

Subtheme 4

Health and Well-Being in Sport and Physical Activity

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PHYSICAL INACTIVITY

self-regulation & self-responsibility or Nanny knows best?

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**17-19 JULY 2025
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Disclosure

Research money: UWV, TNO, NIVEL, ZonMw, Dutch Government, Dutch Heart Foundation, Delta Lloyd, UVIT, Monuta, KLM, RIVM, ArboNed, Heineken, Dutch Dairy Industry, KNMG, WCRF, KWF, AMD VU/VUmc, Astra Zeneca, Ergotron, Stichting Arbouw, IOC,

Miscellaneous: TCCC, Masterfood, Donjoy, WHO, EC, CDC, GR, MRC, Finish Academy Sci., EHFA, Pfizer, Eli Lilly, Nike,
em. Prof. @Amsterdam University Medical Centres, Hon. Prof @ UQ (Aus), @ UCD (Ireland) & @ UCT (SA),

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consultant through personal Ltd. Bloeiende Lelie B.V.

Outline

- A personal note
- What is the Public Health problem?
- How to deal with the problem?
- Self-regulation & self-responsibility doesn't help: the ecological proof?
- The need for political solutions
- The broader picture

A personal note

Leaders

A physically active lifestyle—public health's best buy?

Times have changed. Many people spend most of their working time in the office, sitting behind computer terminals, PCs or laptops. Death is no longer from a mono-causal, infectious disease, but by multi-causal chronic diseases. Lifestyle factors, such as smoking, excessive alcohol intake, nutrition (for example, a too high intake of dietary fat or an excessive intake of polysaturated fatty acids, or both) and physical inactivity, play an important part in the aetiology of such chronic diseases, like coronary heart disease (CHD), hypercholesterolaemia, hypertension, stroke, non-insulin dependent diabetes mellitus (NIDDM), and certain forms of cancer. The first three factors are considered "classic" independent risk factors for multi-causal chronic disease. The role of physical inactivity as an independent lifestyle risk factor has been the subject of debate and controversy. This debate seems, however, to have come to an end with the publication of

intake of saturated fatty acids, respectively. From a public health perspective it may be more appropriate to encourage a physically active lifestyle, second only to restriction of smoking habits, rather than to put emphasis on a further improvement of the dietary habits or on a reduction of body weight. Stimulating a physically active lifestyle has other related benefits; a physically active lifestyle (that is, regular exercise) helps to maintain body weight, leads to favourable dietary habits, and leads to a decline in the number of smokers.¹⁰ Knowing this it seems that stimulating a physically active lifestyle is public health's best buy.

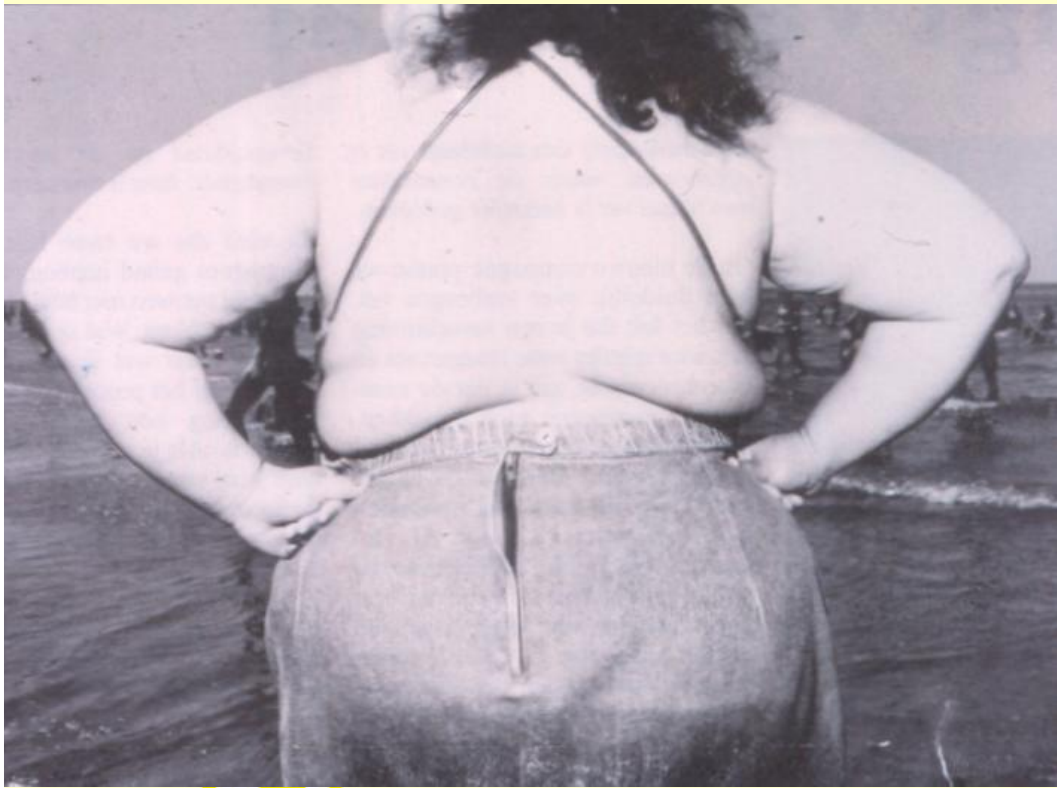
If stimulating a physically active lifestyle is public health's best buy the next question is "how do we do that?" To answer this question one has to be aware of the determinants of physical activity behaviour. Many models are used to explain health related physical activity behaviour. In general these models include three sets of



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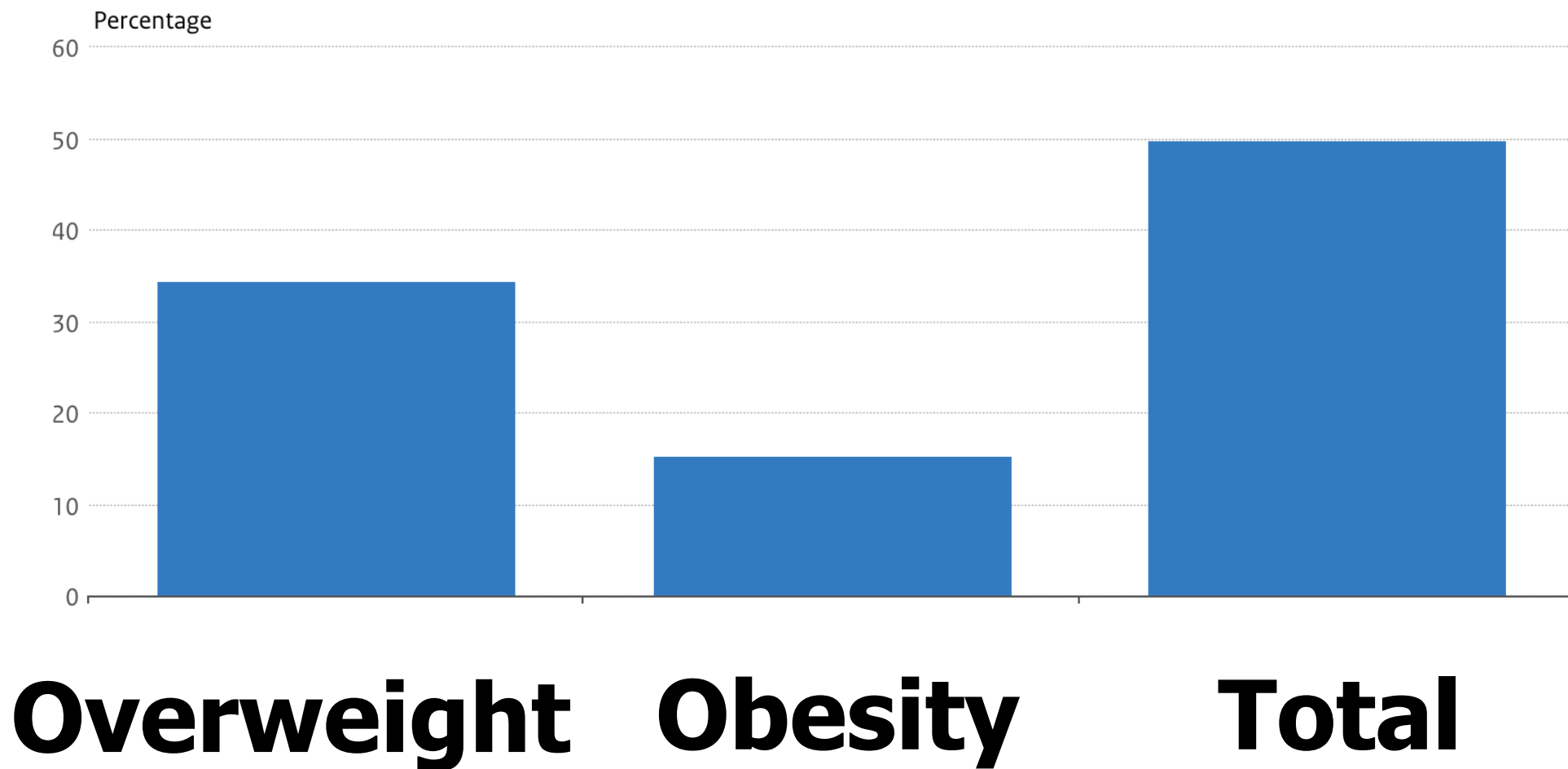
So, what is the problem?



