

# Healthy Lifestyle and Climate Action - Synergies

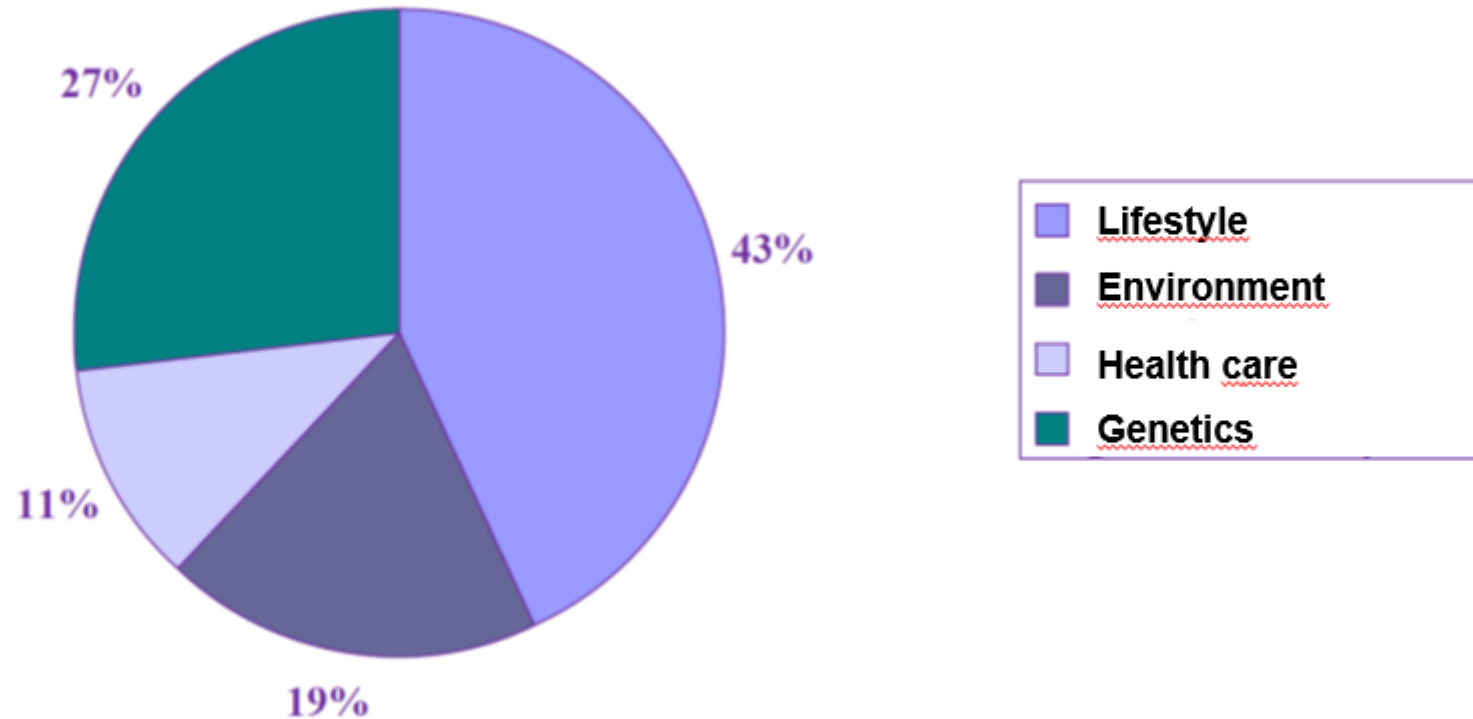
Dr. Dora Üрге

Hungarian Society of Lifestyle Medicine



# Focus on health and climate action synergies

Lalonde, 1974: "Health Field Model" – Canada Factors influencing health status:



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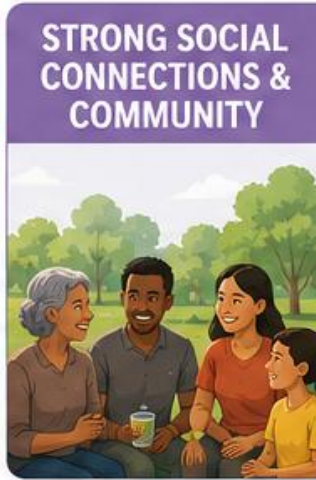
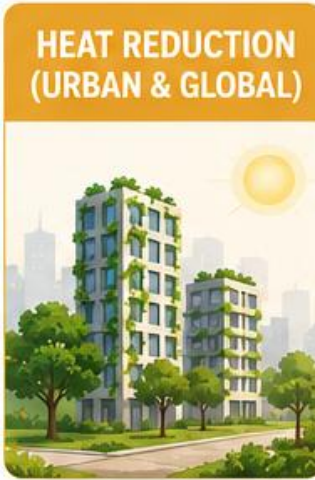
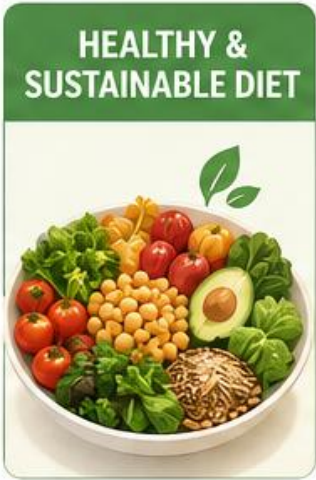
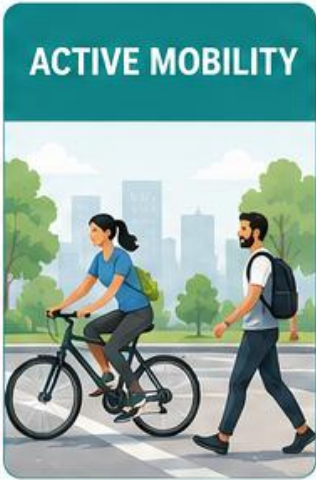
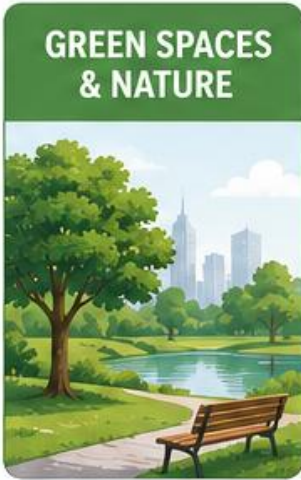
for their



mediately

efit

Herrmann, Alina, et al. "Communicating the health co-benefits of climate change mitigation to households and policy makers." *Research handbook on communicating climate change*. Edward Elgar Publishing, 2020. 279-289.,  
Cathryn Tonne et al. Promoting health through climate change mitigation in Europe, *The Lancet Planetary Health*, 2025

