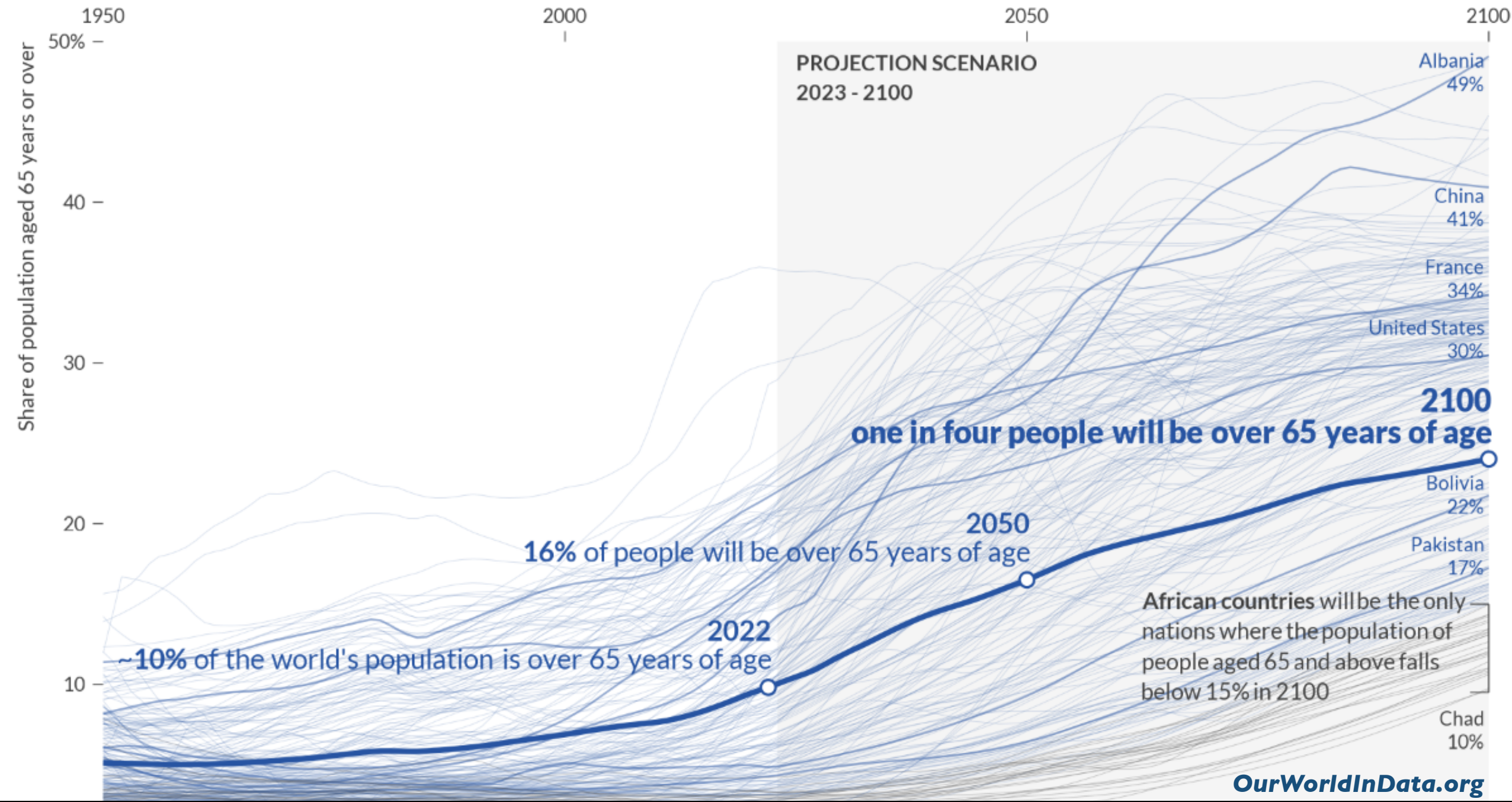


HEALTHY AGING

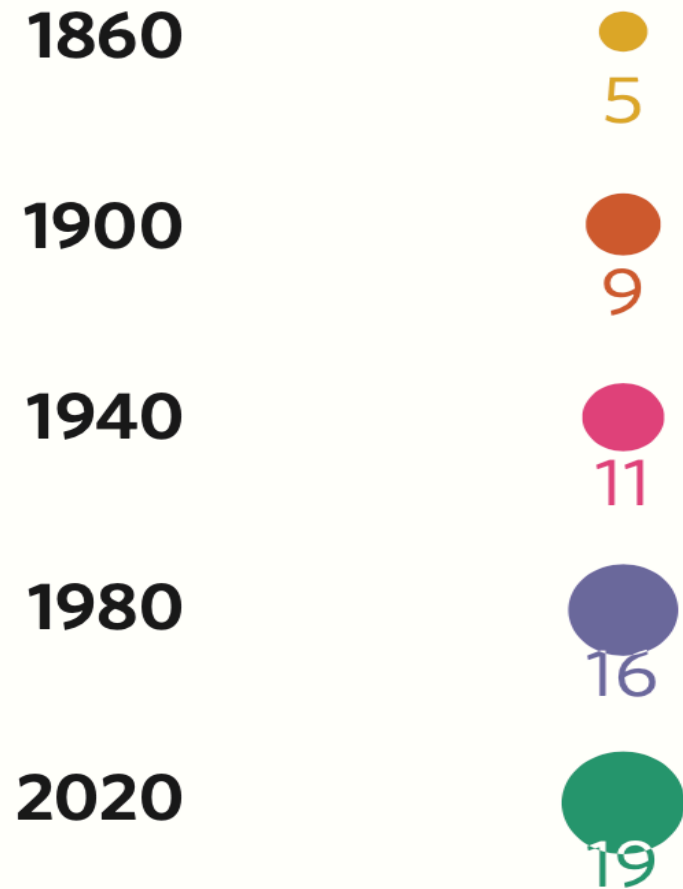
PLACE Rome 26/06/2026

***Domenico Caponi, MD
Electrophysiology Laboratory
Ospedale Cardinal Massaia - Asti***

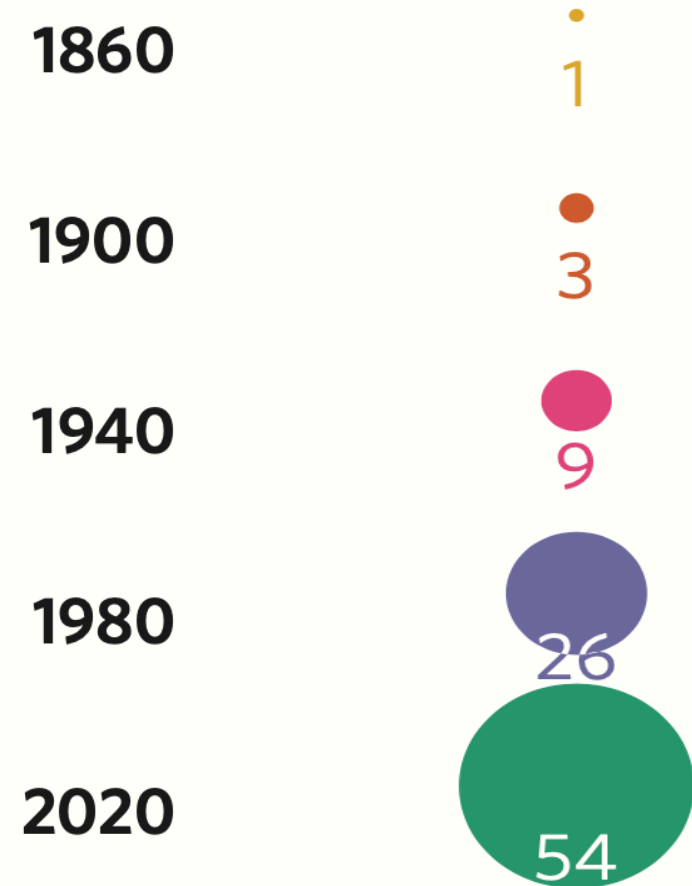
The population of people aged 65 and above is rising in every country, and will continue to do so in the future