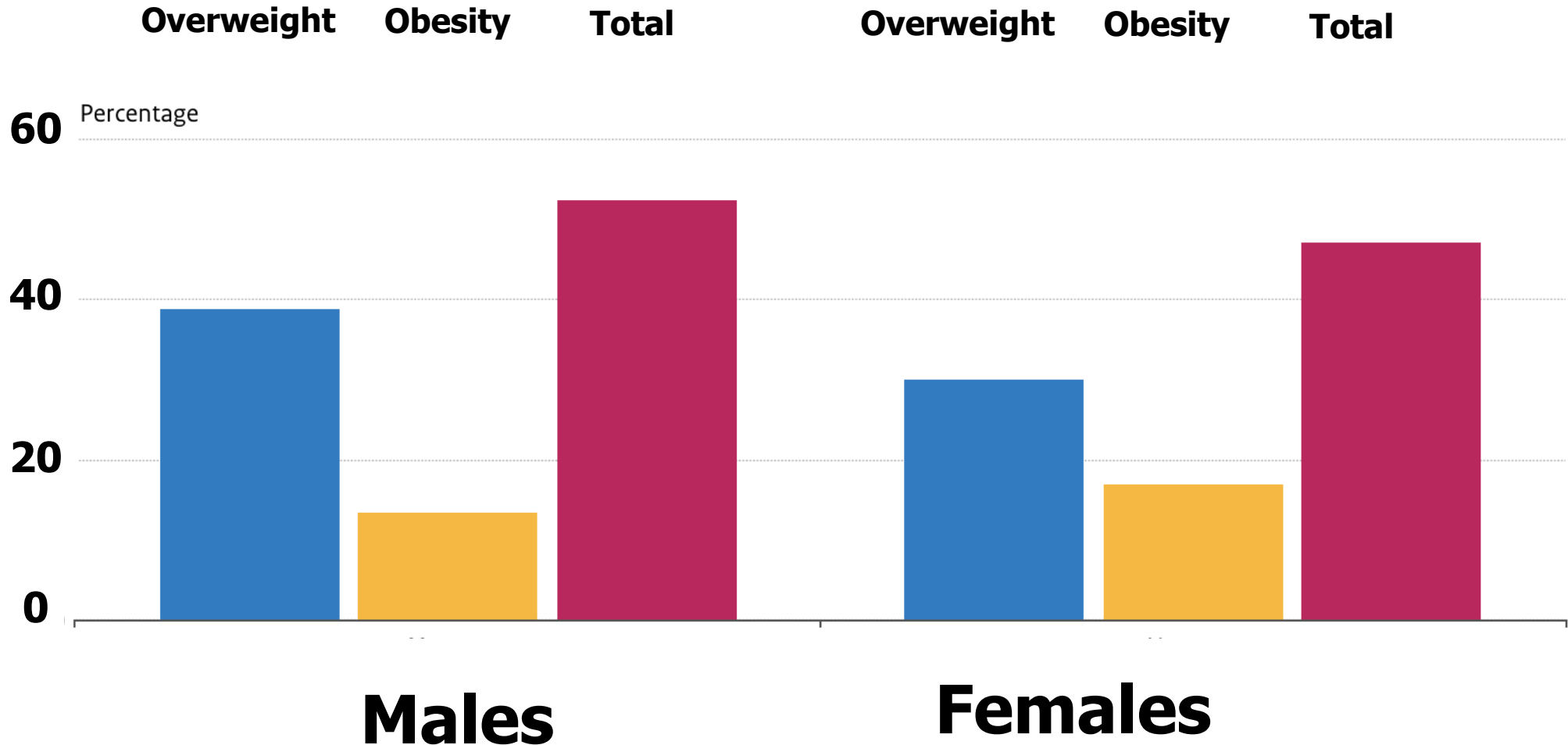




Overweight & Obesity NL, 18+

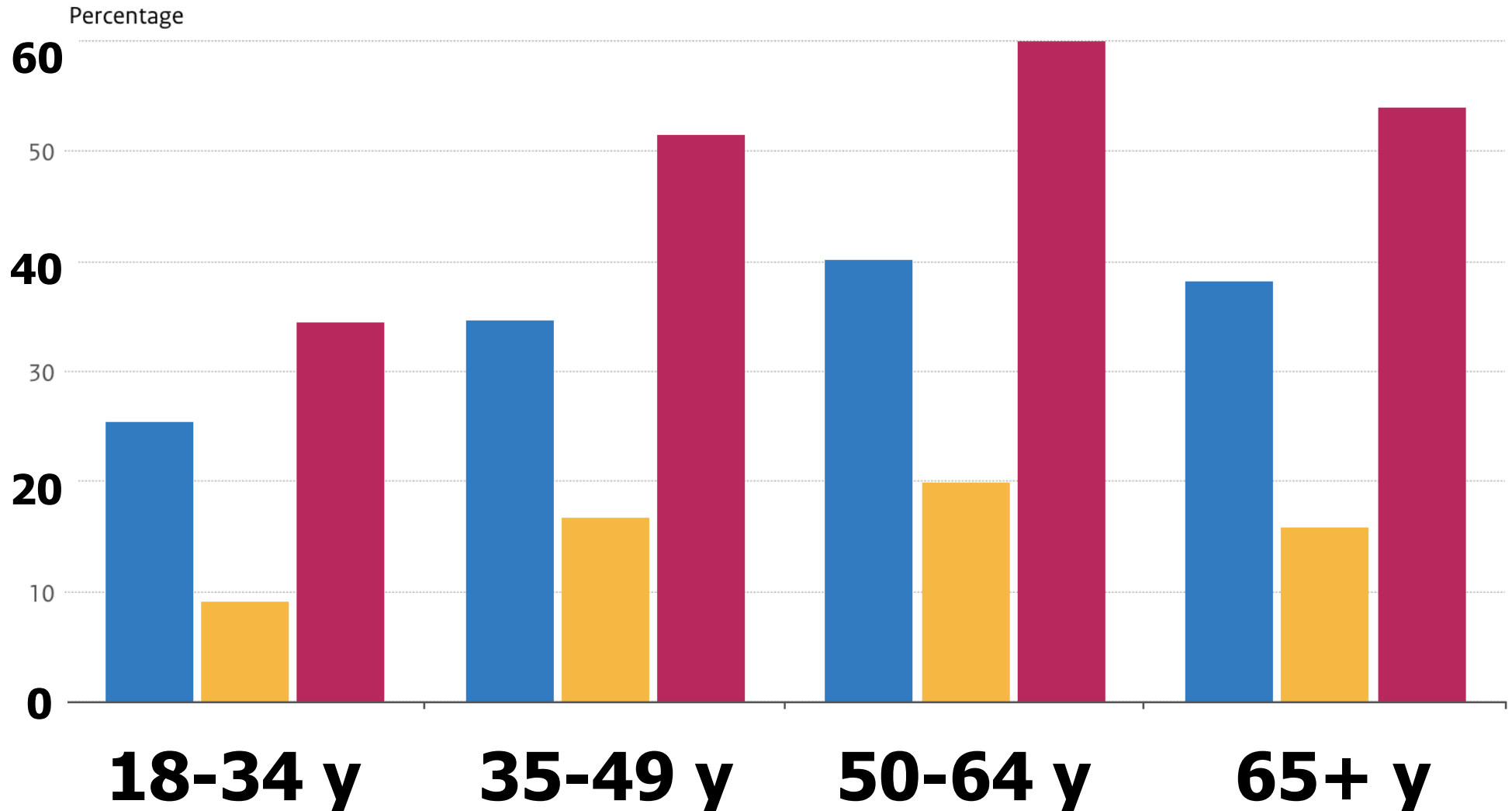


Overweight & Obesity NL 18+, by sex

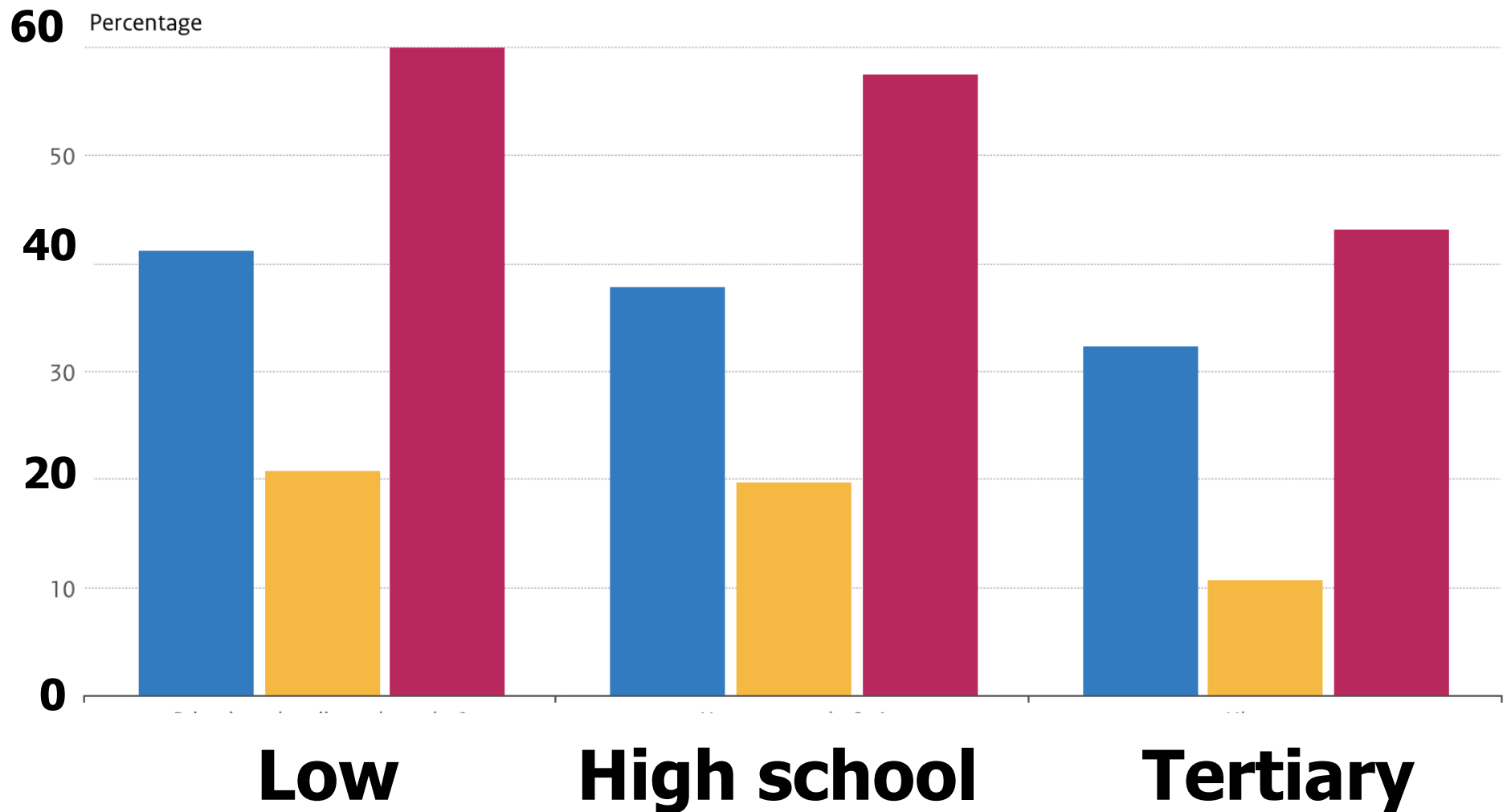


Overweight & Obesity NL

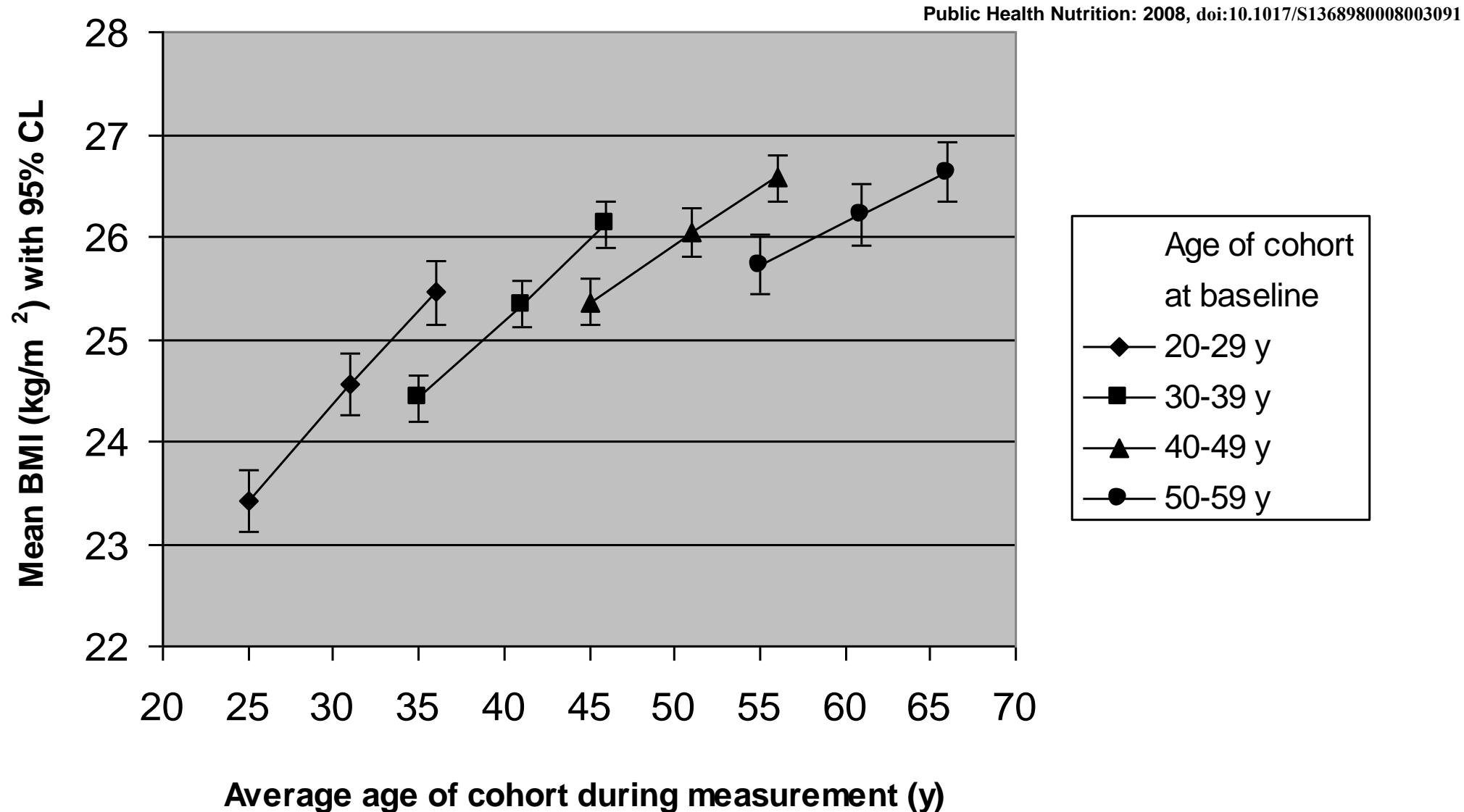
18+, by age



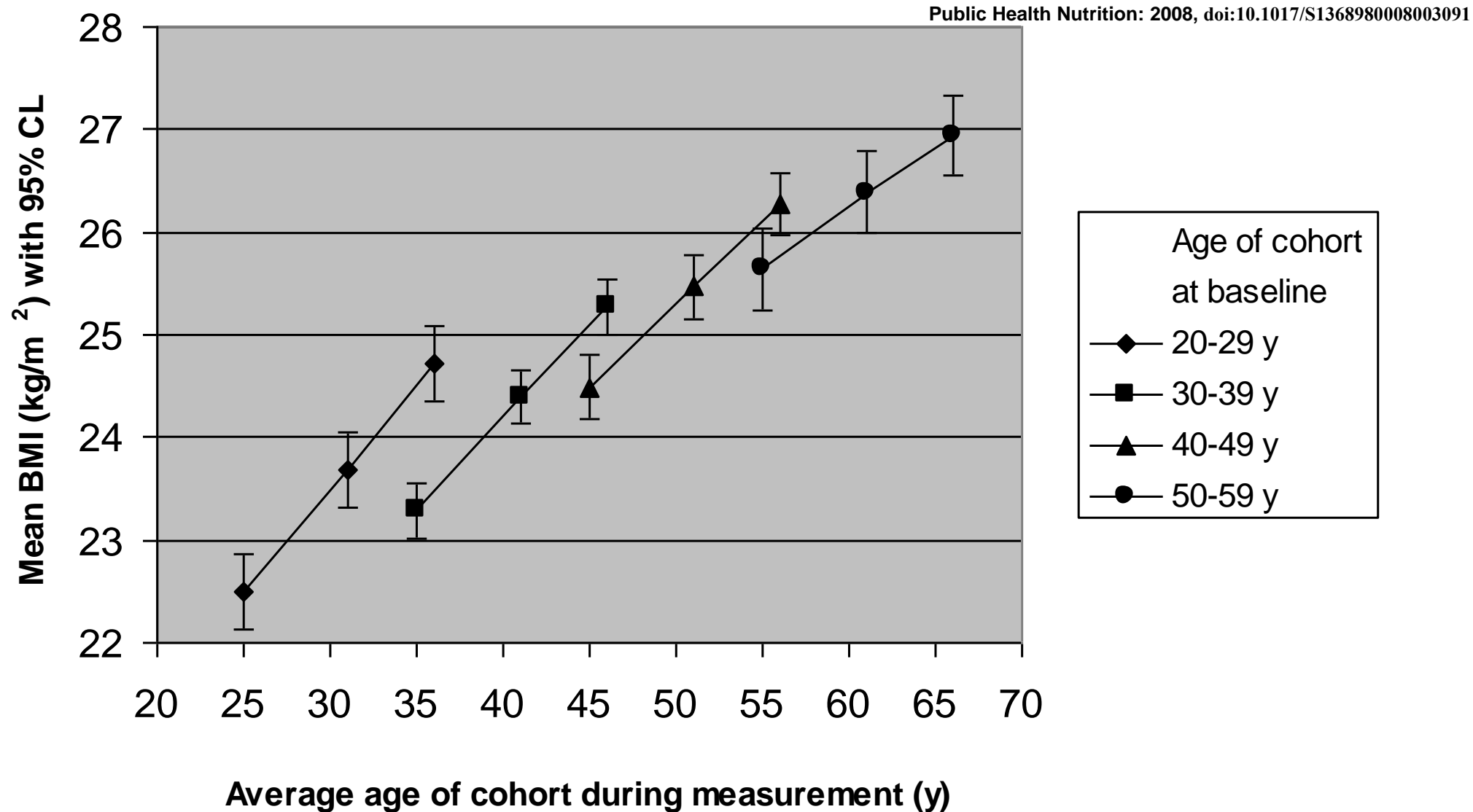
Overweight & Obesity NL 25+, by education



Mixed-longitudinal development of overweight in the Netherlands, men



Mixed-longitudinal development of overweight in the Netherlands, women



Global, regional, and national prevalence of child and adolescent overweight and obesity, 1990–2021, with forecasts to 2050:

Conclusions:

- overweight and obesity among children and adolescents has increased globally since 1990 & 2021
- current approaches to reduce the burden of overweight and obesity are insufficient to further reduce the burden of overweight and obesity
- beyond 2021, increases in overweight and obesity are projected to continue, with increases in overweight and obesity projected to be more pronounced in populations with higher current prevalence
- immediate action is needed to address the global public health crisis

Lancet 2025; 405: 785–812

Published Online

March 3, 2025

[https://doi.org/10.1016/S0140-6736\(25\)00397-6](https://doi.org/10.1016/S0140-6736(25)00397-6)

Global, regional, and national prevalence of child and adolescent overweight and obesity, 1990–2021, with forecasts to 2050:

Conclusions:

- **overweight and obesity increased between 1990 & 2021**
- current approaches have failed
- beyond 2021 overweight will stabilise due to further increases in obesity
- increases in obesity will continue for all populations

immediate action is needed to address this public health crisis

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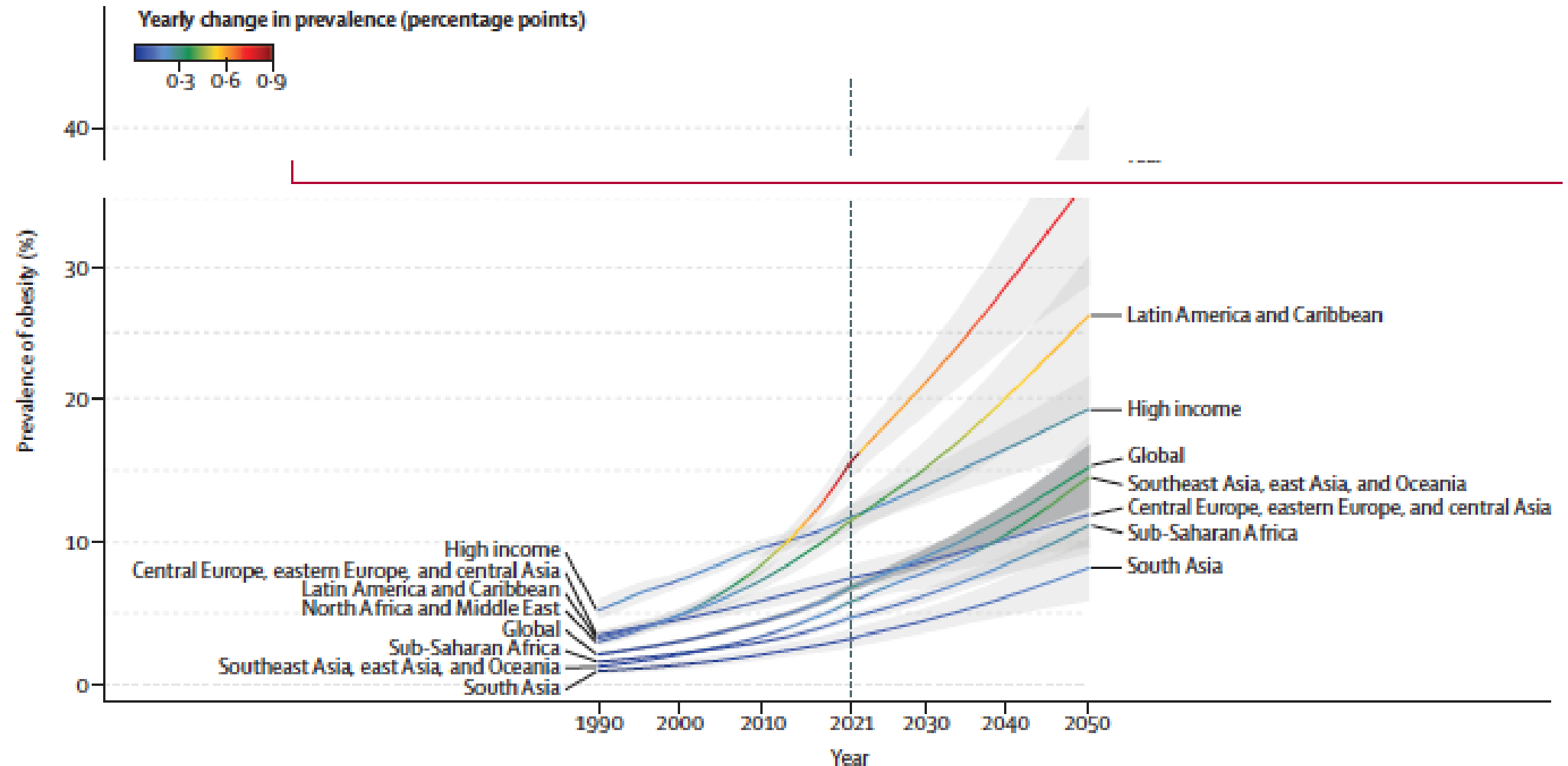
Global, regional, and national prevalence of child and adolescent overweight and obesity, 1990–2021, with forecasts to 2050:

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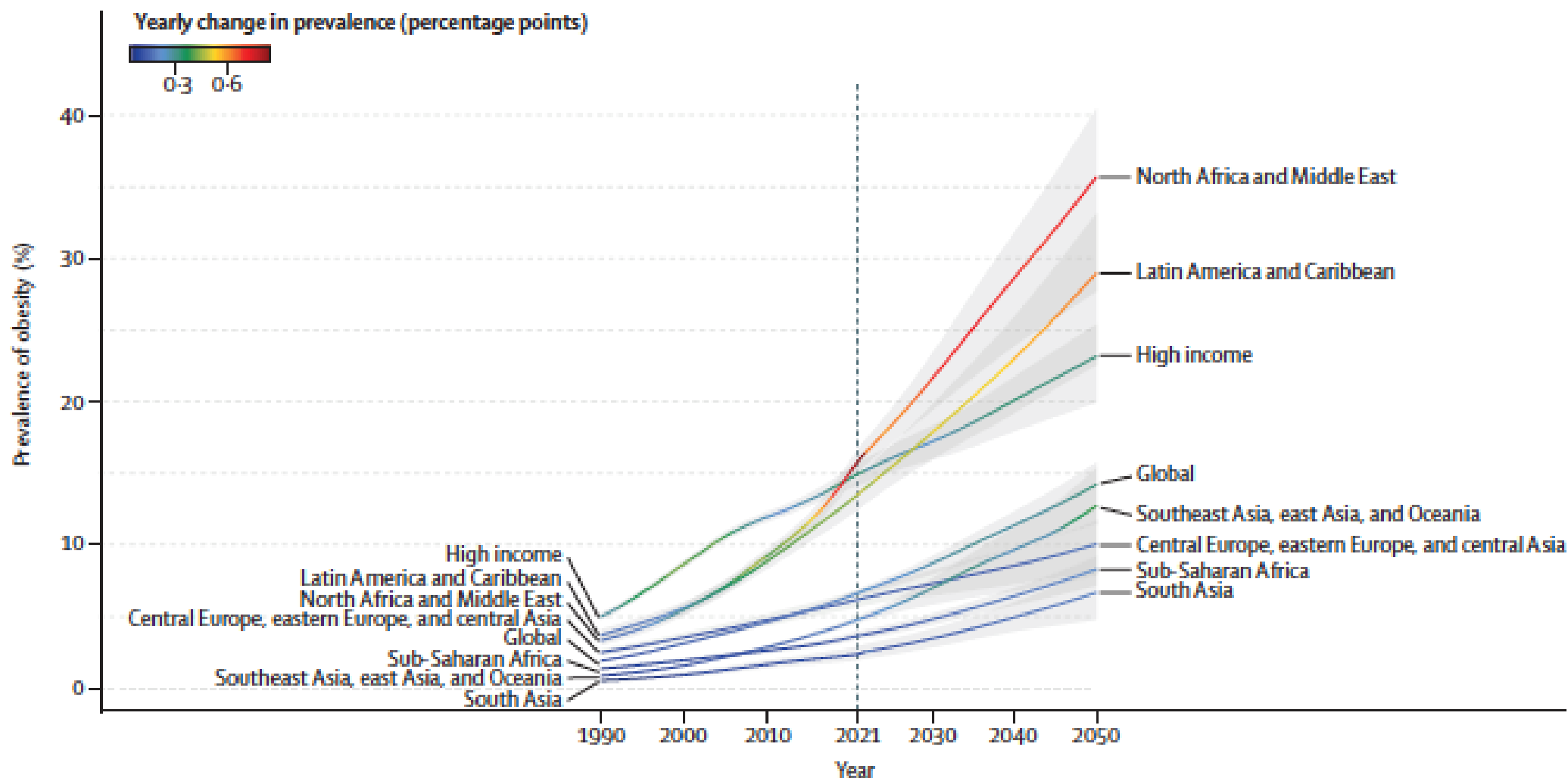
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immediate action is needed to address this public health crisis

(yearly) change in prevalence of obesity in children and young adolescents aged 5–14 years

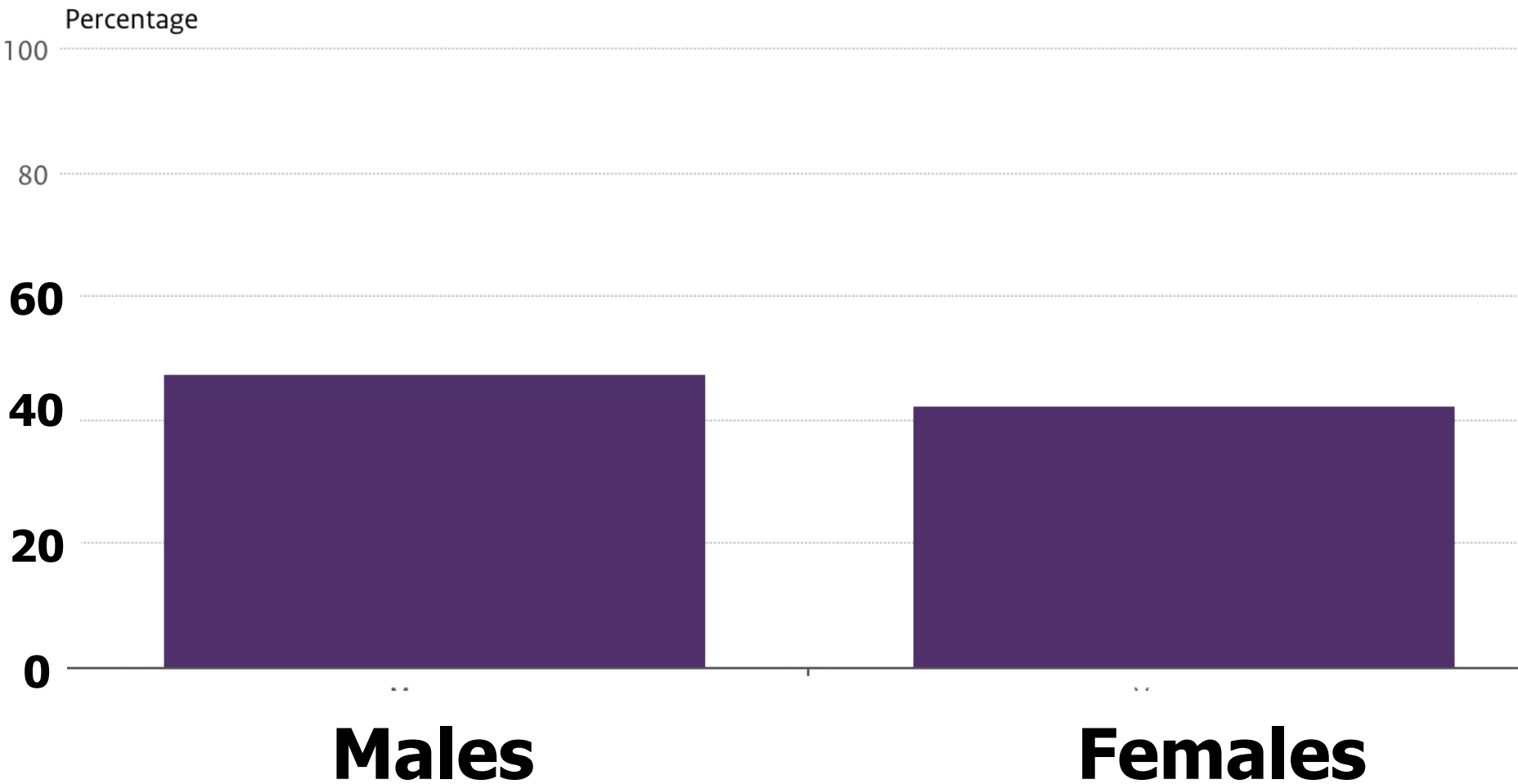


(yearly) change in prevalence of obesity in adolescents and young adults aged 15–24 years