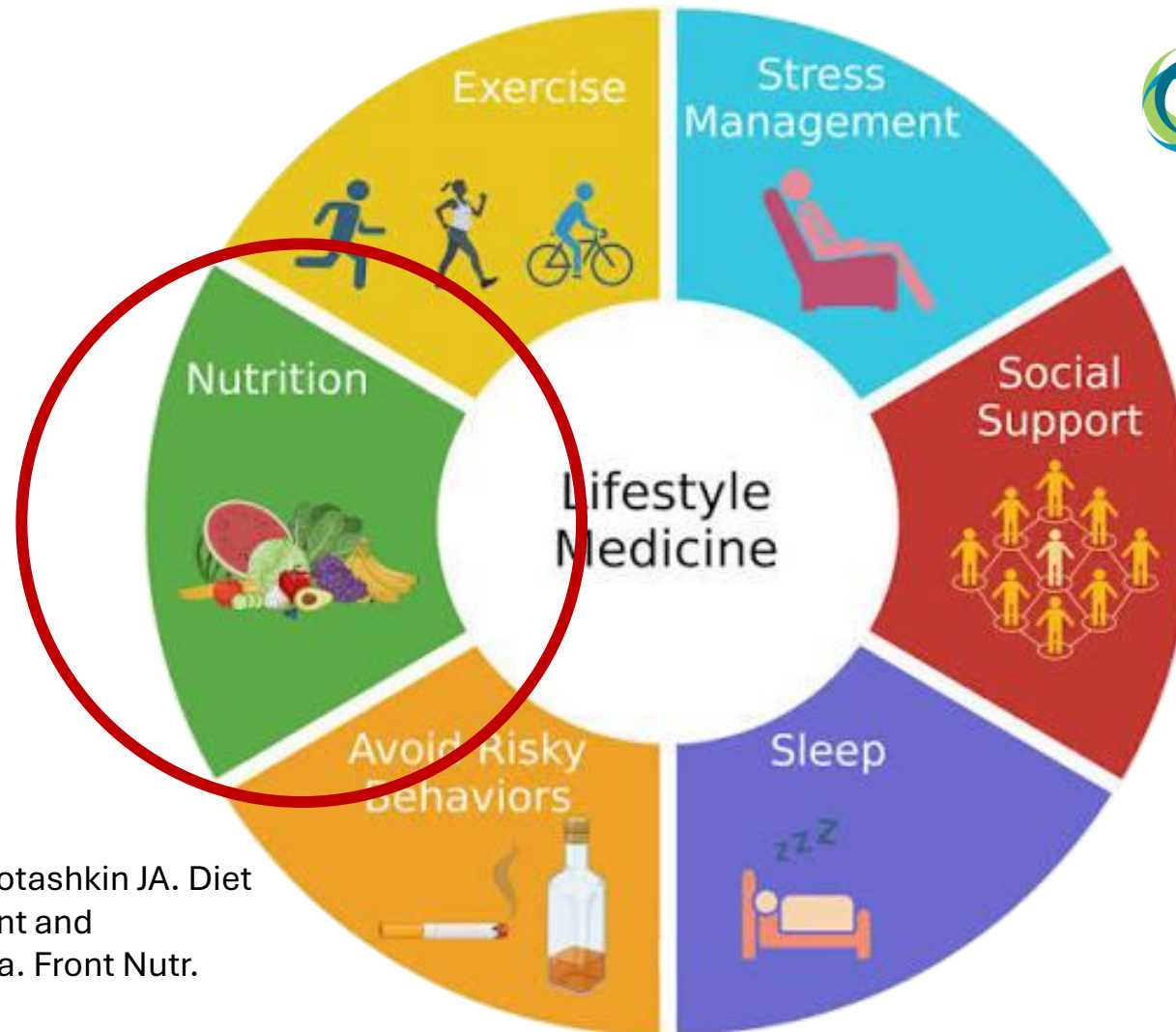




 <b>HEALTH BENEFITS</b>	<ul style="list-style-type: none"> <li>• Lower stress, anxiety and depression</li> <li>• Better mental health</li> <li>• More physical activity</li> <li>• Stronger immunity</li> <li>• Better sleep</li> <li>• Lower blood pressure</li> <li>• Lower risk of heart disease, diabetes and obesity</li> </ul>	<ul style="list-style-type: none"> <li>• More physical activity</li> <li>• Lower risk of heart disease, stroke, diabetes and obesity</li> <li>• Better mental health</li> <li>• Reduced air pollution exposure</li> <li>• Stronger muscles and bones</li> </ul>	<ul style="list-style-type: none"> <li>• Lower risk of heart disease, type 2 diabetes and some cancers</li> <li>• Healthy body weight</li> <li>• Better digestion</li> <li>• Stronger immunity</li> <li>• Better overall well-being</li> </ul>	<ul style="list-style-type: none"> <li>• Fewer heat-related illnesses and deaths</li> <li>• Better sleep</li> <li>• Lower stress</li> <li>• Fewer cardiovascular and respiratory problems</li> <li>• More comfortable living conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Less exposure to toxins and endocrine disruptors</li> <li>• Potentially lower risk of inflammation and chronic diseases</li> <li>• Better reproductive and child health</li> </ul>	<ul style="list-style-type: none"> <li>• Better mental health</li> <li>• Lower stress and anxiety</li> <li>• Greater life satisfaction</li> <li>• Stronger immunity</li> <li>• Lower risk of depression and cognitive decline</li> </ul>
 <b>CLIMATE BENEFITS</b>	<ul style="list-style-type: none"> <li>• Absorb CO<sub>2</sub></li> <li>• Cool the air</li> <li>• Store carbon</li> <li>• Support biodiversity</li> <li>• Improve soil and water cycles</li> <li>• Reduce flood risk</li> </ul>	<ul style="list-style-type: none"> <li>• Lower greenhouse gas emissions</li> <li>• Less air pollution</li> <li>• Less noise pollution</li> <li>• Lower demand for roads and parking</li> <li>• More efficient use of space and resources</li> </ul>	<ul style="list-style-type: none"> <li>• Lower greenhouse gas emissions</li> <li>• Less land, water and energy use</li> <li>• Protects forests and biodiversity</li> <li>• Improves soil health</li> <li>• Reduces pollution from agriculture</li> </ul>	<ul style="list-style-type: none"> <li>• Lower urban heat island effect</li> <li>• Less energy needed for cooling</li> <li>• Lower greenhouse gas emissions</li> <li>• Less concrete and more permeable surfaces</li> <li>• Protects biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>• Less plastic pollution in oceans and soils</li> <li>• Lower emissions from plastic production and incineration</li> <li>• Protects marine and terrestrial ecosystems</li> <li>• Reduces long-term environmental harm</li> </ul>	<ul style="list-style-type: none"> <li>• Stronger communities support local climate action</li> <li>• More sharing, cooperation and resilience</li> <li>• Support for sustainable choices and policies</li> </ul>

# The 6 pillars of lifestyle medicine

(as developed by the The American College of Lifestyle Medicine (ACLM))



EUROPEAN LIFESTYLE  
MEDICINE ORGANIZATION

**+Environmental  
exposure**

**+Sexual health &  
fertility**

Arora S, Santiago JA, Bernstein M, Potashkin JA. Diet and lifestyle impact the development and progression of Alzheimer's dementia. *Front Nutr.* 2023 Jun 29;10:1213223. doi: 10.3389/fnut.2023.1213223.



# GBD 2017 - Diet Collaborators

195 Countries  
Study period: 1990-2017

- ❖ In 2017 due to dietary risk factors
- ❖ **11 million deaths**

*“Our findings show that **suboptimal diet is responsible for more deaths than any other risks globally, including tobacco smoking, highlighting the urgent need for improving human diet across nations.**”*

- ❖ low in omega-3 fatty acids



„The Mediterranean diet is arguably the best-studied and **most evidence-based diet to prevent** not only **cardiovascular disease**, but also other **chronic diseases**, as it has become the standard for healthy eating”

Widmer, R. Jay, et al. "The Mediterranean diet, its components, and cardiovascular disease." *The American journal of medicine* 128.3 (2015): 229-238.