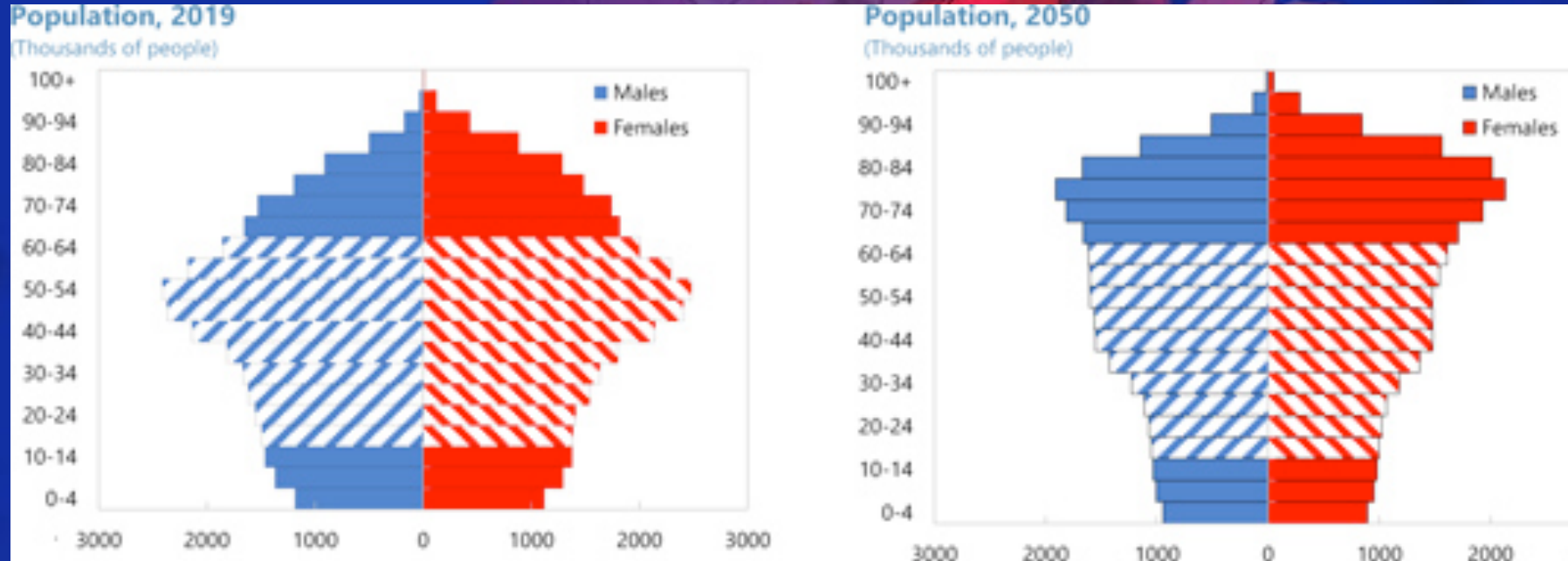
Millions of people under 5



Millions of people 65 and older

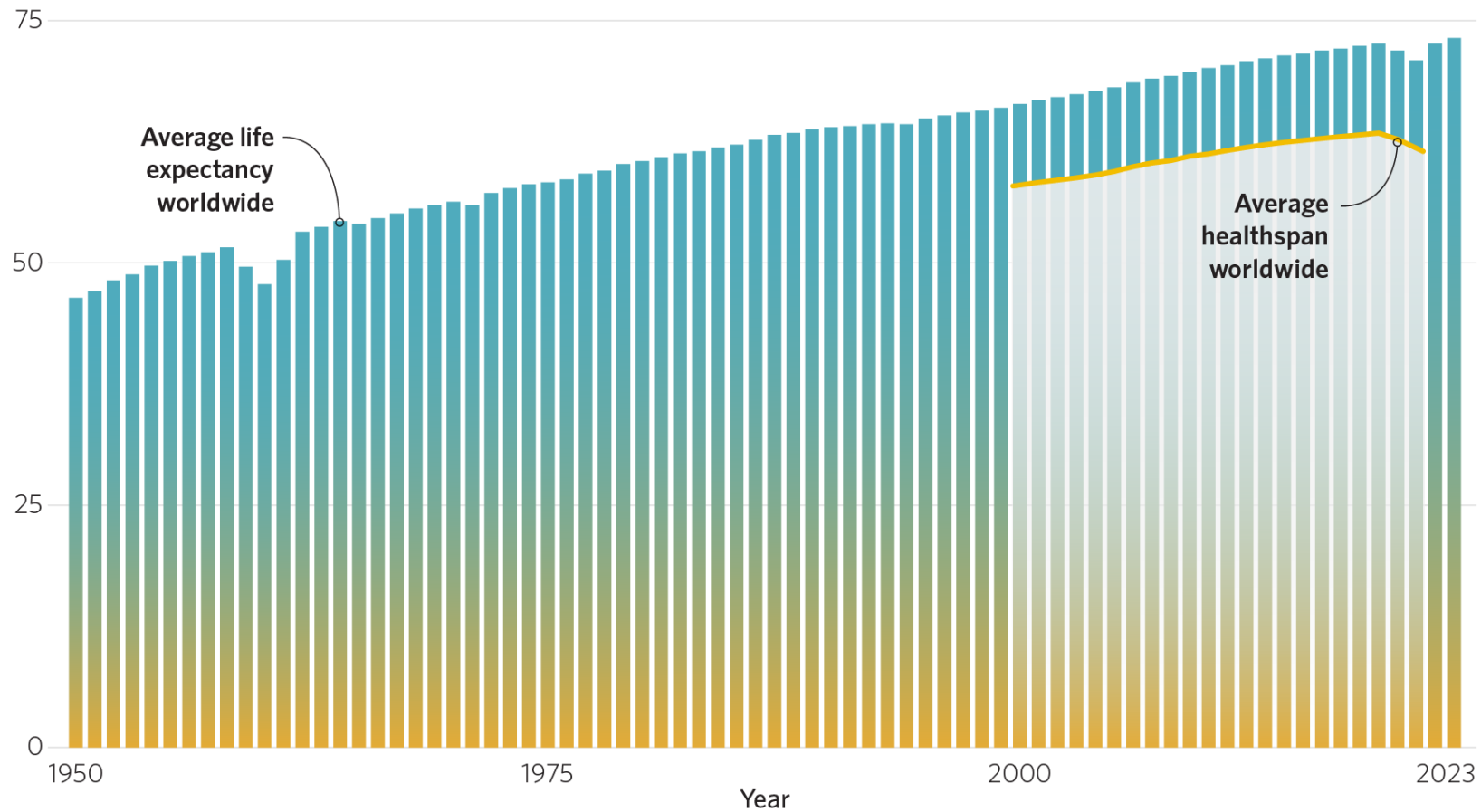


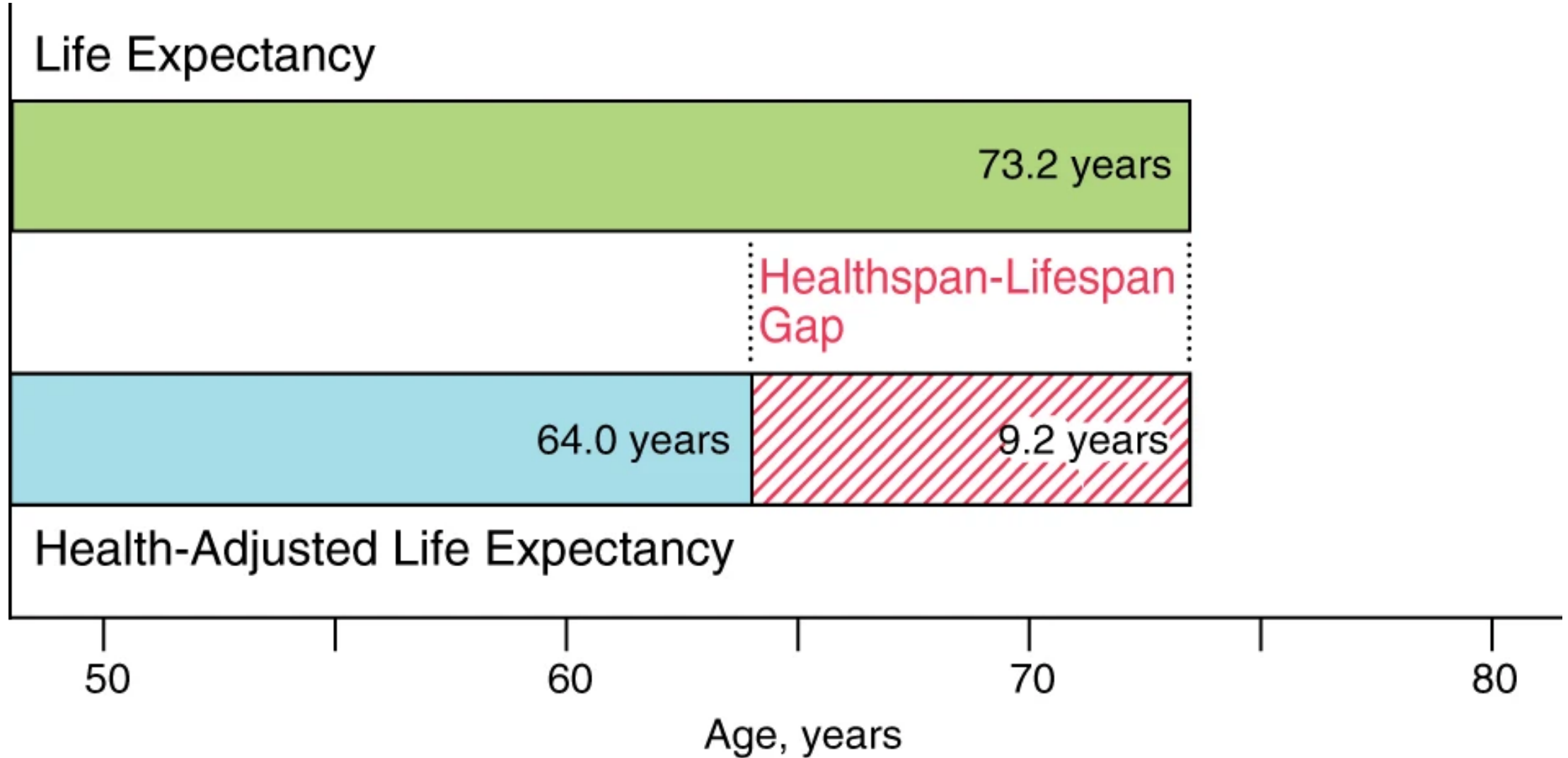
Work-force reduction in Italy due to aging



Life expectancy outstrips healthspan

The average lifespan of a human being has increased dramatically over the past century. Healthspan has increased less.





10 Common Chronic Conditions for Adults 65+



Hypertension
(High Blood Pressure)
61%



High Cholesterol
55%



Arthritis
51%



Obesity
40%



Diabetes
24%



Cancer
20%



Heart Disease
16%



Depression
15%



COPD
12%



Asthma
9%



Kathleen B. Watson, PhD, et al. Trends in Multiple Chronic Conditions Among US Adults, By Life Stage, Behavioral Risk Factor Surveillance System, 2013-2023. Preventing Chronic Disease. April 17, 2025.

Lifespan vs healthspan



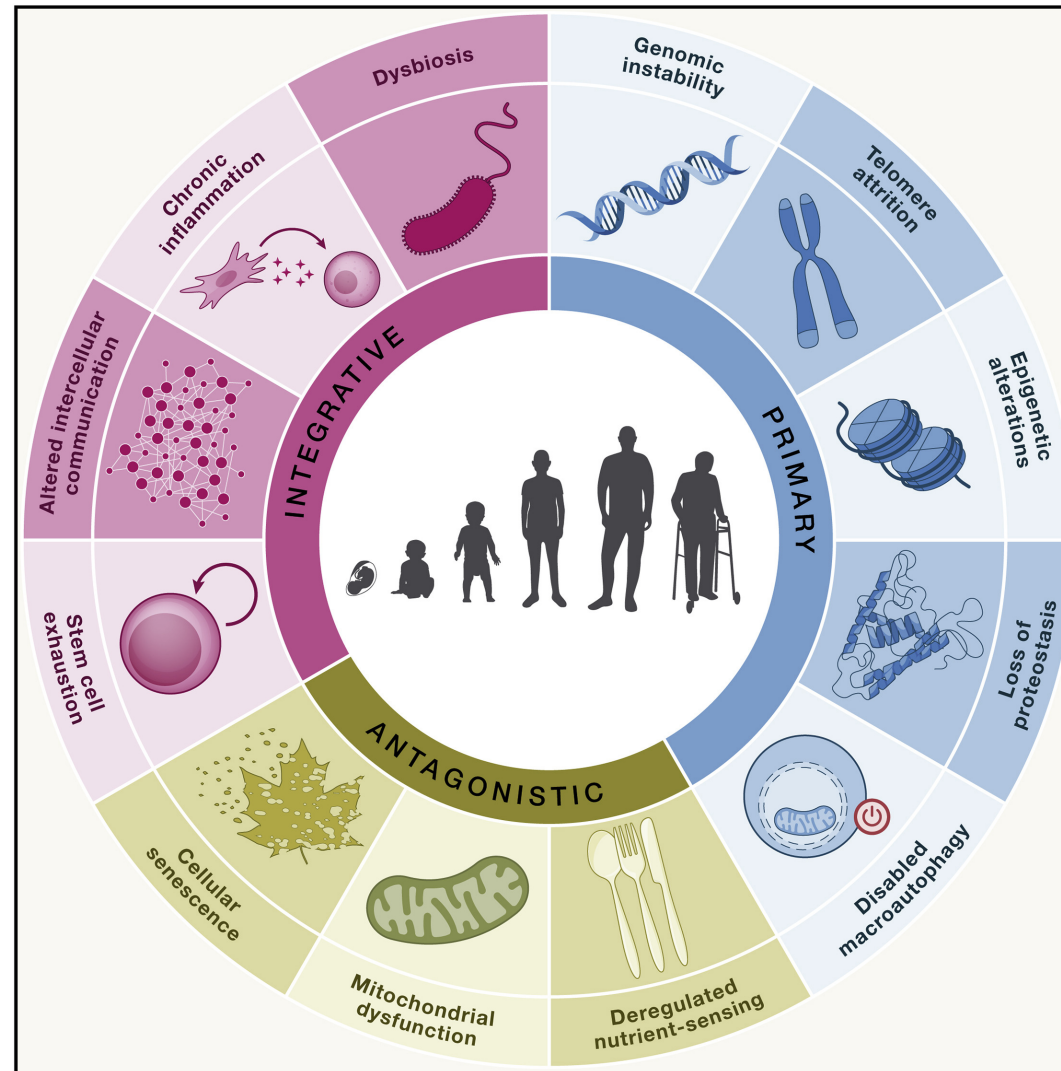


THE HEALTH ISSUE TIME

It's All About Prevention.

The first step toward containing health-care costs is to avoid getting sick. Here's what it takes

The hallmarks of aging: an expanding universe





Macronutrients

Protein: essential aminoacids

FAT: essential fatty acids

Micronutrients

13 Vitamins

Water soluble: 8 B Vitamins and Vit C

Fat soluble : A, D, E and K

Macrominerals: calcium, chlorid, magnesium, phosphorus, potassium, sodium and sulphur

15 Minerals

Trace minerals: chromium, copper, iodine, iron, manganese, molybdenum, selenium and zinc



Neolithic food



Milk & Dairy



Isolated sugar

(except honey)



Salt



Legumes



Cereal grains



Alcohol

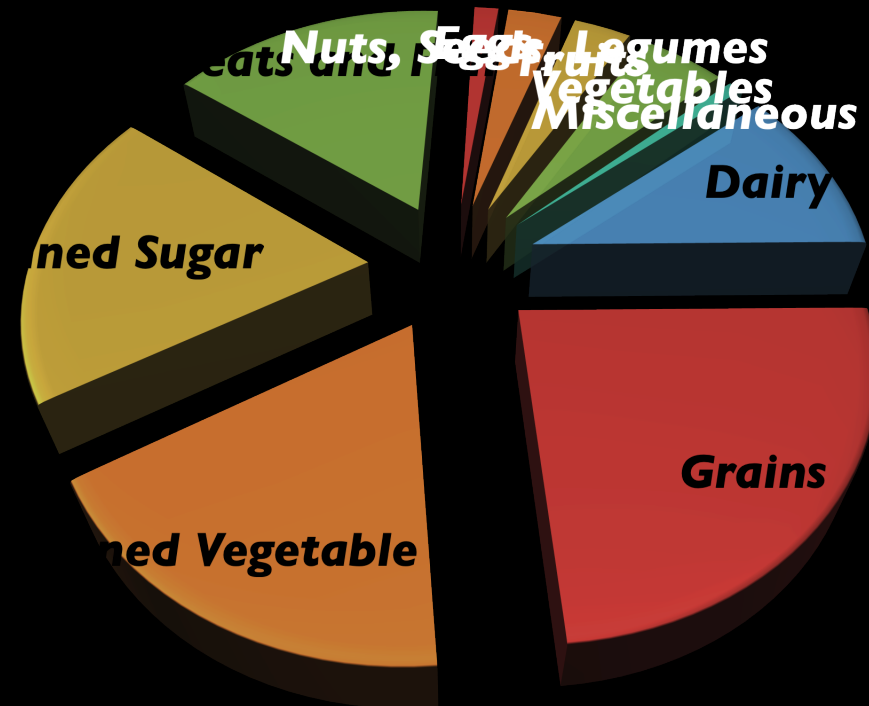


Fatty Domestic meat



Vegetable oils





Zuccheri raffinati, cereali, oli vegetali e latticini
70.9 % dell'energia fornita dal cibo negli USA