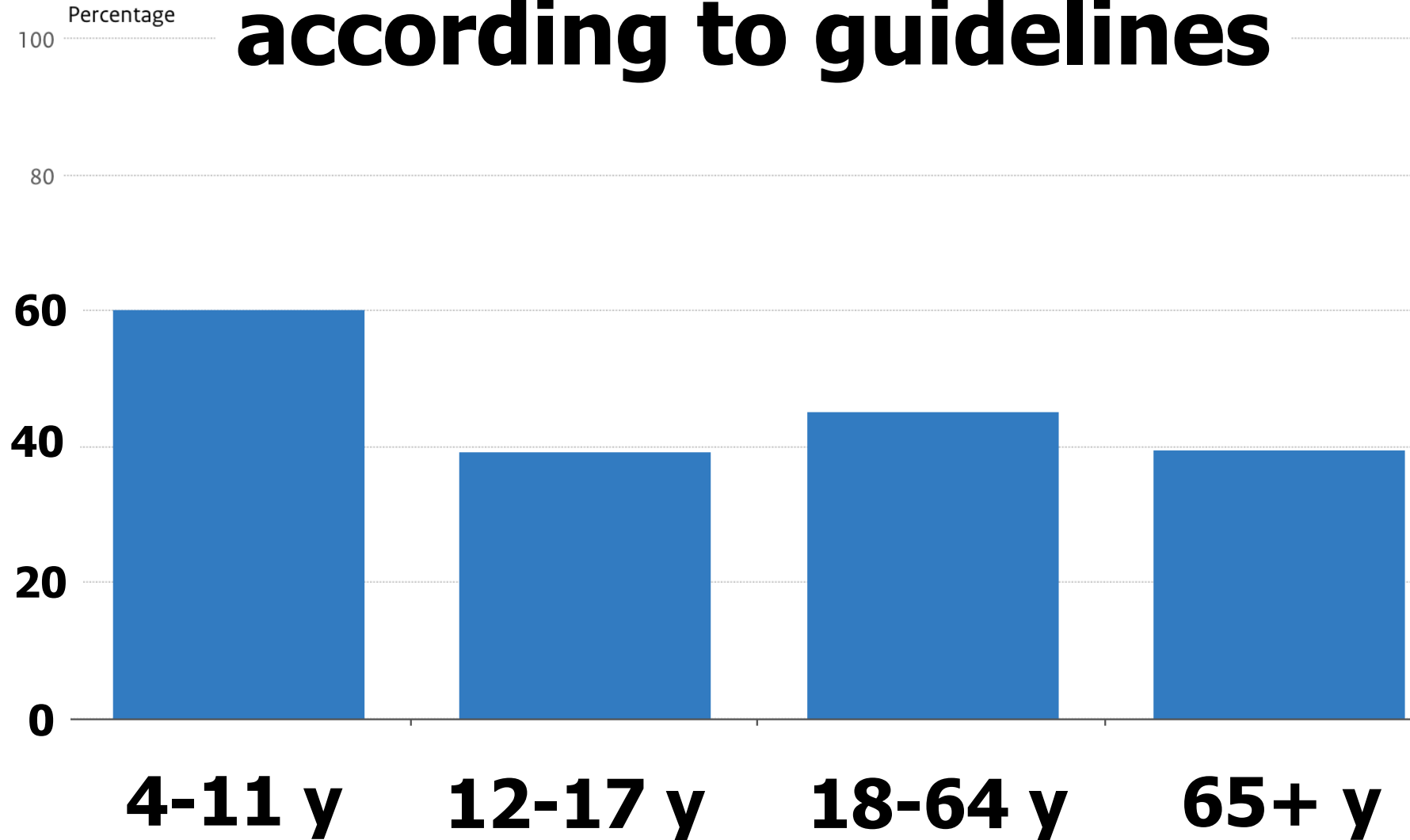




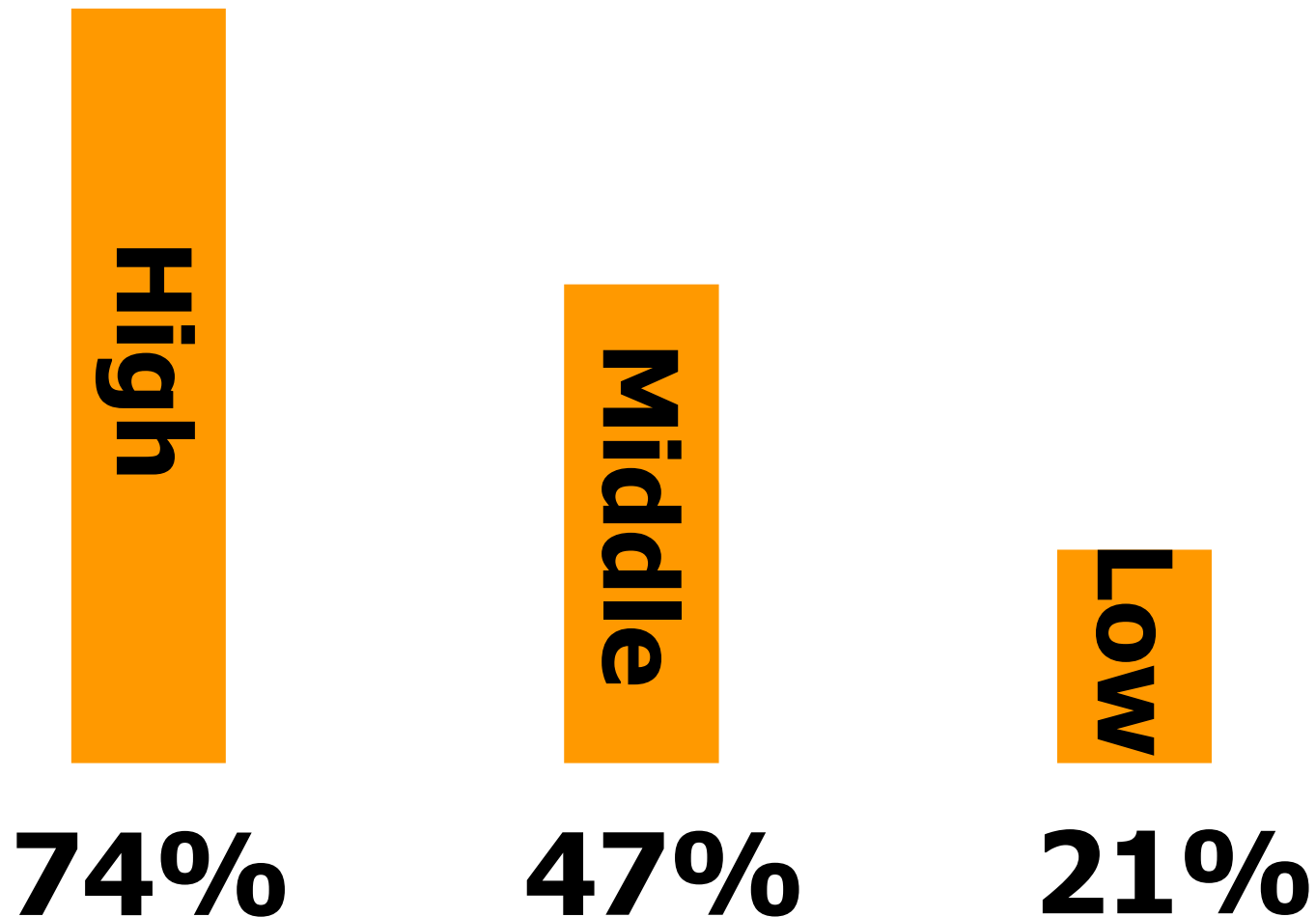
PA in NL according to guidelines, 4+



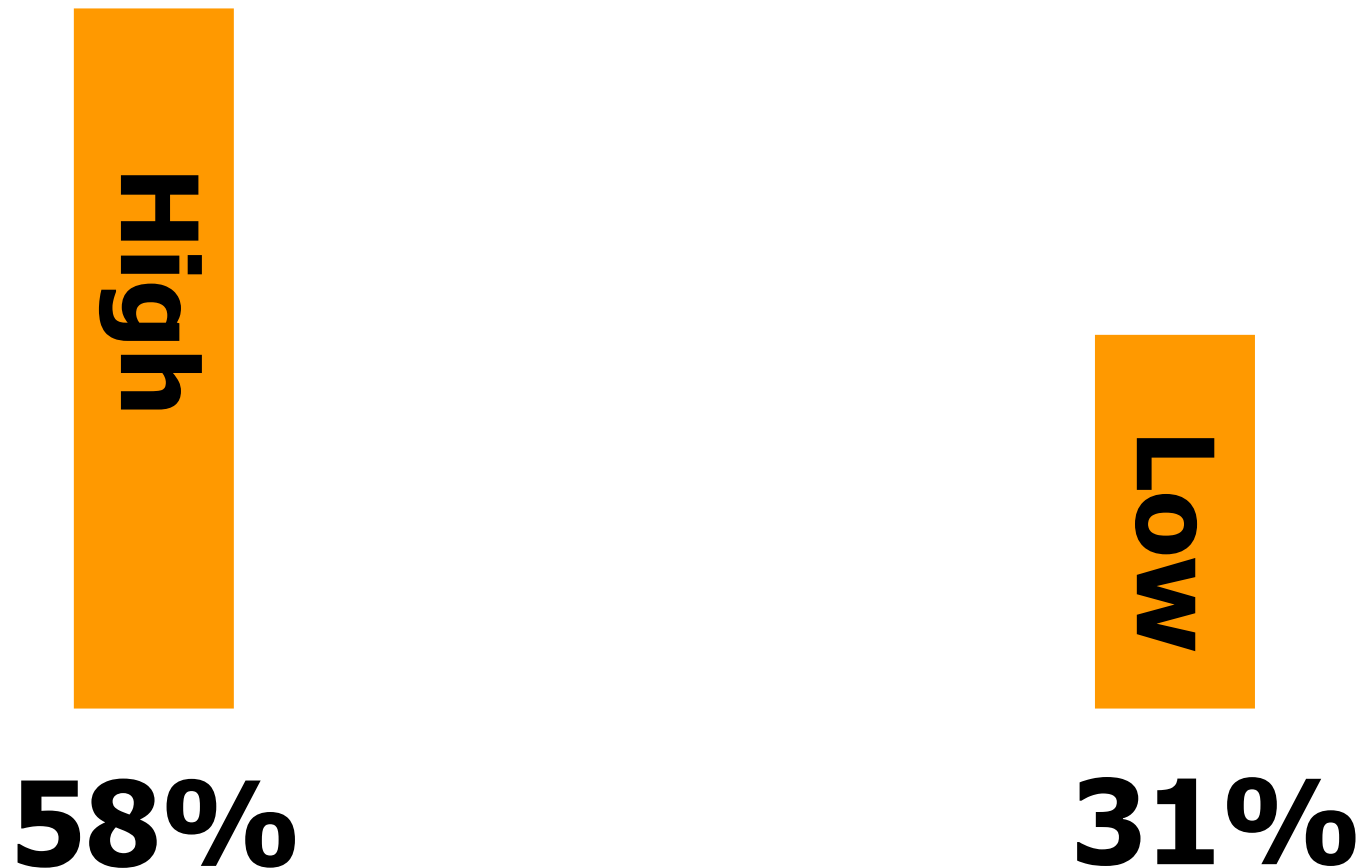
PA in NL by age, 4+ according to guidelines



Weekly sports participation in NL 25+ y., by education & income