**Mediterranean diet**  
Foods to include or limit

**EAT AT EVERY MEAL.**




**Fruits, veggies, whole grains, extra virgin olive oil**

**EAT AT LEAST 3 SERVINGS A WEEK.**




**Fish/seafood, nuts, legumes**

**LIMIT TO 1 SERVING A DAY.**




**Poultry, low-fat dairy, eggs**

**LIMIT TO 1 SERVING PER WEEK.**

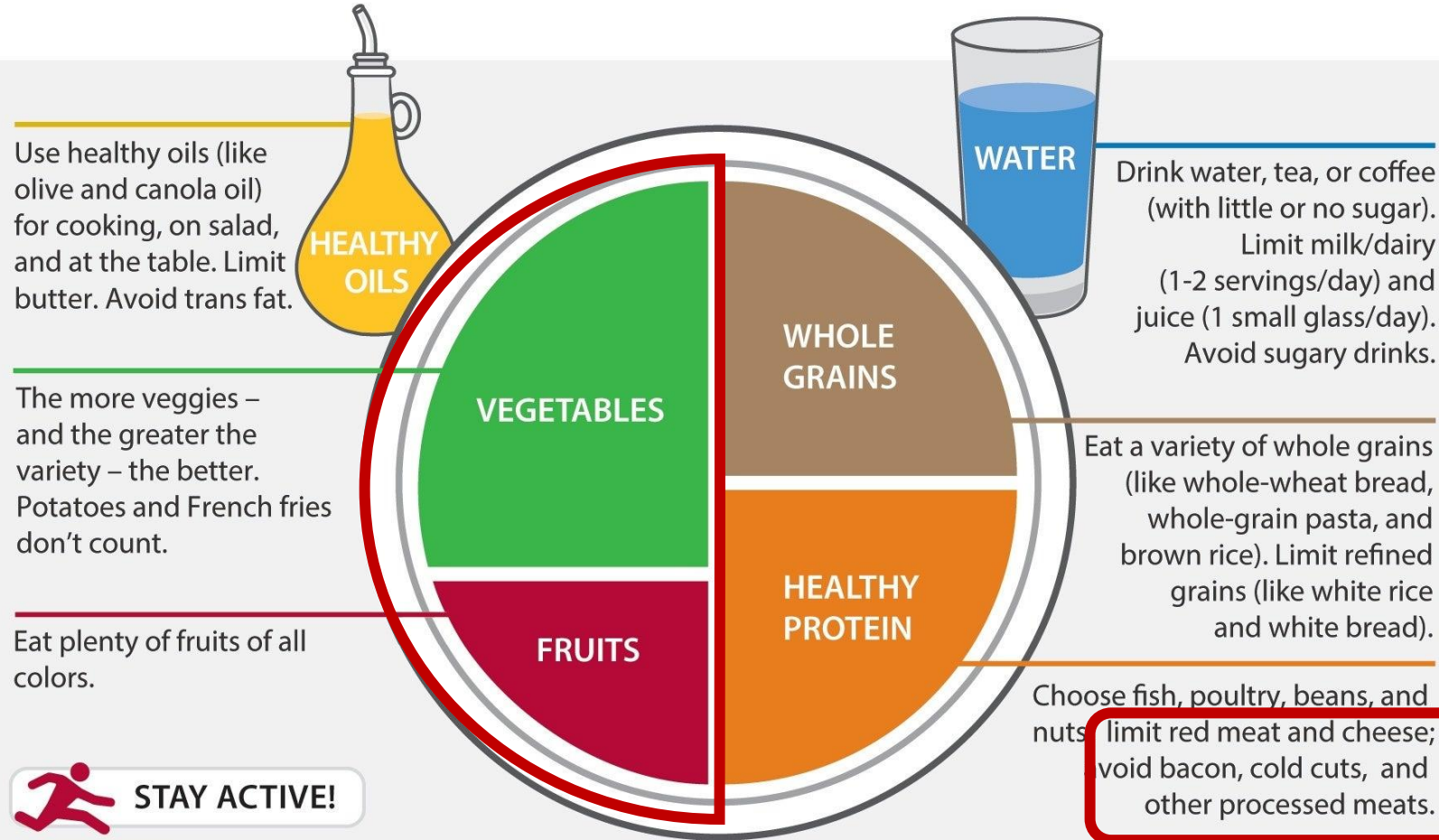


**Red meat, sweets**

 Cleveland Clinic



# HEALTHY EATING PLATE



 **STAY ACTIVE!**

© Harvard University



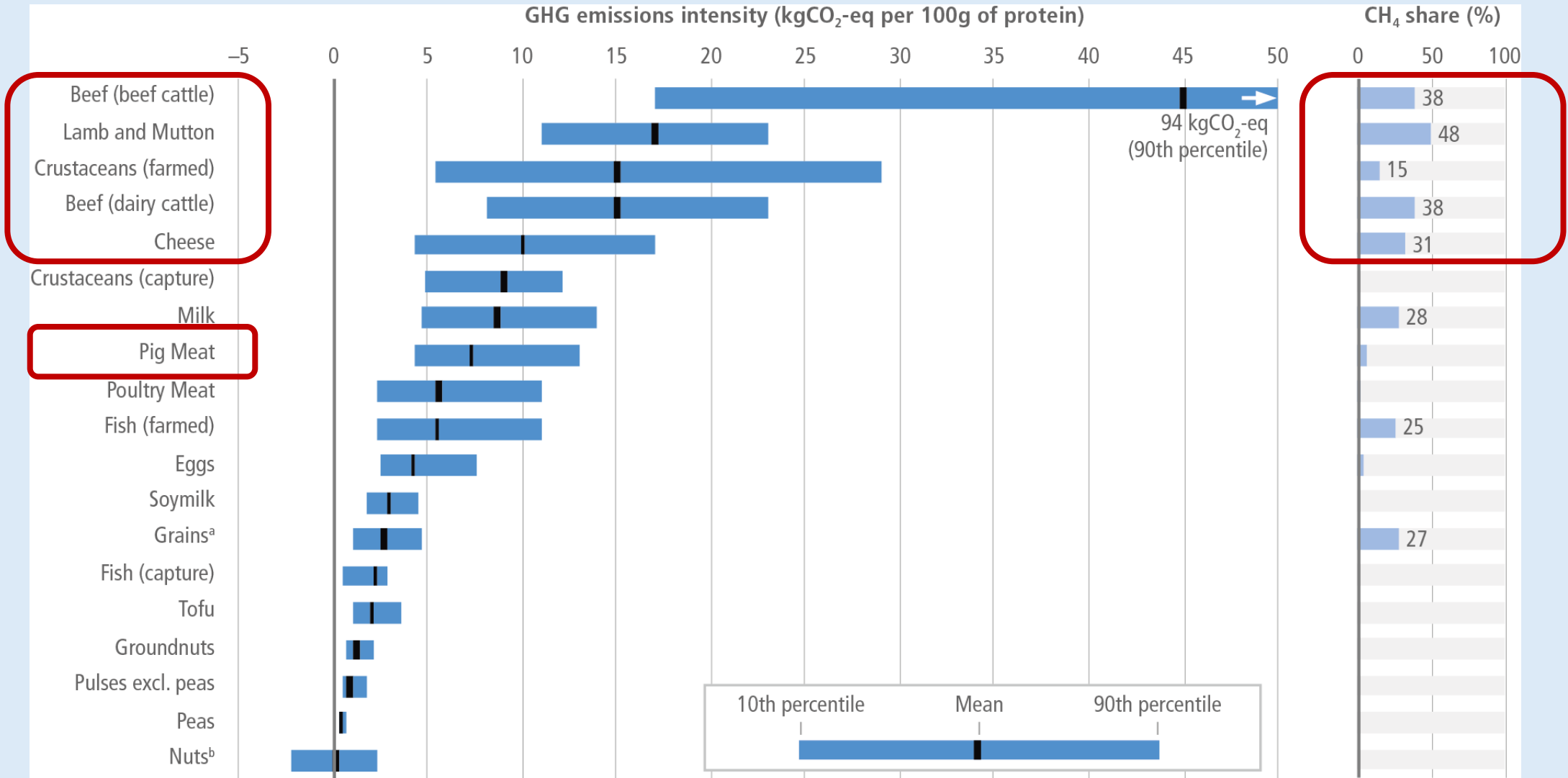
Harvard T.H. Chan School of Public Health  
The Nutrition Source  
[www.hsph.harvard.edu/nutritionsource](http://www.hsph.harvard.edu/nutritionsource)