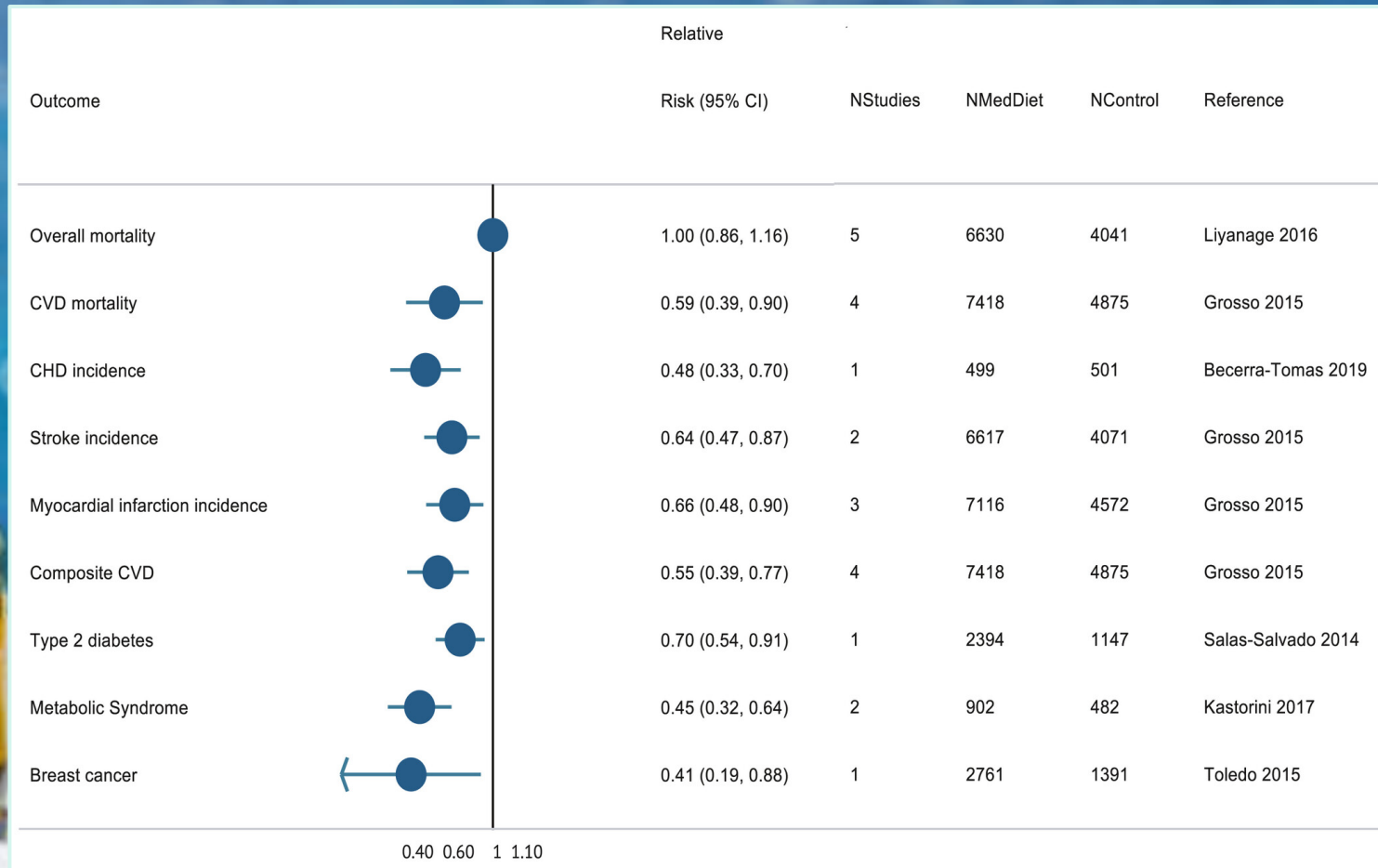
**Percentuali di tutti gli individui di età > 2y che non soddisfano
il 100% del fabbisogno raccomandato negli USA nel 1989**

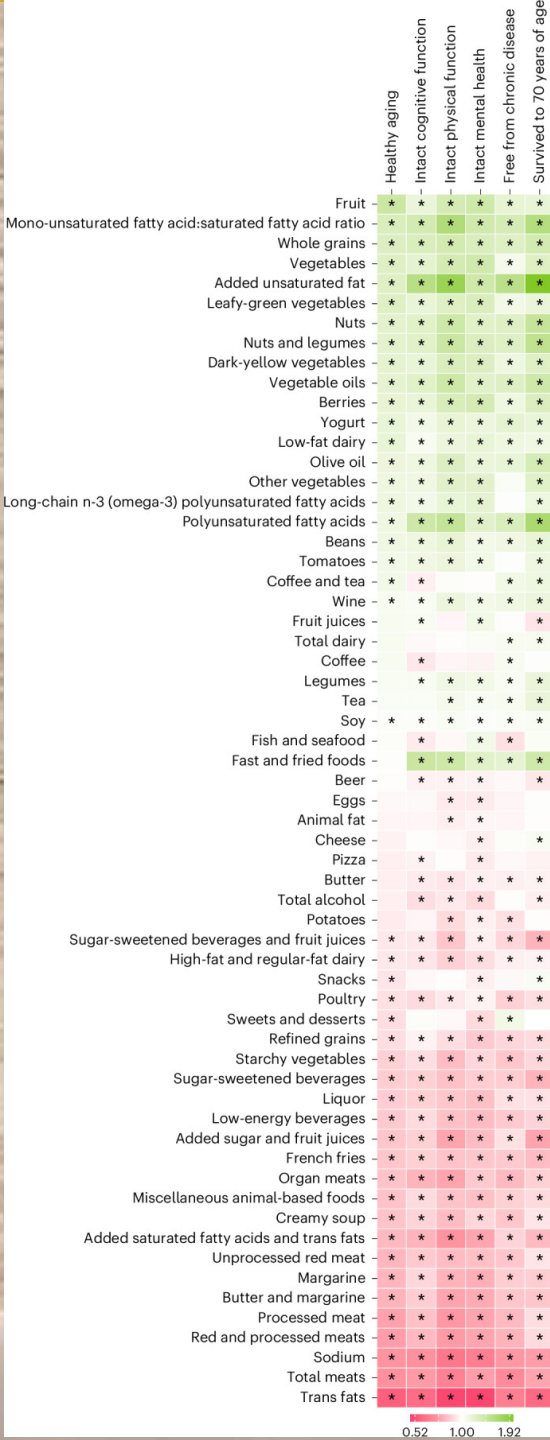
Nutriente	Valori%
Vitamin B-12	17.2
Niacin	25.9
Phosphorus	27.4
Riboflavin	30.0
Thiamine	30.2
Folate	33.2
Vitamin C	37.5
Iron	39.1
Vitamin B 6	53.6
Vitamin A	56.2
Magnesium	61.6
Calcium	65.1
Zinc	73.3

Valori sono 2-d media dei dati raccolti dal 1994 al 1996



Mediterranean diet and chronic diseases

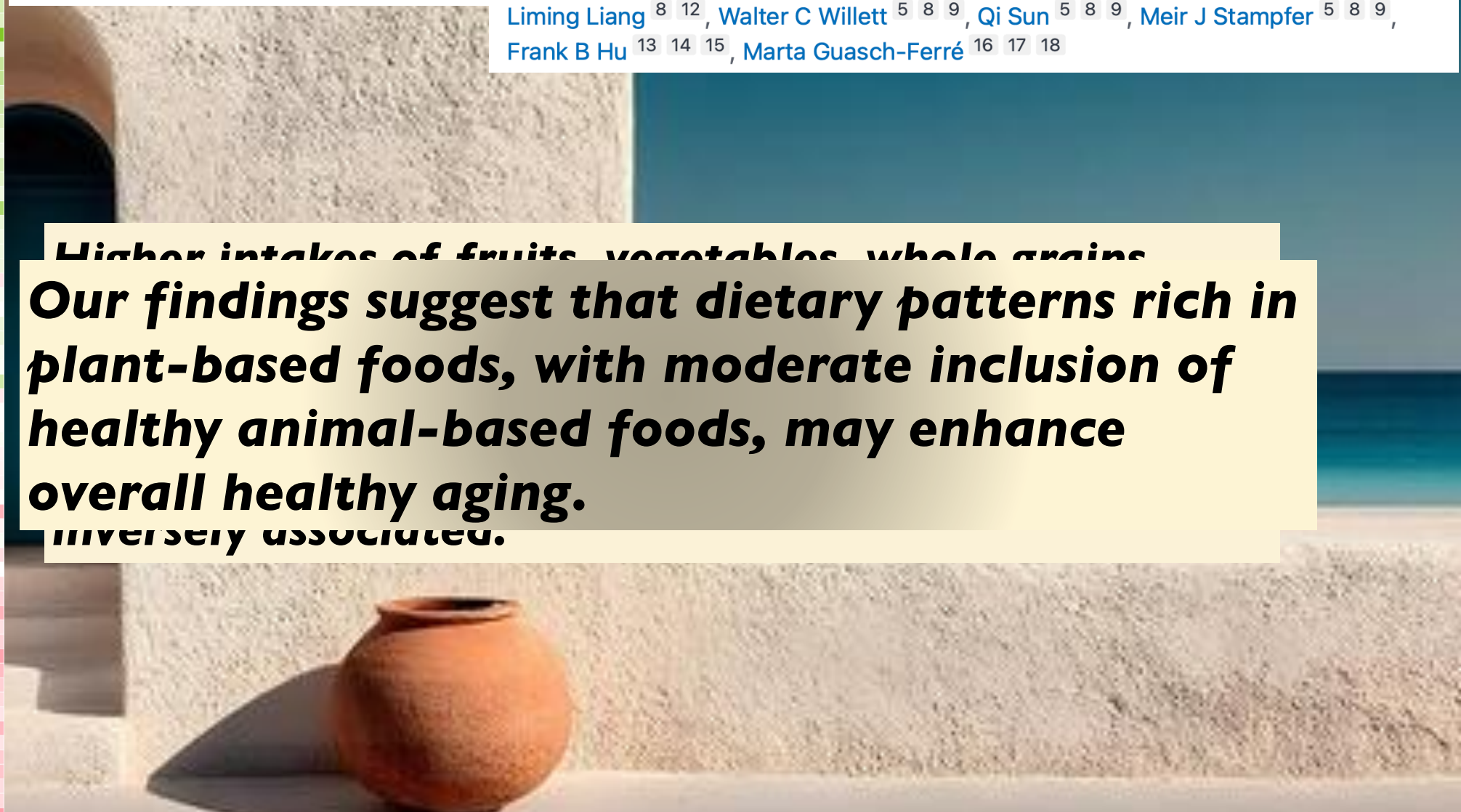




I05.015 (NH study and HP f-up study) 30 yrs f/up

Optimal dietary patterns for healthy aging

Anne-Julie Tessier^{1 2 3 4}, Fenglei Wang⁵, Andres Ardisson Korat^{6 7}, A Heather Eliassen^{5 8 9}, Jorge Chavarro^{5 8 9}, Francine Grodstein¹⁰, Jun Li^{5 11}, Liming Liang^{8 12}, Walter C Willett^{5 8 9}, Qi Sun^{5 8 9}, Meir J Stampfer^{5 8 9}, Frank B Hu^{13 14 15}, Marta Guasch-Ferré^{16 17 18}



Higher intakes of fruits, vegetables, whole grains

Our findings suggest that dietary patterns rich in plant-based foods, with moderate inclusion of healthy animal-based foods, may enhance overall healthy aging.

Inversely associated.

The NEW ENGLAND JOURNAL *of* MEDICINE

REVIEW ARTICLE

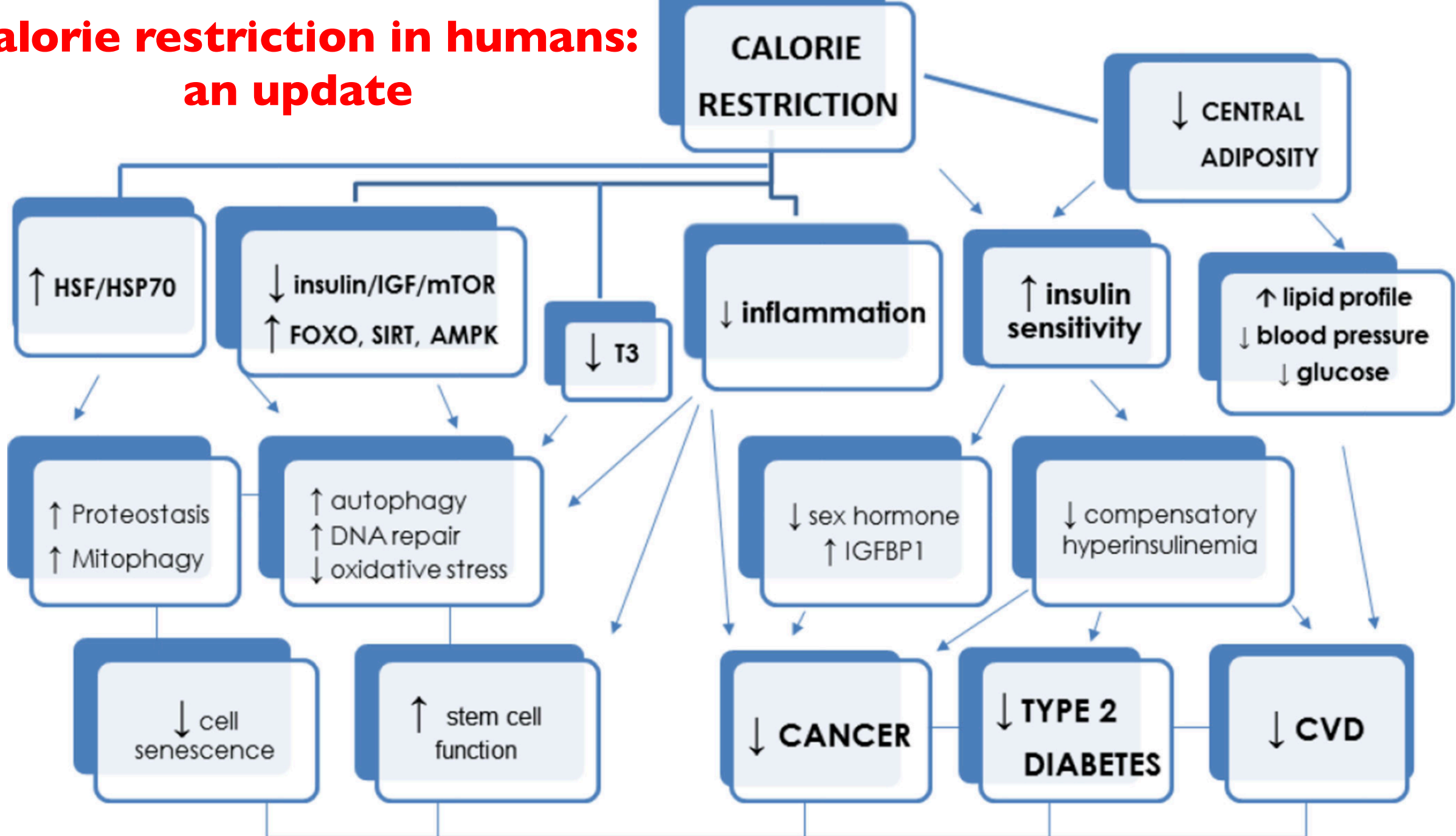
Dan L. Longo, M.D., *Editor*

Effects of Intermittent Fasting on Health, Aging, and Disease

Rafael de Cabo, Ph.D., and Mark P. Mattson, Ph.D.