Meeting PA guideline in NL 25+ y., by education & income

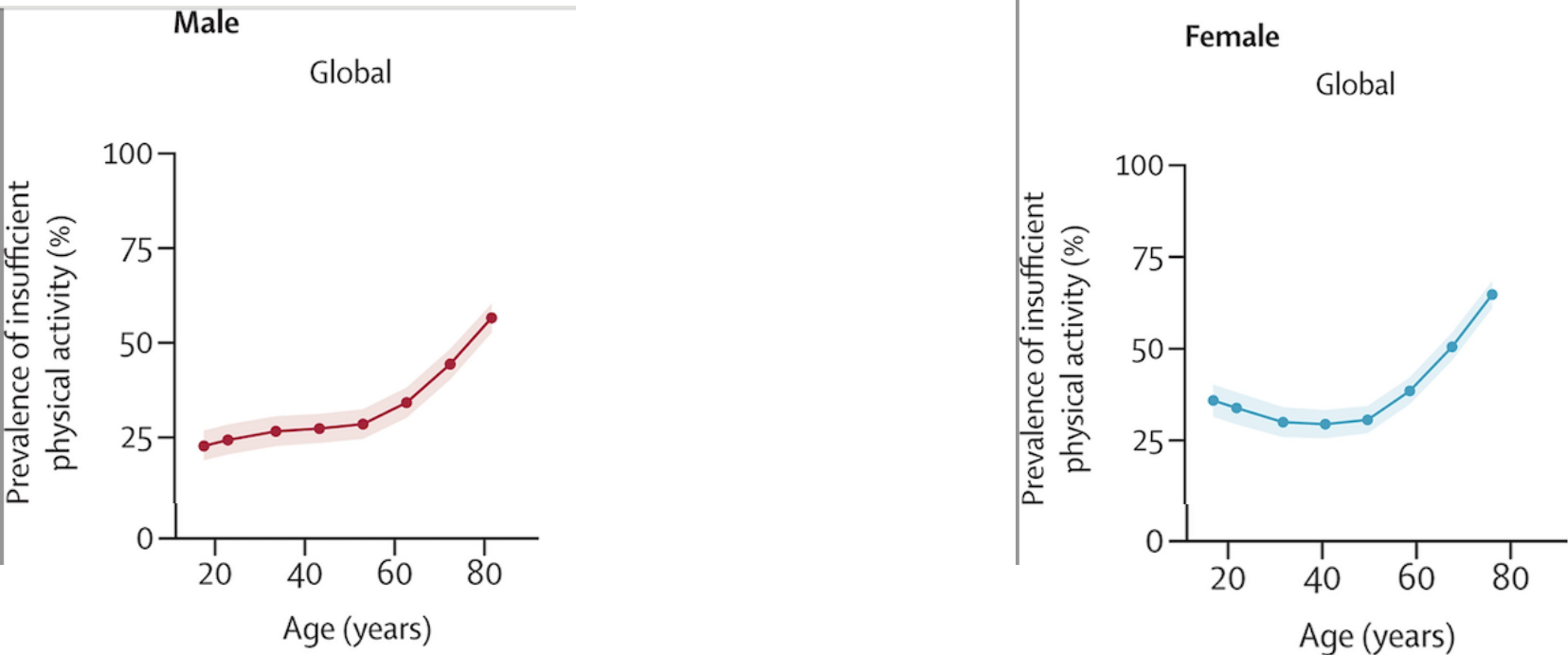


National, regional, and global trends in insufficient physical activity among adults from 2000 to 2022: a pooled analysis of 507 population-based surveys with 5·7 million participants