Harvard Medical School  
Harvard Health Publications  
[www.health.harvard.edu](http://www.health.harvard.edu)



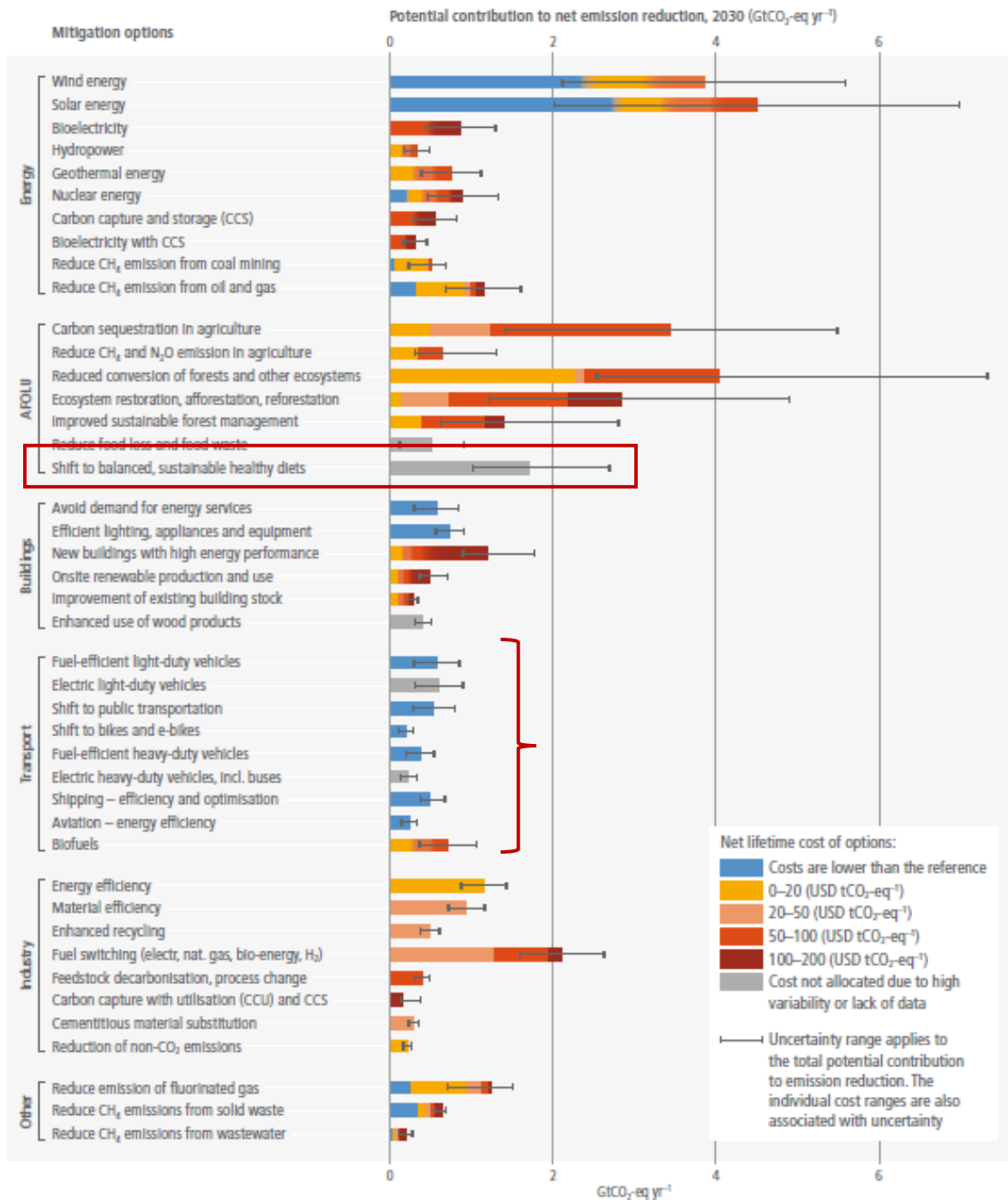
<https://nutritionsource.hsph.harvard.edu/healthy-eating-plate/>





IPCC Sixth Assessment Report Working Group III: Mitigation of Climate Change, Figure 12.6





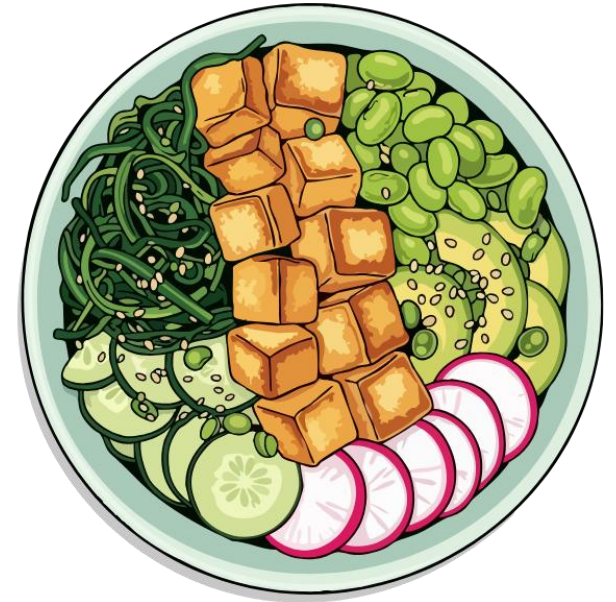
# Overview of emission mitigation options and their cost and potential for the year 2030

Figure TS.23

IPCC. (2022). *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press.



# Plant based not equal healthy



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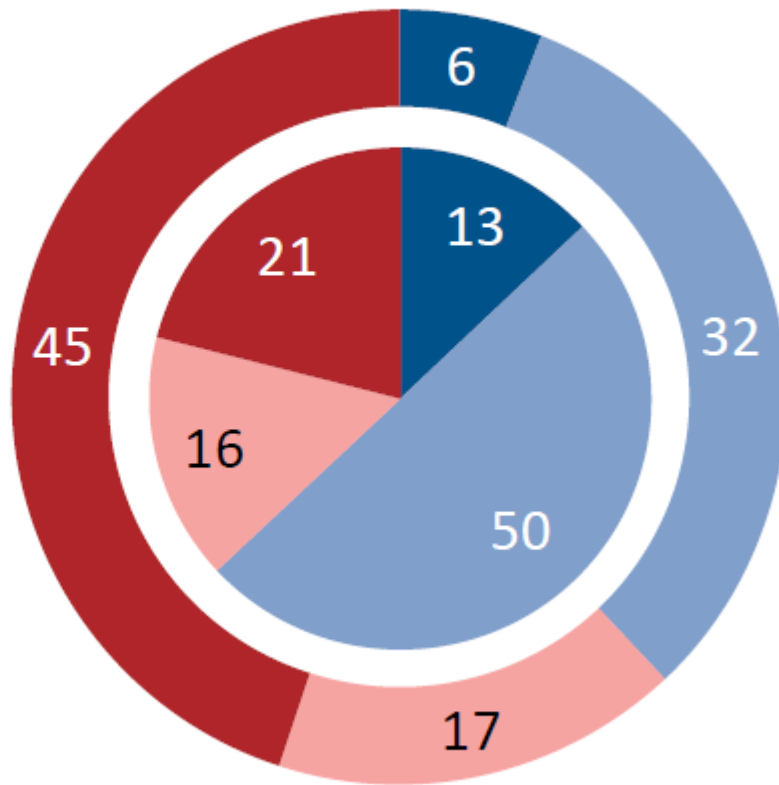


Arora S, Santiago JA, Bernstein M, Potashkin JA. Diet and lifestyle impact the development and progression of Alzheimer's dementia. *Front Nutr.* 2023 Jun 29;10:1213223. doi: 10.3389/fnut.2023.1213223.