N Engl J Med 2019;381:2541-51

Calorie restriction in humans: an update



EAT REAL FOOD



CARDIOLOGIA ASTI

Eat **only**
until
80% full.

Hara Hachi Bu

腹八分

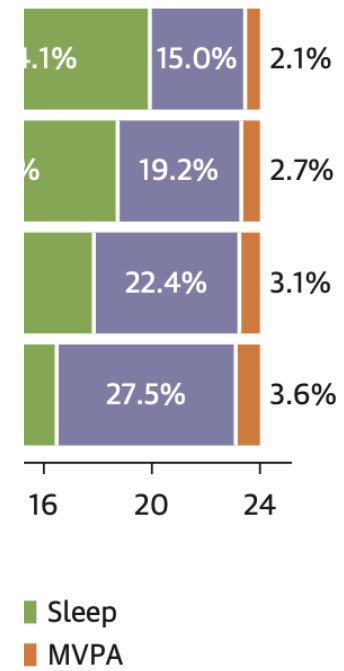
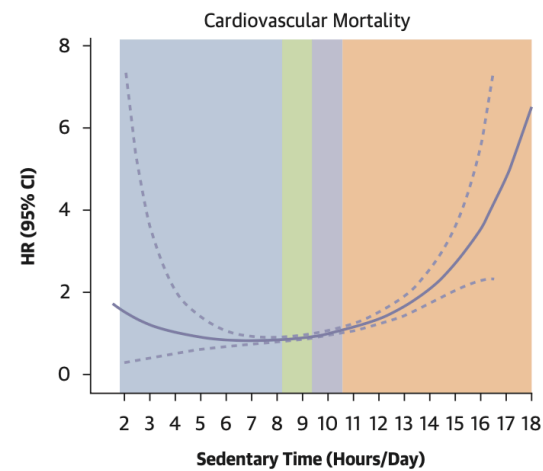
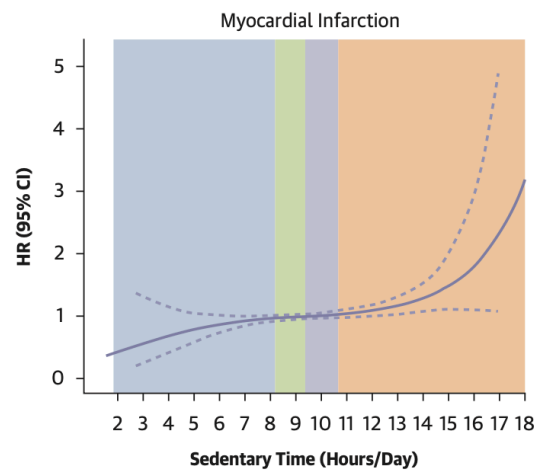
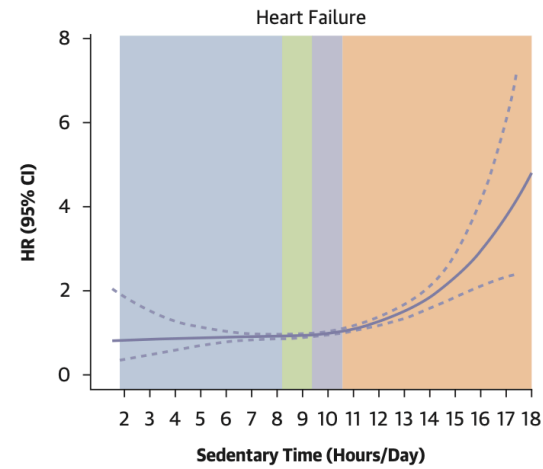
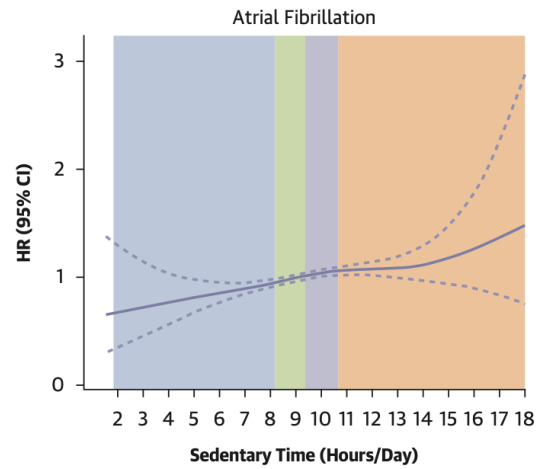
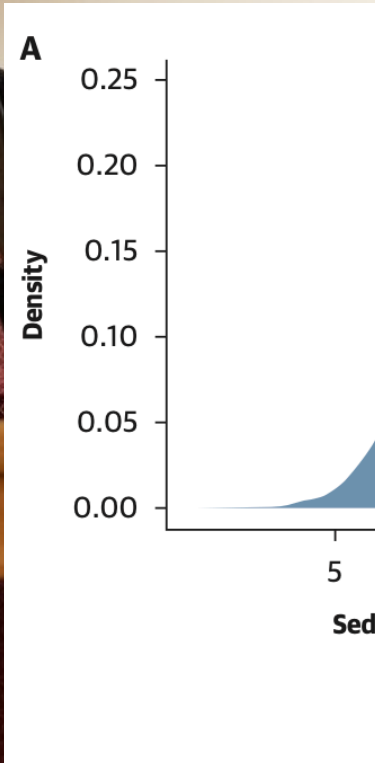


LONGEVITY

EXERCISE

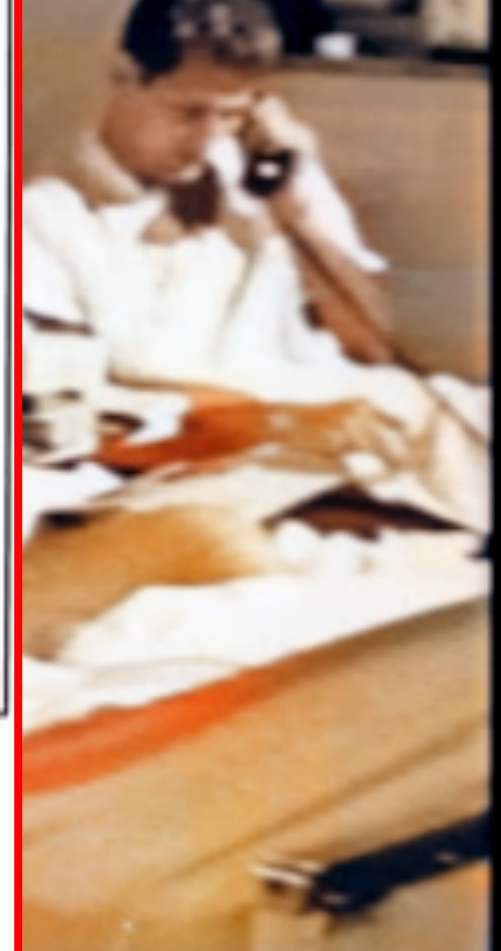
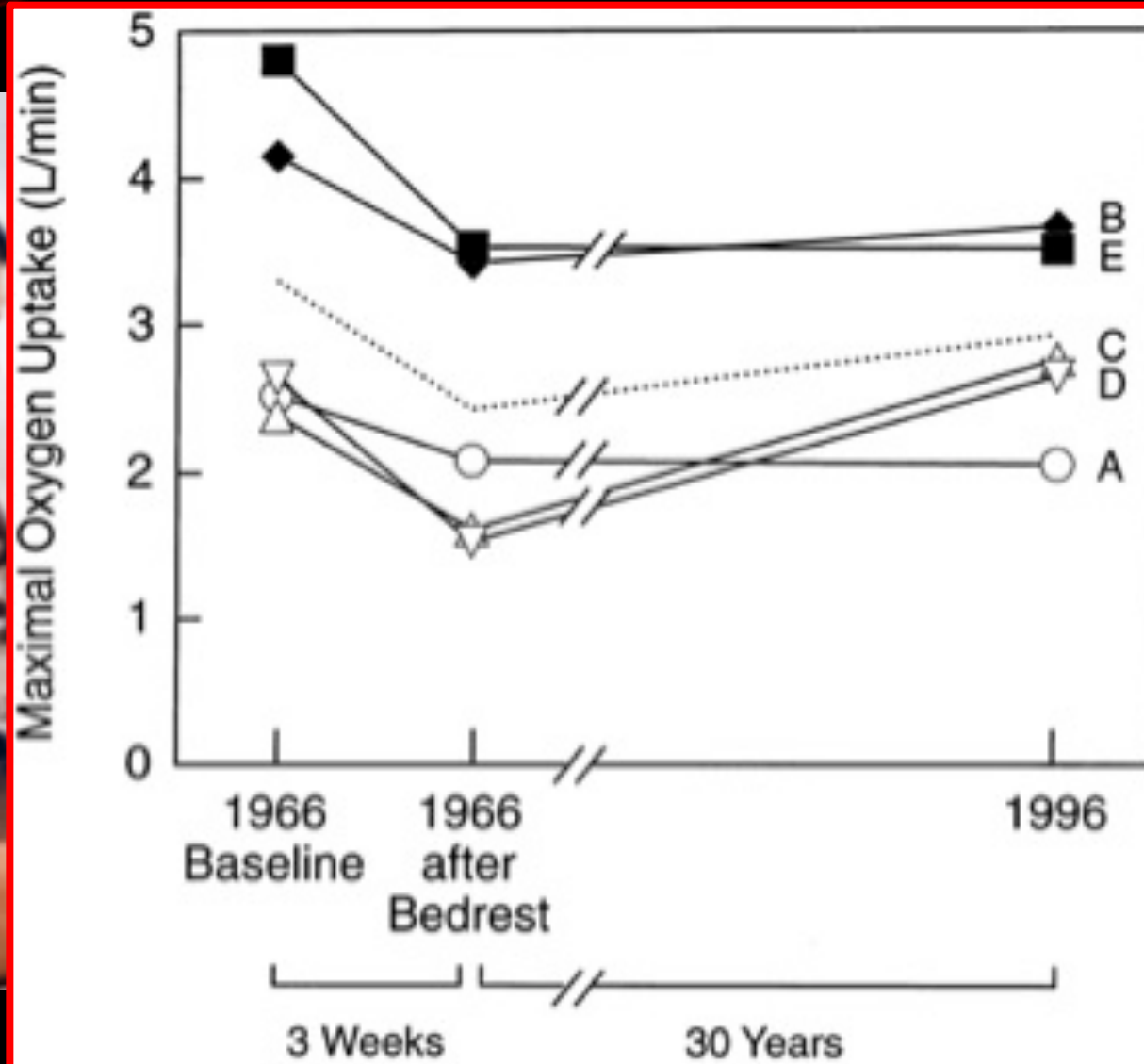


