, berries and vegetables

Dietary Intakes Compared to Recommendations:  
Percent of the U.S. Population Ages 1 and Older Who Are  
Below and At or Above Each Dietary Goal

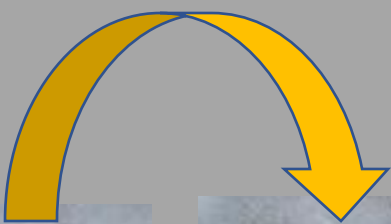


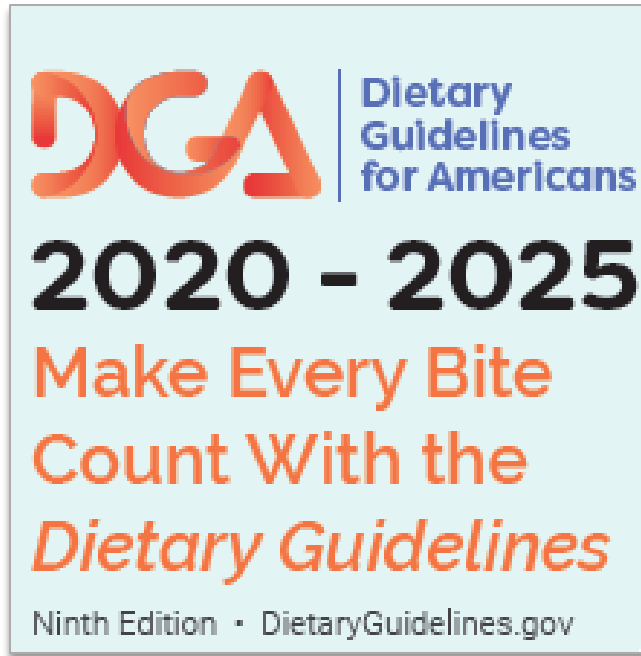
# Much health and well-being still to gain

- ✓ Improvement in diet could prevent one in every five deaths globally
- ✓ Cardiovascular disease and cancer





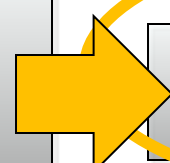




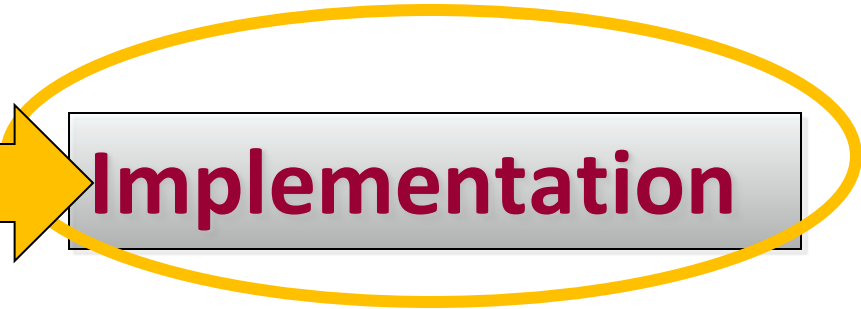
**Diet, lifestyle and health  
– scientific evidence**



**Guidelines and  
recommendations**



**Implementation**







✓ Knowledge to enable healthy choices

✓ Inspiration and support

✓ Tips and recipes







# Blueberry Pie

with dough made from rapeseed oil

2 dl oatmeal  
1 dl graham flour  
1 teaspoon freshly ground cardamom (or pre-ground)  
3 tablespoons powdered sugar  
 $\frac{1}{2}$  one ml measuring spoon salt  
 $\frac{1}{2}$  dl rapeseed oil  
1 egg

Filling:  
250 g blueberries or other berries  
1 dl caster sugar  
3 tablespoons potato flour



1. Set the oven to 225 degrees.
2. Mix all dry ingredients for the pie dough in a large bowl.
3. Pour in oil and eggs and mix to a crumbly dough.
4. Mix berries, sugar and potato flour and spread in a medium-sized pie tin.
5. Sprinkle the shortcrust pastry over and bake for about 15 minutes until the dough gets a nice color.
6. It's good with a little vanilla ice cream



# Message?

- ✓ health included in sustainability
- ✓ a healthy dietary pattern promotes health and a better environment
- ✓ much health and well-being still to gain
- ✓ include more berries in your diet

Mai-Lis Hellénus,  
MD, PhD, Professor  
Karolinska Institutet, Stockholm, Sweden









# Thank you!



Karolinska  
Institutet