# Room to improve- physical activity in the EU/LUX

QB1. How often do you exercise or play sport?  
(%)



	EU27		LU	
	2022	Δ 2017	2022	Δ 2017
Regularly	6	-1	13	+1
With some regularity	32	-1	50	+6
Seldom	17	+3	16	-1
Never	45	-1	21	-6
Don't know	0	=	0	=

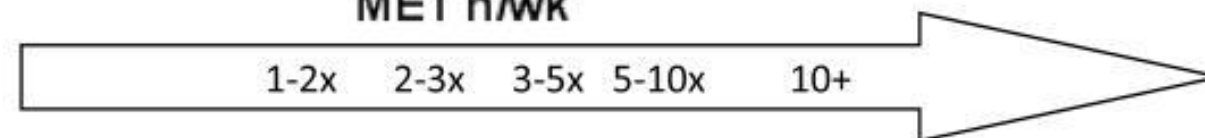
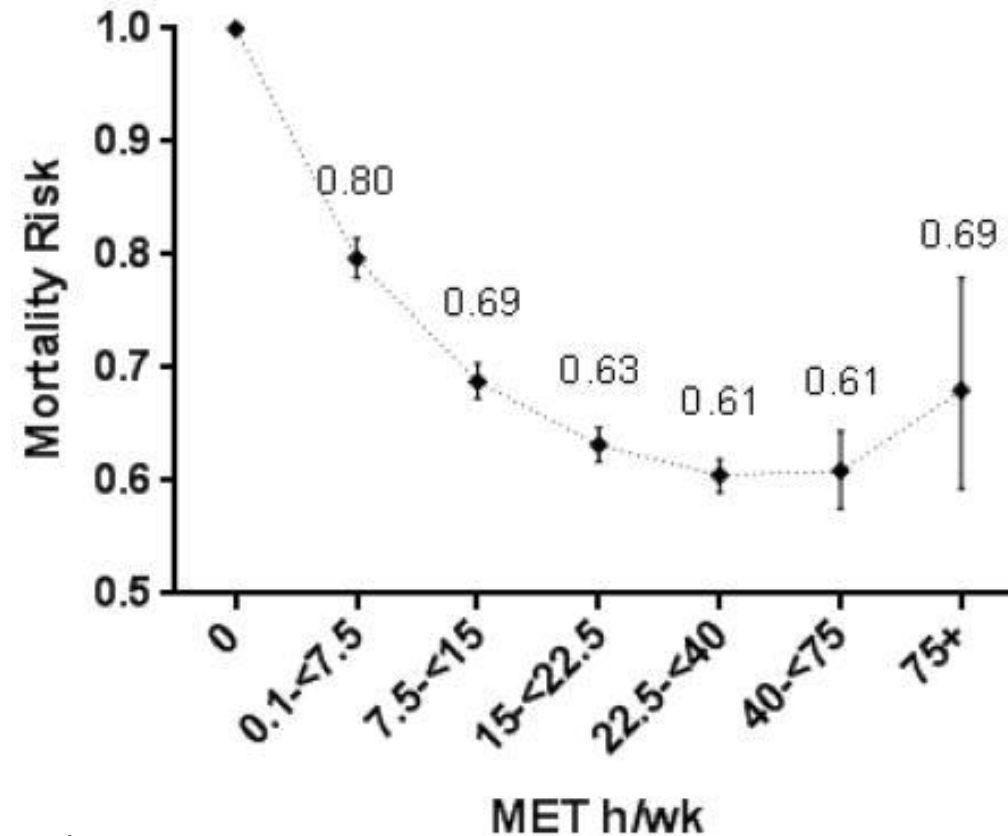
Evolution: Apr/May 2022 (EB97.3) – Dec 2017 (EB88.4)

EU27  Outer pie


LU  Inner pie



# Hazard ratios (HRs) and 95% confidence intervals (CIs) for leisure time moderate- to vigorous-intensity physical activity and mortality



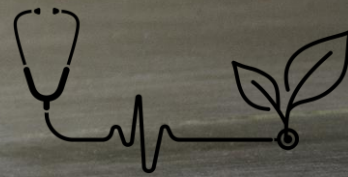
Arem H, et al. Leisure time physical activity and mortality: a detailed pooled analysis of the dose-response relationship. *JAMA Intern Med.* 2015 Jun;175(6):959-67. doi: 10.1001/



*„Socio-cultural and lifestyle changes can accelerate climate change mitigation (medium confidence). Among 60 identified actions that could **change individual consumption, individual mobility choices have the largest potential to reduce carbon footprints.** Prioritising car-free mobility by **walking and cycling** and adoption of electric mobility could save **2 tCO<sub>2</sub>-eq cap<sup>-1</sup> yr<sup>-1</sup>.**”*

IPCC. (2022). *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press.

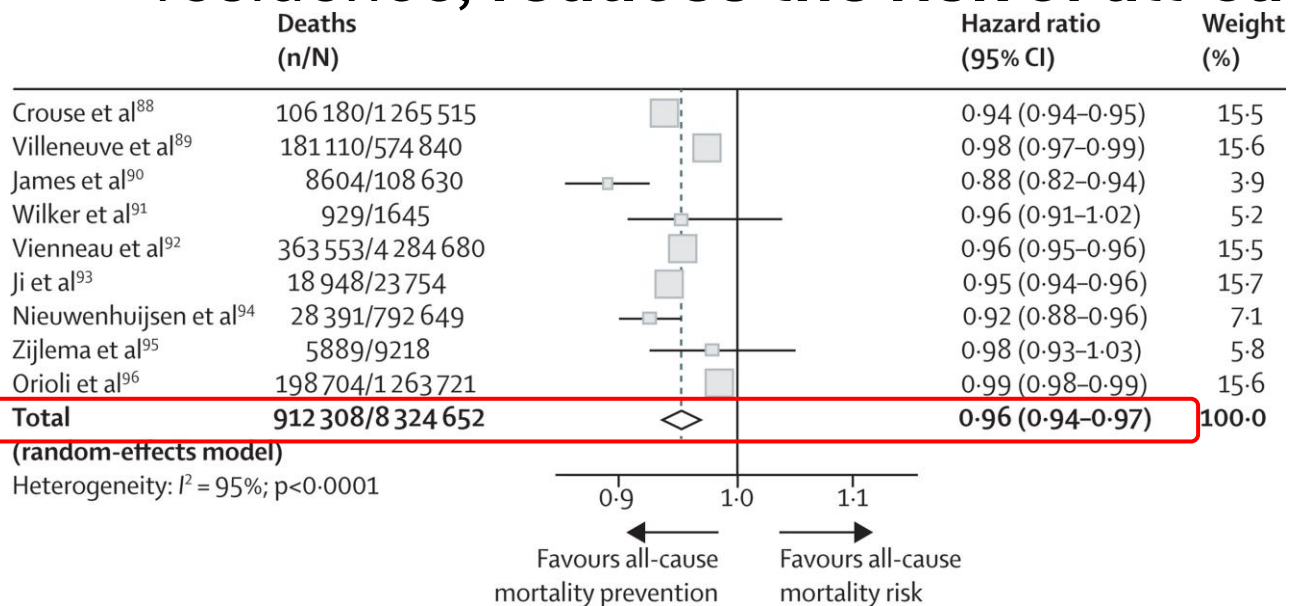
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# Residential Greenness and Mortality