UK

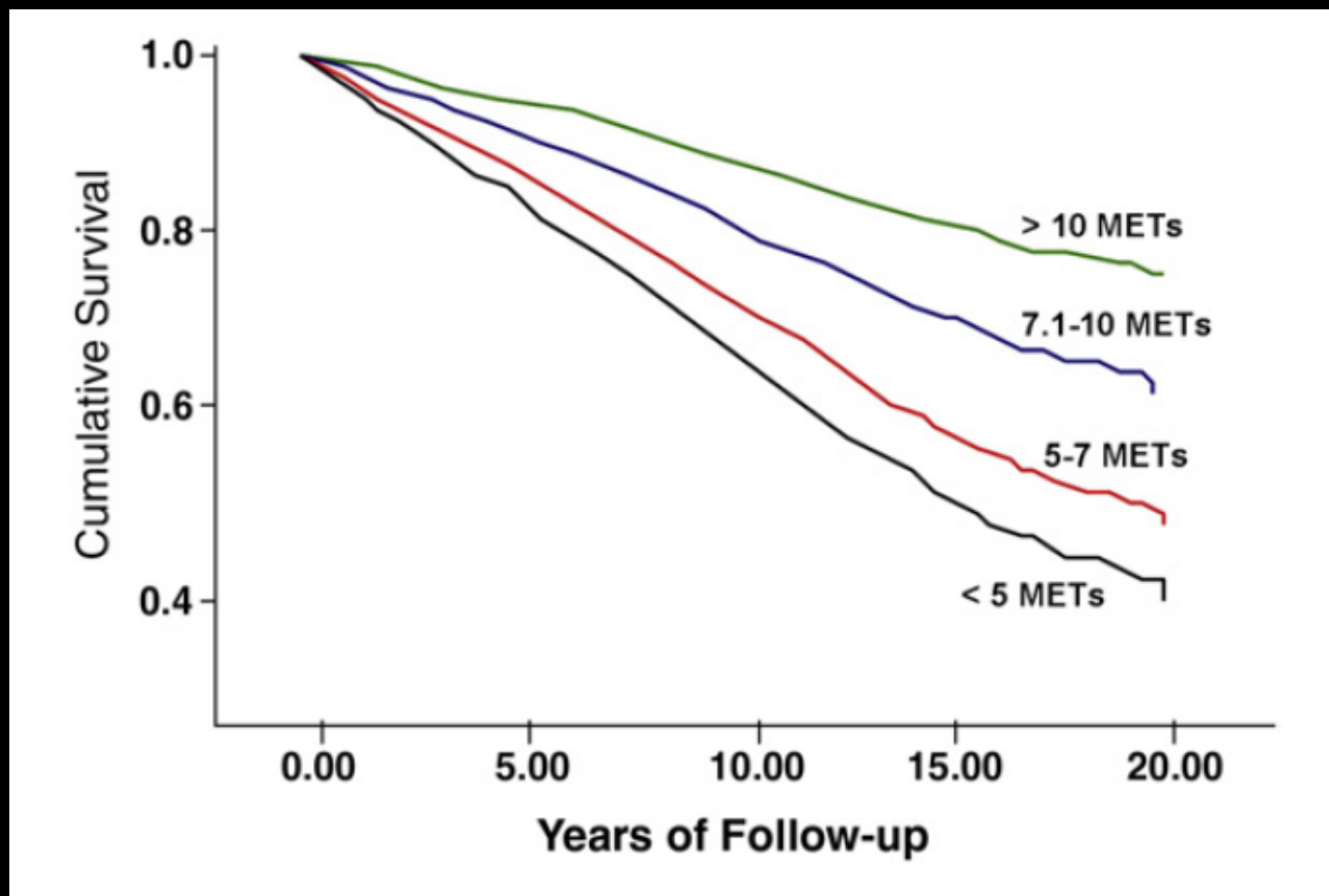


Ajufo E et al JACC 2025; 85:473-486

BED REST DALLAS STUDY



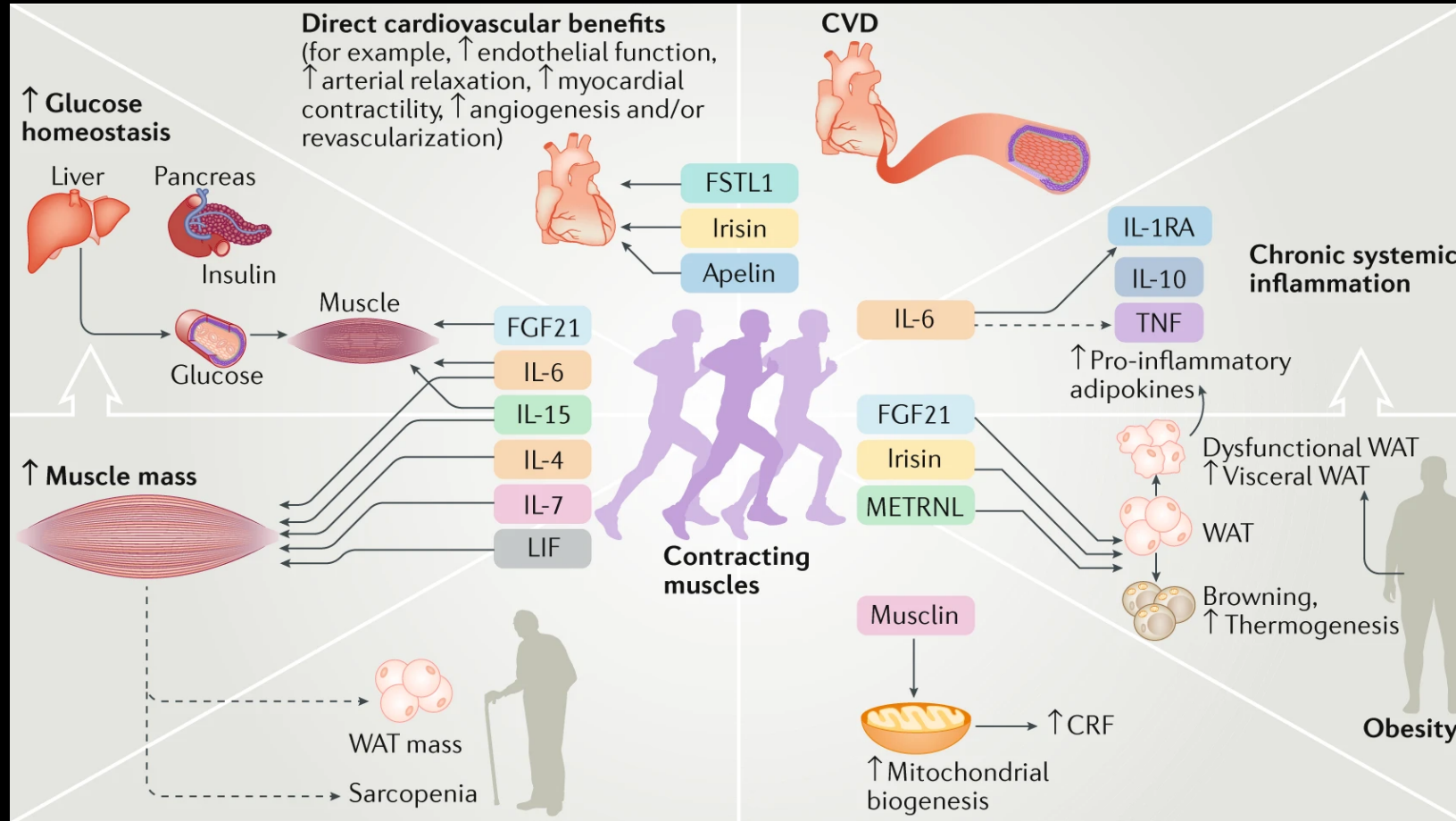
Exercise capacity and mortality



Kokkinos P, Myers J, Kokkinos JP, et al. *Circulation* 2008;117:614-622.



Cardiovascular benefits of muscle-derived myokines



Carmen Fiuza-Luces et al: Exercise benefits in cardiovascular disease: beyond attenuation of traditional risk factors Nature reviews , vol 15 Dec 2018 731-743



Aerobic exercise “endurance”



150-300 min/week of moderate activity PA, 75-150 min/week of vigorous activity or a combination throughout the week

Resistance training



World Health
Organization

Muscle strengthening activities at moderate or greater intensity involving all major muscle groups at least 2 days a week