- **HR (Hazard Ratio) 0,96**
- Each **0.1-unit increase in NDVI** (corresponding to approximately a 10% increase in green coverage) within a 500-meter radius of the participant's residence, **reduces the risk of all-cause mortality by 4%.**

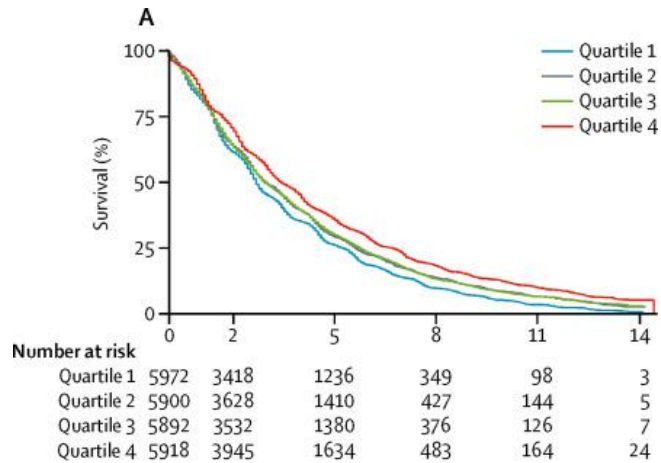


- involving more than 8 million people
- across 7 countries
- NDVI (Normalized Difference Vegetation Index, a measure of green coverage)

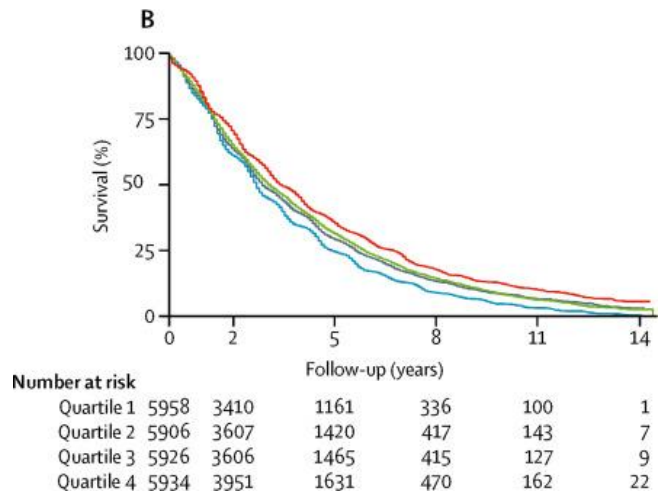


# Residential Greenness and Mortality

- Based on NDVI measured within a 250-meter radius:
  - The people living in the highest NDVI quartile had a **27% lower mortality** than those in the lowest
  - This equals to a gain of 4.5 years



- The study examined:
  - 23,754 individuals
  - average age at baseline: 93 years
  - 14-year follow-up



(A) Survival curve for the 250 m radius. Log-rank  $p < 0.0001$ . The median follow-up was 2.50 years (IQR 1.42–4.58) for quartile 1 (the lowest), 2.67 years (1.42–4.83) for quartile 2, 2.67 years (1.42–4.83) for quartile 3, and 2.92 years (1.67–5.25) for quartile 4 (the highest) of contemporaneous NDVI in the 250 m radius. (B) Survival curve for the 1250 m radius. Log-rank  $p < 0.0001$ . The median follow-up was 2.50 years (1.33–4.50) for quartile 1 (the lowest), 2.67 years (1.42–4.83) for quartile 2, 2.67 years (1.42–4.92) for quartile 3, and 2.92 years (1.58–5.25) for quartile 4 (the highest) of contemporaneous NDVI in the 1250 m radius. CLHLS=China Longitudinal Healthy Longevity Survey, NDVI=Normalised Difference Vegetation Index.

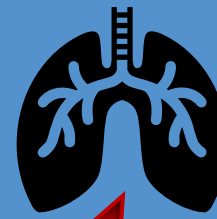
NDVI (Normalized Difference Vegetation Index, a measure of greenness)

Ji, John S et al. Residential Greenness and Mortality in Oldest-Old Women and Men in China: A Longitudinal Cohort Study. *The Lancet Planetary Health* 3, no. 1 (2019): e17-e25.





**Community benefits**



**Better air quality**



**Mitigate heatwaves and heat stress**



**Physical Activity**



**Lower risk of all-cause mortality**



**Reduce noise pollution**



**Emission of biogenic ammonia**



**Reducing light pollution**



**Immunoregulatory effects**



**Positive physiological effects**





**Community benefits**



**Better air quality**



**Physical Activity**



**Mitigate heatwaves and heat stress**



**The benefits of green spaces**



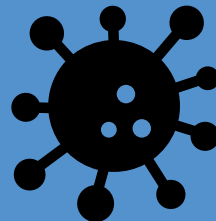
**Reduce noise pollution**



**Emission of biogenic amines**



**Reducing light pollution**



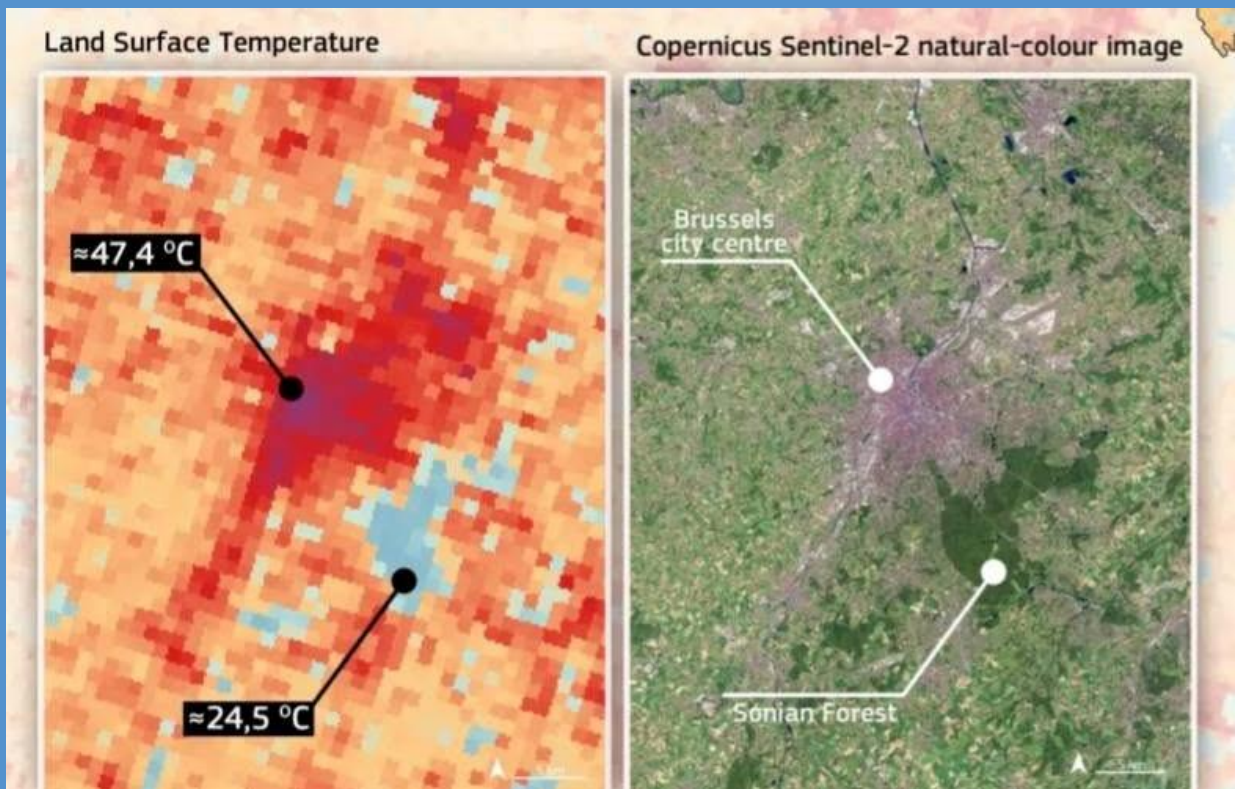
**Immunoregulatory effects**



**Positive physiological effects**



# Climate benefits of urban green infrastructure

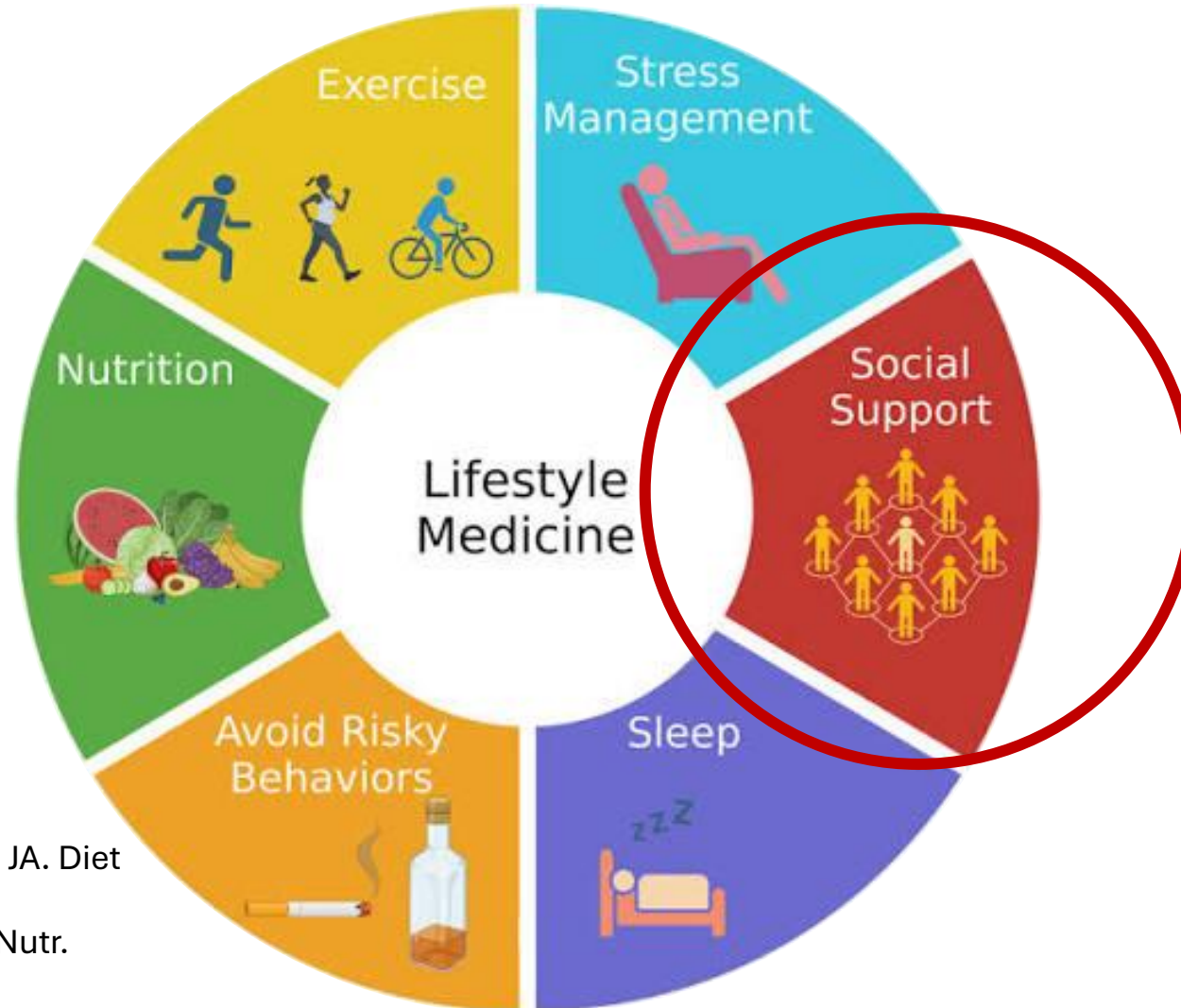


Urban trees sequester 7 Gt of Carbon  
(IPCC AR 6, WGIII)



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# WHO Commission on Social Connection report

1 in 6 people worldwide are affected by loneliness

Loneliness is linked to an **estimated 100 deaths every hour**—more than 871 000 deaths annually

## Social connection

- reduce inflammation
- lower the risk of serious health problems
- foster mental health
- prevent early death
- strengthen the social fabric, contributing to making communities healthier, safer and more prosperous.