**At least 3 days /week
for >65 yrs old**

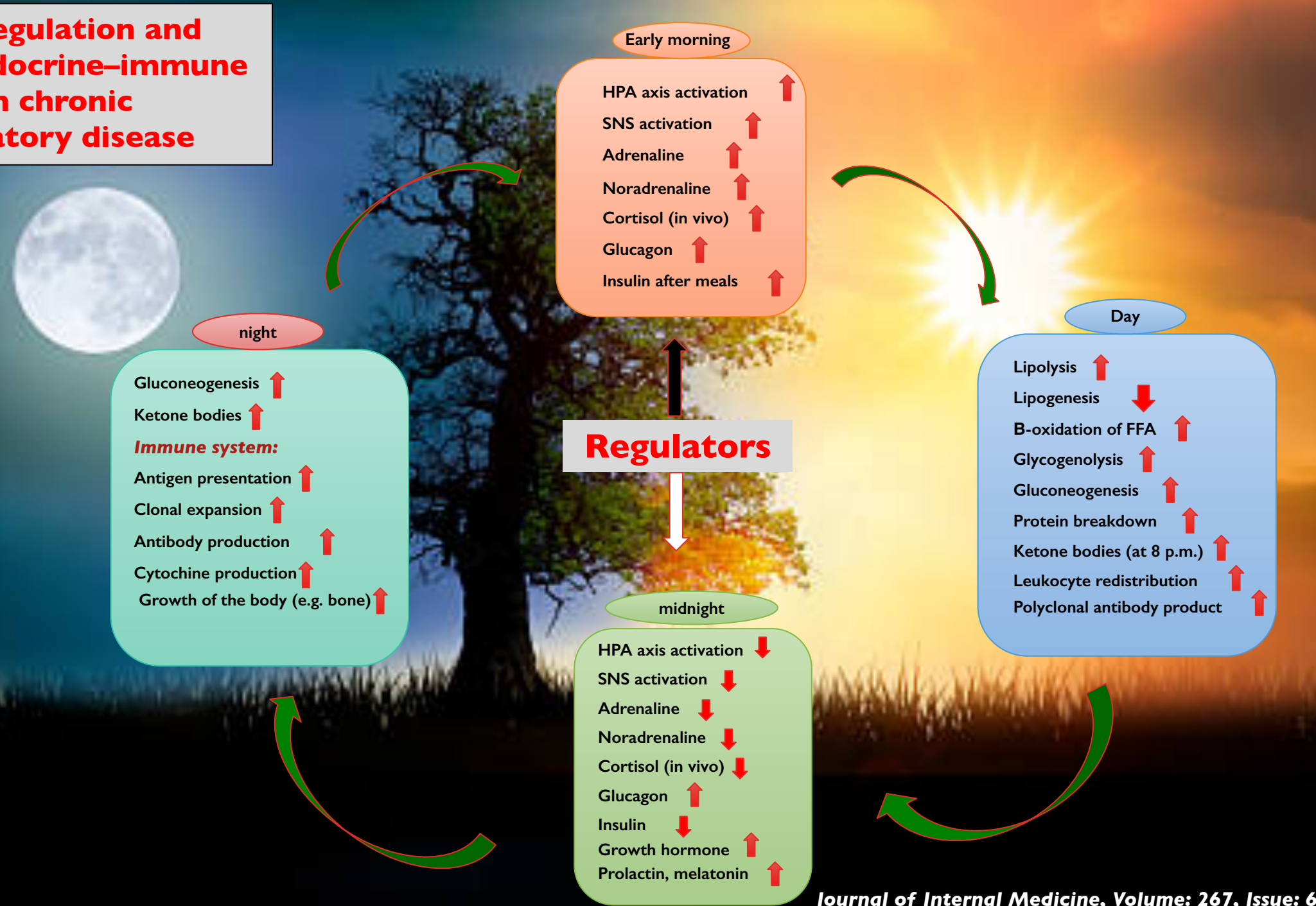


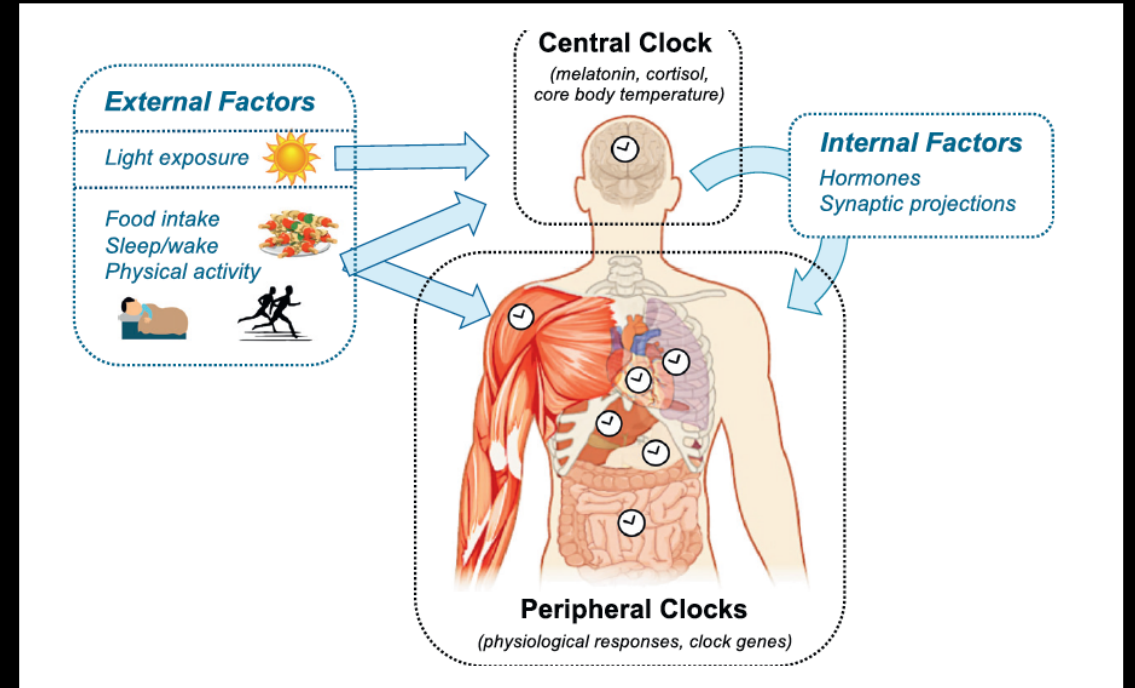
**World Health
Organization**



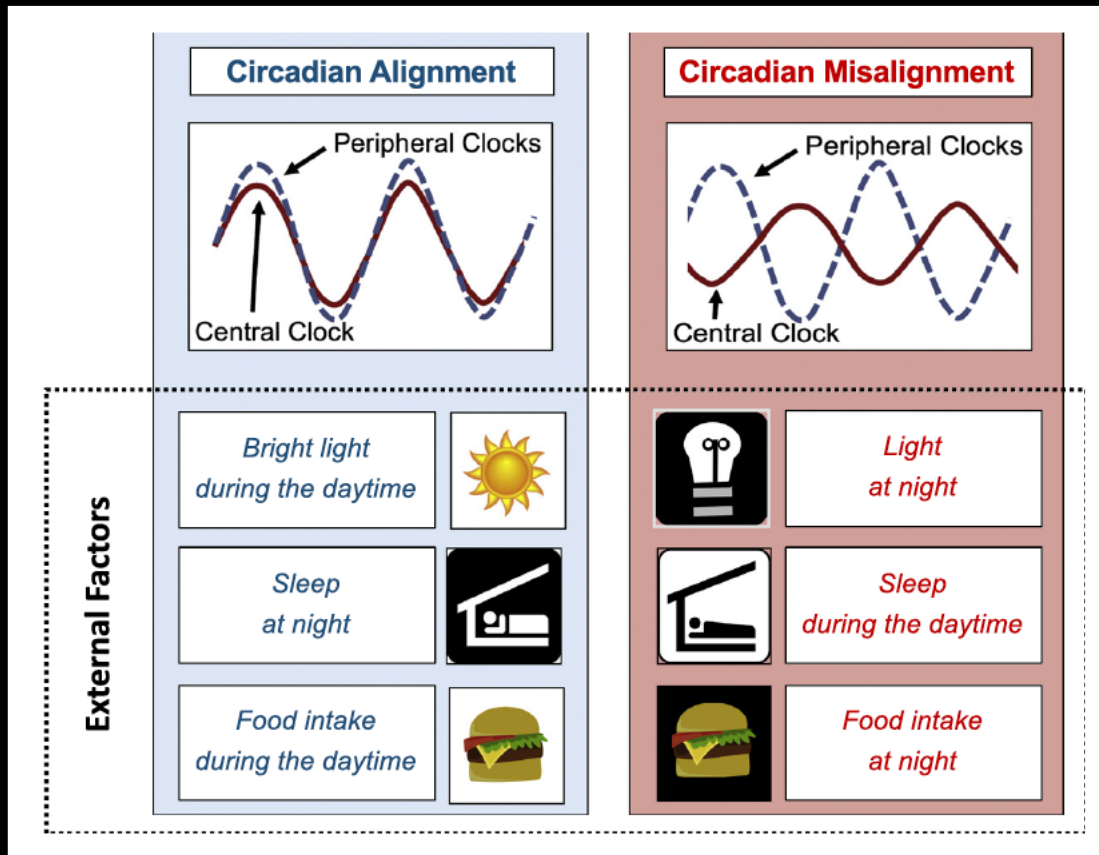
**Varied multicomponent physical activity that
emphasises *functional balance* and strength
training at moderate or greater intensity**

**Energy regulation and
neuroendocrine-immune
control in chronic
inflammatory disease**





Poggiogalle E. et al. Circadian regulation of glucose, lipid and energy metabolism in human metabolism (2017) Metabolism



Poggiogalle E. et al. Circadian regulation of glucose, lipid and energy metabolism in human metabolism (2017) Metabolism

**35-40% of Americans
sleep < 7 hours on a
regular basis**



**All cause
mortality**

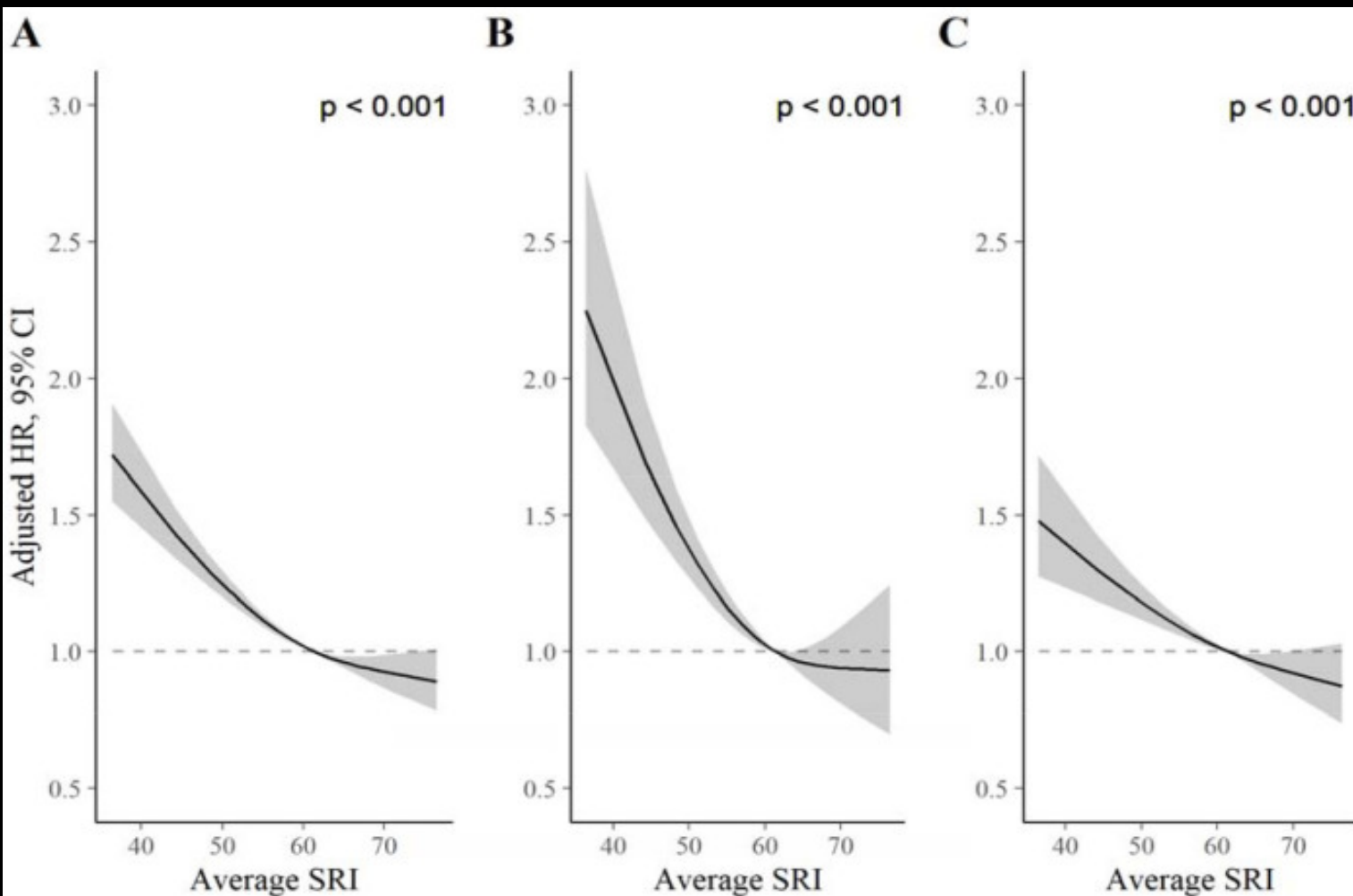
**Cardiovascular
mortality**

**Cancer
mortality**

Newsweek

01.30.2015

The Great American Sleep Deficit

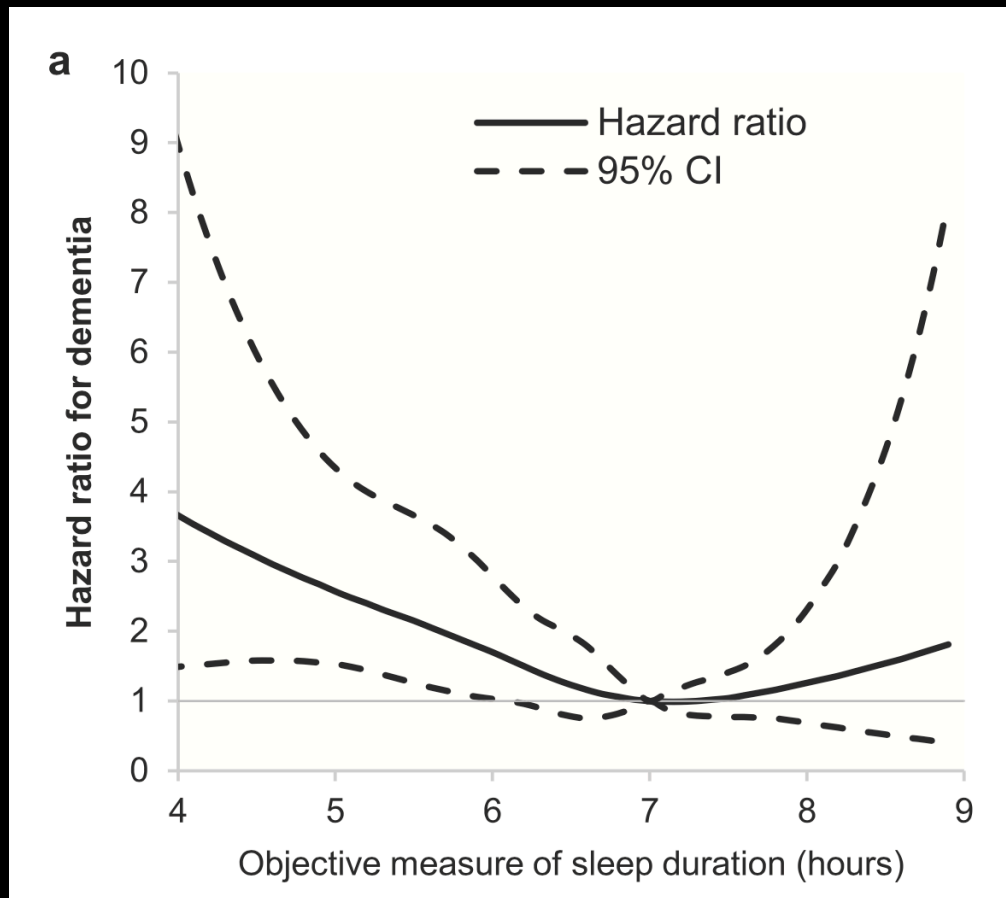


CARDIOLOGIA ASTI

Cribb L et al Sleep regularity and mortality: a prospective analysis in the UK Biobank 2023

Association of sleep duration in middle and old age with incidence of dementia

S  verine Sabia^{1,2}, Aurore Fayosse¹, Julien Dumurgier^{1,3}, Vincent T. van Hees⁴, Claire Paquet³, Andrew Sommerlad^{5,6}, Mika Kivim  ki^{2,7}, Aline Dugravot¹ & Archana Singh-Manoux^{1,2}



Sleep chart of biological ageing clocks in middle and late life

<https://doi.org/10.1038/s41586-026-10524-5>

Received: 26 June 2025

Accepted: 10 April 2026

Published online: 13 May 2026

Open access

The MULTI Consortium*, Cliodhna Kate O'Toole¹, Zhiyuan Song¹, Filippas Anagnostakis¹, Zhijian Yang¹, Ye Ella Tian², Michael R. Duggan³, Chunrui Zou⁴, Yue Leng⁵, Yi Cai⁶, Wenjia Bai^{7,8}, Cynthia H. Y. Fu^{9,10,11}, Michael S. Rafii¹², Paul Aisen¹³, Gao Wang¹³, Philip L. De Jager¹⁴, Jian Zeng¹⁵, Hamilton Se-Hwee Oh^{16,17,18,19}, Xia Zhou²⁰, Keenan A. Walker³, Daniel W. Belsky²¹, Andrew Zalesky², Eleanor M. Simonsick²², Susan M. Resnick³, Luigi Ferrucci²³, Christos Davatzikos²⁴ & Junhao Wen^{1,4,20,25,26,27}

The sample-specific lowest biological age gaps are achieved between 6.4 and 7.8 h of sleep duration, varying by organ and sex in the UKBiobank (aged 37–84 years). Furthermore, short (<6 h) and long (>8 h) sleep duration, compared with a normal sleep duration (6–8 h), are associated with increased risk of systemic diseases beyond the brain and all-cause mortality, with evidence from genetic correlations and time-to-incident survival predictions, such as depression and diabetes.

Nature Communications | (2021)12:2289

Nature May 2026



Glymphatic failure as a final common pathway to dementia

Maiken Nedergaard, Steven A. Goldman

Center for Translational Neuromedicine, Faculty of Health and Medical Sciences, University of Copenhagen, 2200 Copenhagen, Denmark; Center for Translational Neuromedicine, University of Rochester Medical Center, Rochester, NY 14642, USA

Review

Waste clearance shapes aging brain health

Li-Feng Jiang-Xie,^{1,2,4} Antoine Drieu,^{3,4} and Jonathan Kipnis^{1,2,*}

¹Center for Brain Immunology and Glia (BIG), Washington University in St. Louis, St. Louis, MO 63110, USA

²Department of Pathology and Immunology, School of Medicine, Washington University in St. Louis, St. Louis, MO 63110, USA

³Université Paris Cité, Institute of Psychiatry and Neuroscience of Paris (IPNP), INSERM U1266, 75014 Paris, France

⁴These authors contributed equally





Sleep is a non-negotiable
biological state required for the
maintenance of human
life.....

our need for **sleep** parallels
those for air, food, and water...

Sleep is a foundational aspect
of our biology.....

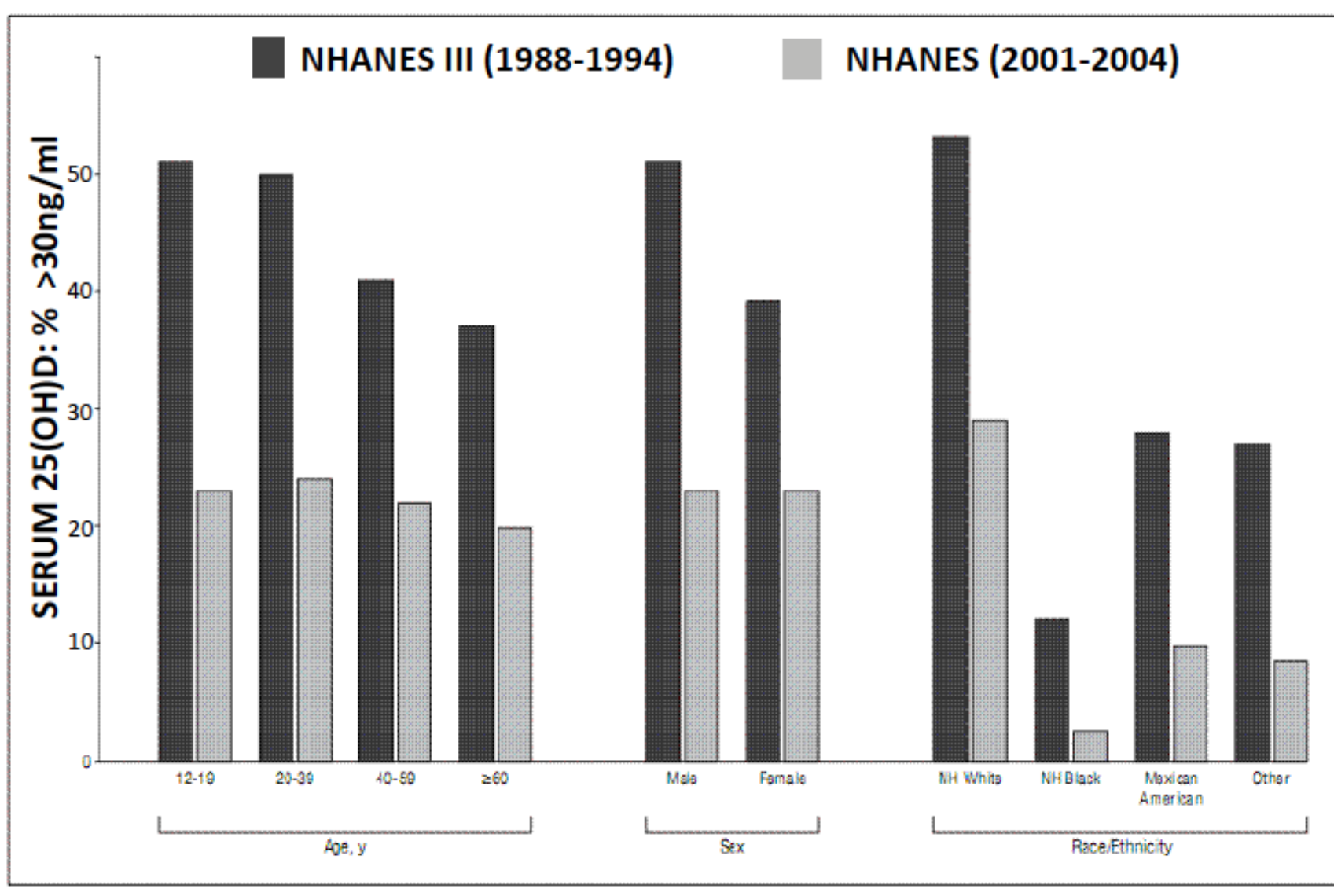
Outdoor activities



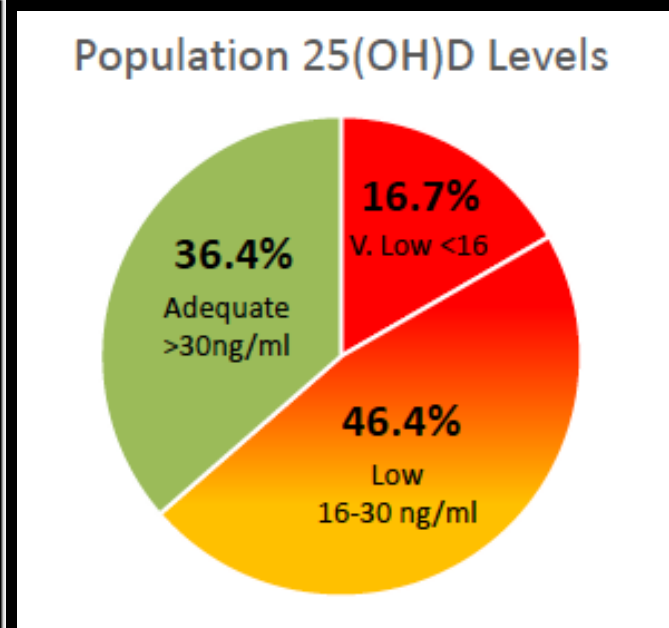
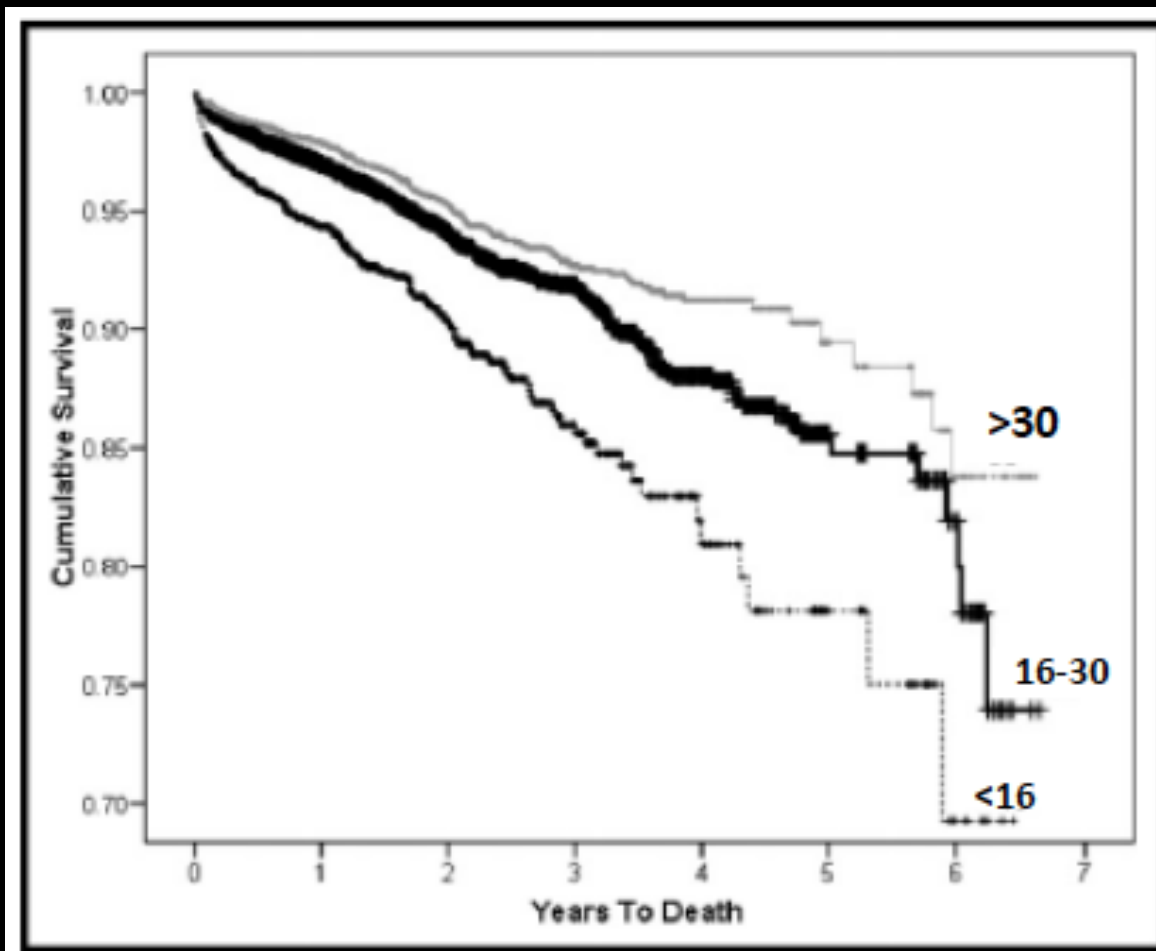
Regular sun exposure