## Loneliness and social isolation

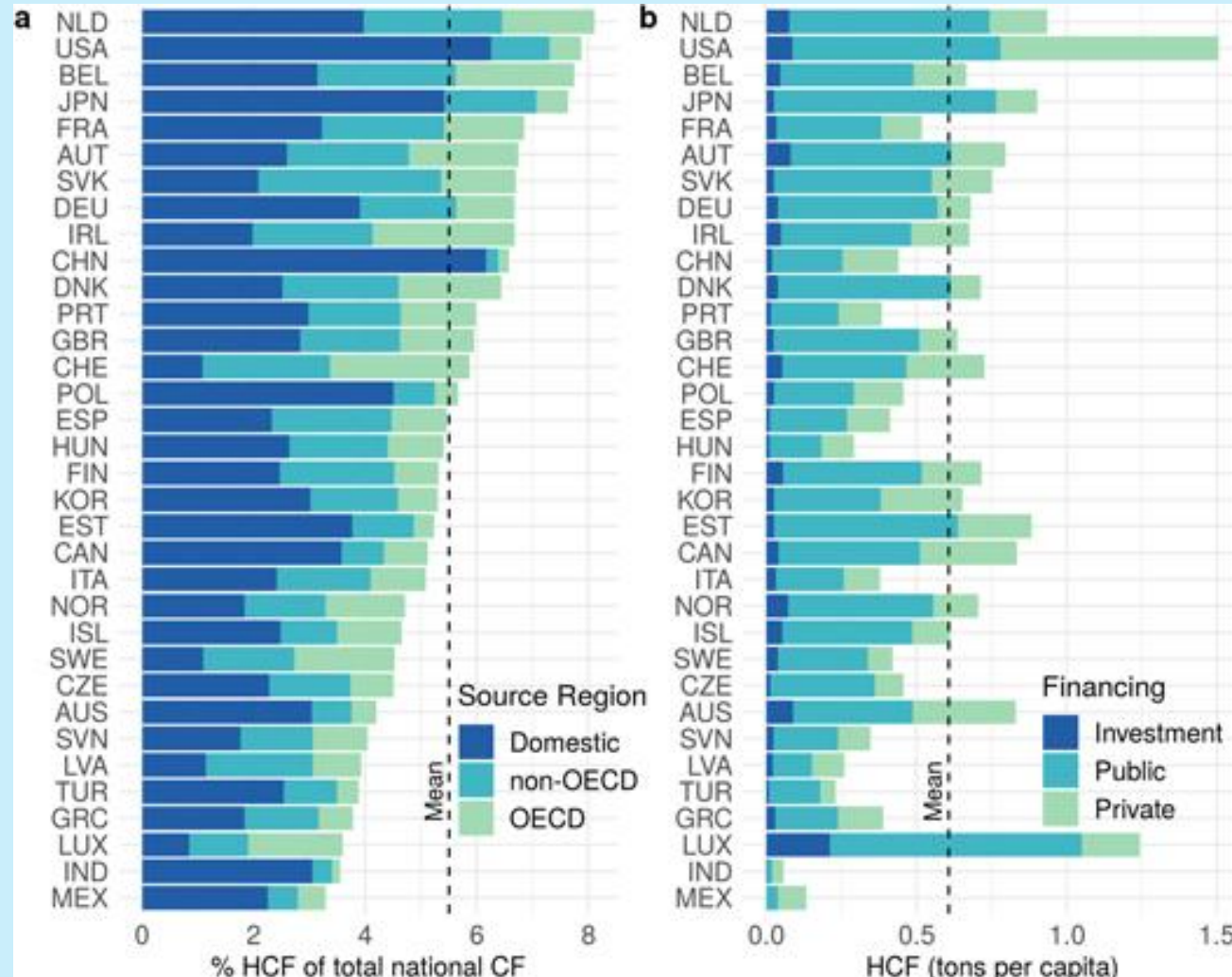
- increase the risk of stroke, heart disease, diabetes, cognitive decline, and premature death.
- twice as likely to get depressed
- Anxiety
- thoughts of self-harm or suicide.



People who **spend their leisure time working on deepening their social connections** rather than just focusing on consumerism are



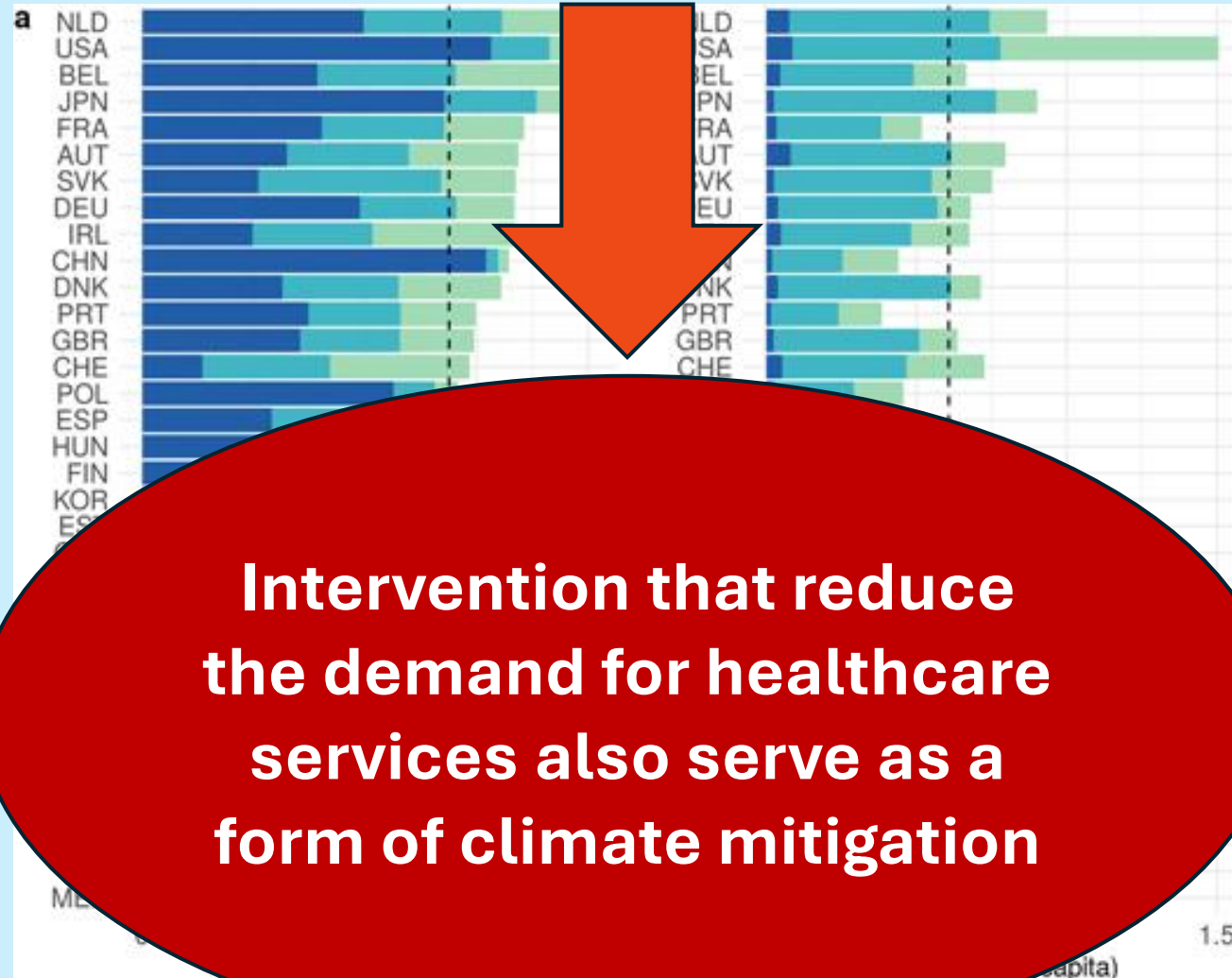
# In OECD countries, China, and India, health care on average accounts for 5% of the national CO<sub>2</sub> footprint



Health carbon footprint (HCF) as percentage of national carbon footprint (CF) grouped by region where the emissions occurred (a) and health carbon footprint per capita grouped by financing scheme (b) in 2014, for all available countries in 2014.



In **OECD countries, China, and India**, healthcare on average **accounts for 5% of the national CO<sub>2</sub> footprint**



**Intervention that reduce the demand for healthcare services also serve as a form of climate mitigation**

Pichler, Peter-Paul, et al. "Carbon footprint of health care carbon footprints." *Environmental research letters* 14.6 (2019): 064004.



## Potential take-aways for policy

1

**Integrate climate and healthy lifestyle policies.** Address climate mitigation and healthy, sustainable lifestyles through a shared policy framework, recognizing their strong synergies rather than treating them as separate agendas.

2

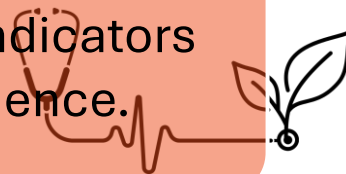
**Societal health aspirations could be better entry points to many individual climate actions.**

3

**Reframe climate action as an opportunity.** Communicate the immediate benefits of sustainable lifestyles—such as improved health, cleaner air, reduced costs, and higher quality of life—rather than emphasizing sacrifice alone.

4

**Measure success beyond emissions.** Evaluate policies using both climate indicators and broader societal outcomes, including health, well-being, equity, and resilience.





Thank you for your  
attention!

Dr. Dora Urge