Vitamin D3 Deficiency



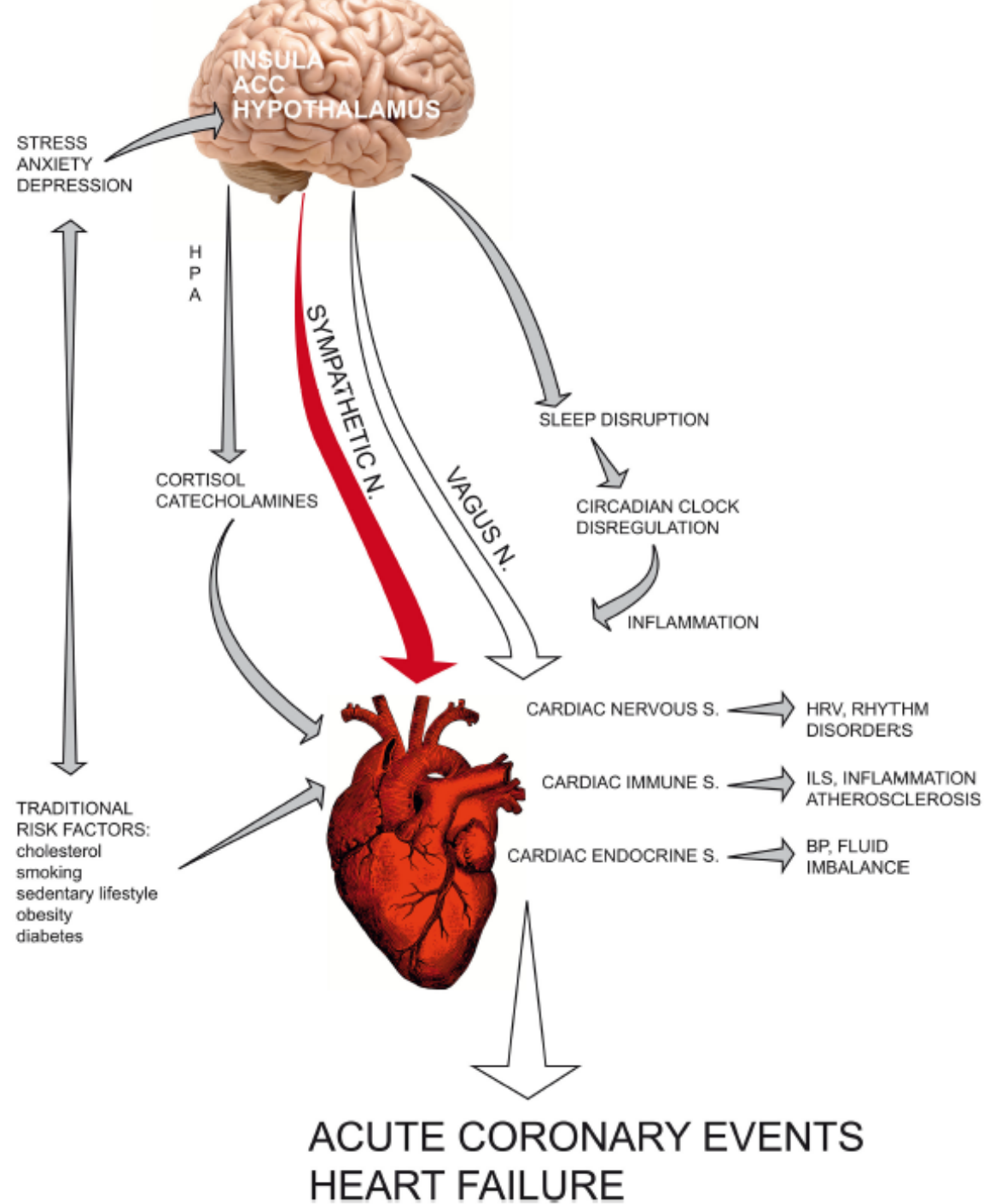
General mortality and Vit D levels

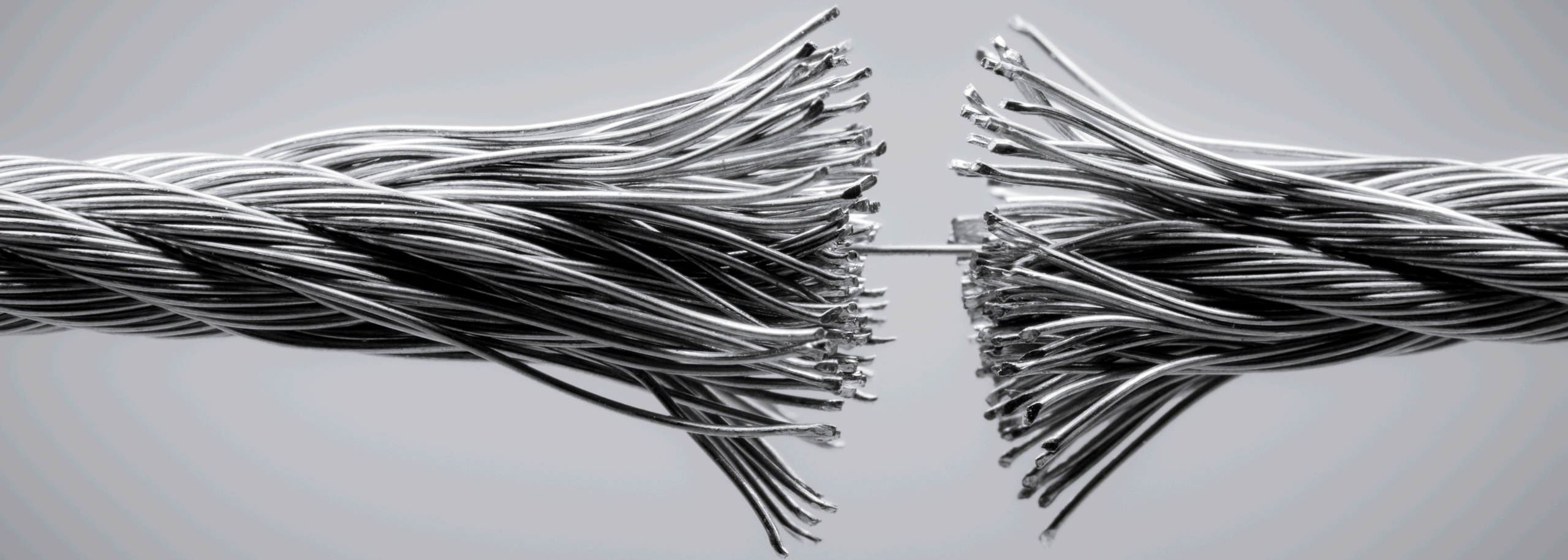


Anderson J. et al. Am J Cardiol 2010; 106:963-968









Breathing exercise

Regulates the nervous system

Key element to relaxation

Can lower blood pressure

Virtually every health condition and human activity is improved by effective breathing

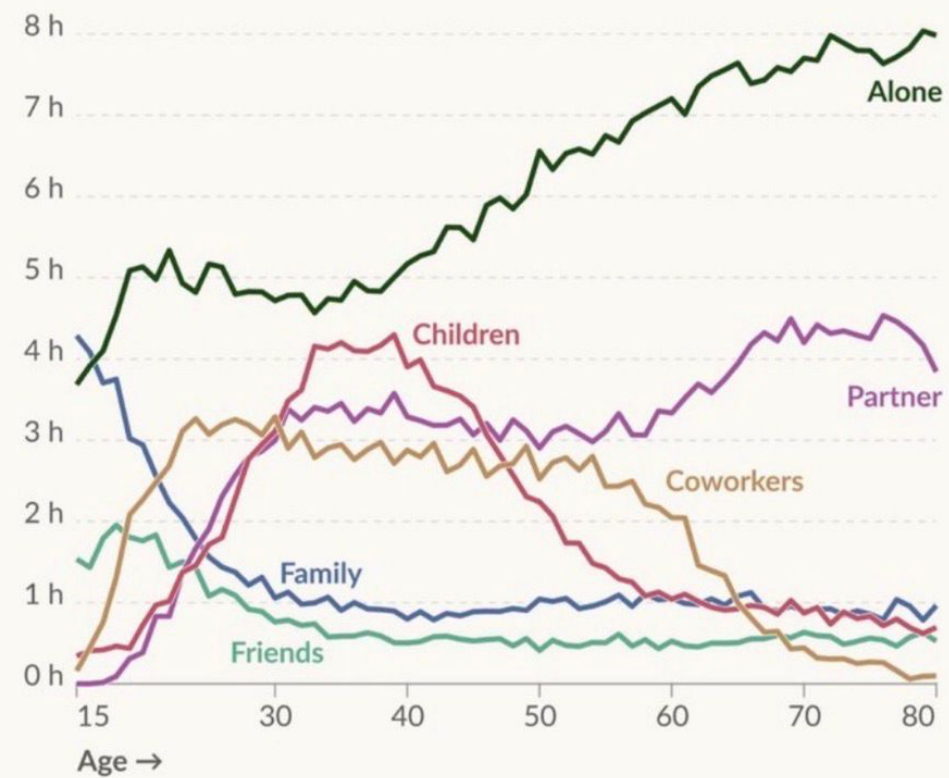




Who do Americans spend time with over their lives?

Our World
in Data

Hours per day, based on averages from surveys in the US in 2010–2024.



BLUE ZONES

LOMA LINDA
UNITED STATES

NICOYA
COSTA RICA

SARDINIA
ITALY

ICARIA
GREECE

OKINAWA
JAPAN

Blue zones are regions where a higher than usual number of people live much longer than average.
There are five blue zone areas in the world.

The Power of 9

Move naturally

Purpose

Downshift

80% rule

Plant slant

Wine

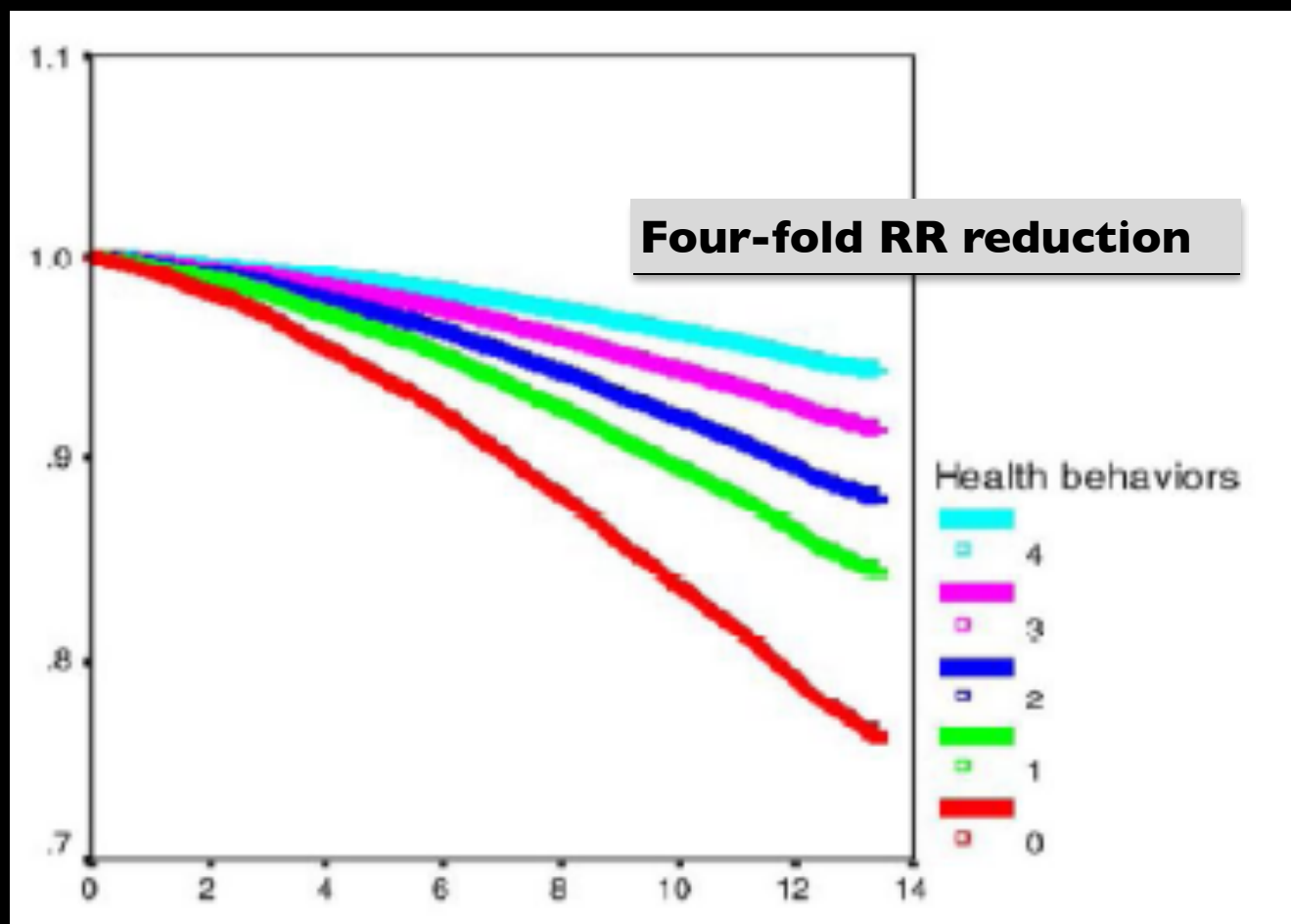
Belong

Loved ones first

Right tribe

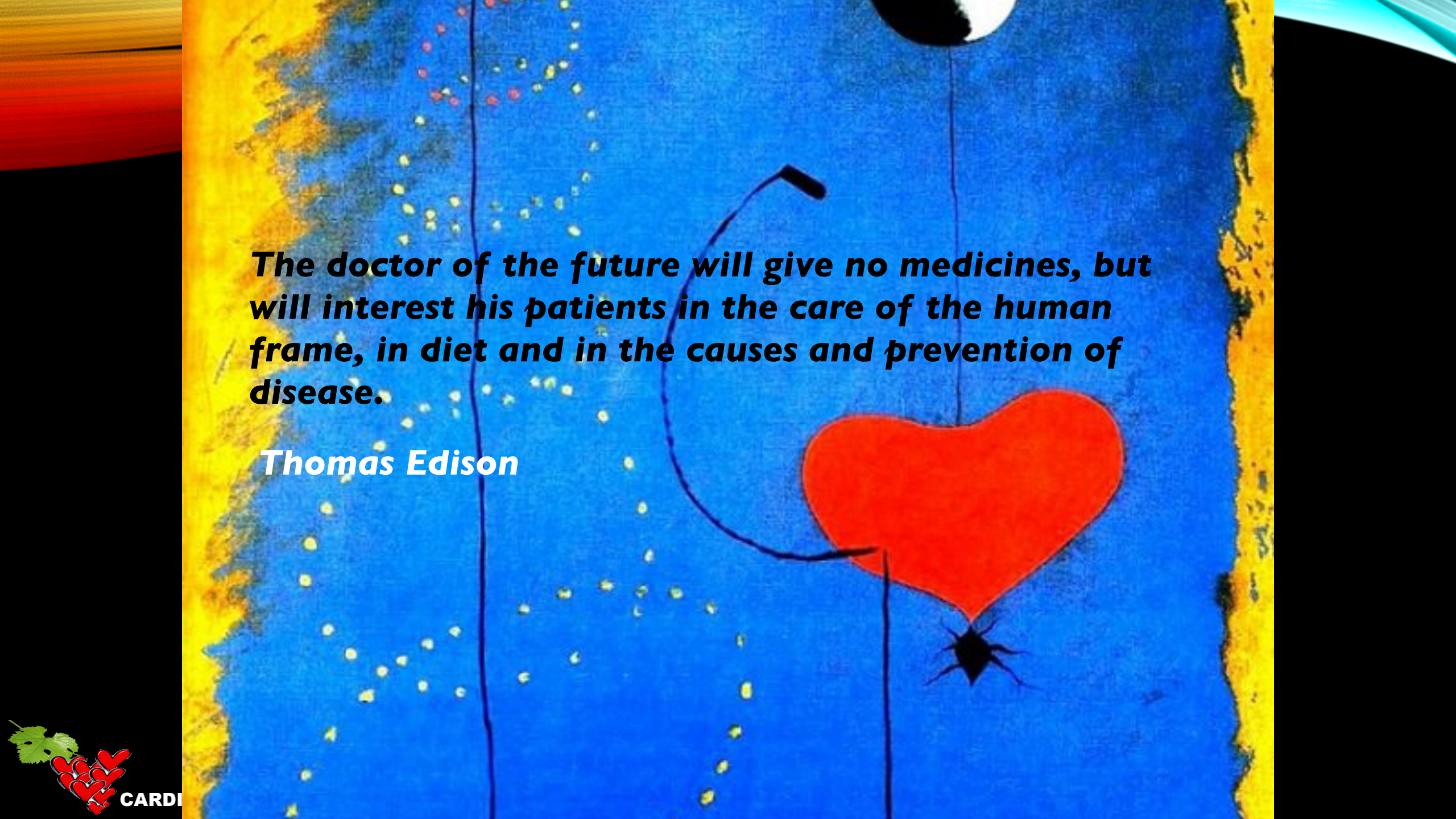
Survival by number of health behavior (EPIC-Norfolk)

non smoking, physically active, moderate alcohol, >5 portions of fruit/veg





"Are you eating properly and getting plenty of exercise?"

A surrealist painting of a human torso. The face is a solid blue shape with a black line for a mouth and a black line for a chin. A large, bright red heart is positioned where the chest would be. A black line extends from the top of the heart, curving upwards and to the left, ending in a small black dot. Another black line extends from the bottom of the heart, ending in a small black spider-like figure. The background is a deep blue with numerous small, yellow, star-like dots. The edges of the painting are framed by a yellow and orange border.

The doctor of the future will give no medicines, but will interest his patients in the care of the human frame, in diet and in the causes and prevention of disease.

Thomas Edison