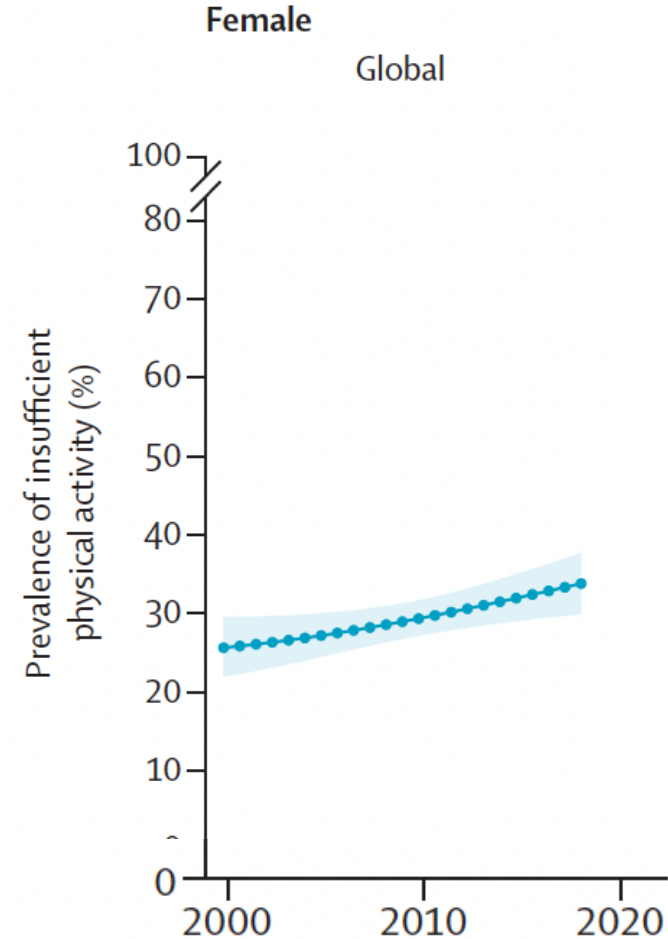
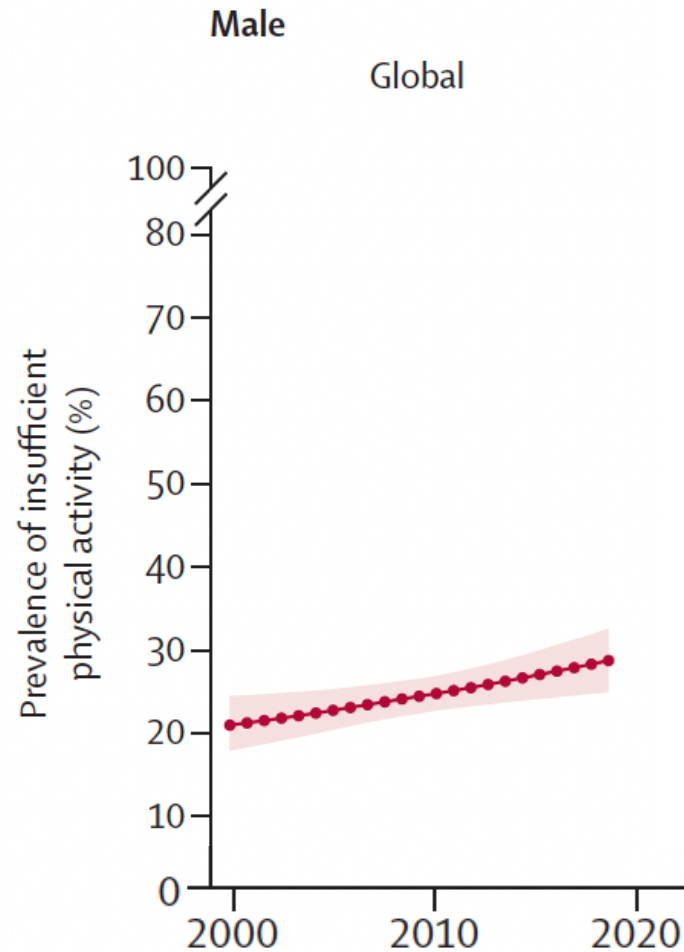
Published Online
June 25, 2024
[https://doi.org/10.1016/S2214-109X\(24\)00150-5](https://doi.org/10.1016/S2214-109X(24)00150-5)
Lancet Glob Health 2024;
12: e1232–43

Tessa Strain, Seth Flaxman, Regina Guthold, Elizaveta Semenova, Melanie Cowan, Leanne M Riley, Fiona C Bull, Gretchen A Stevens, and the Country Data Author Group*

Age pattern of insufficient physical activity prevalence in 2022



Global trends in age standardised insufficient PA prevalence 2000–22 for adults aged 18+ years



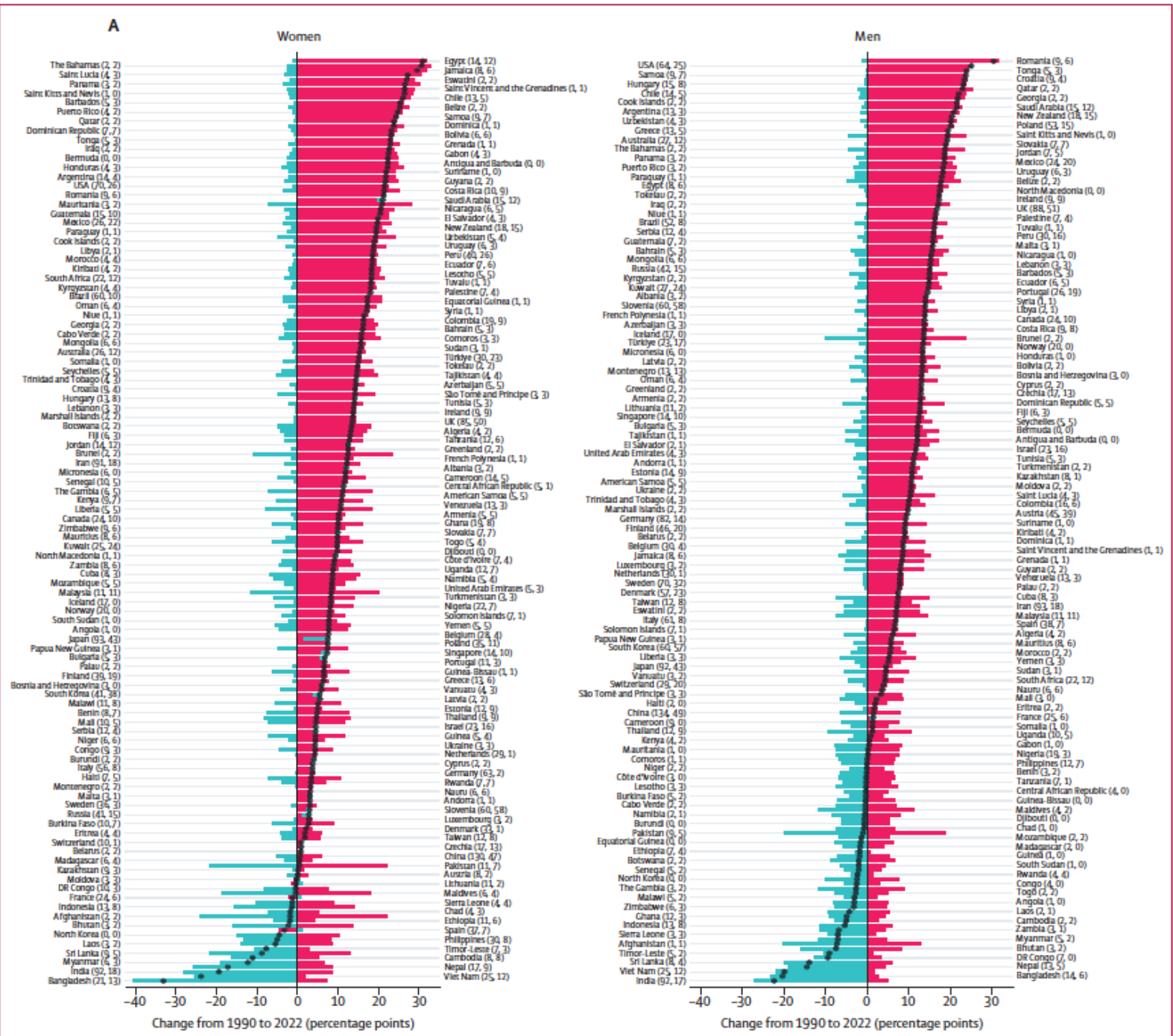
WHO 2022 Key Facts Overweight & Obesity

- **1 in 8 people worldwide is obese**
- **since 1990:**
 - ❑ **adult obesity has more than doubled**
 - ❑ **adolescent obesity has quadrupled**
- **adults:**
 - ❑ **2.5 billion adults (18+) are overweight; of these, 890 million is obese**
 - ❑ **43% adults 18+ years is overweight; 16% is obese**
- **Children:**
 - ❑ **37 million children <5 y. are overweight**
 - ❑ **390 million children & adolescents 5–19 y. is overweight; of these, 160 million is obese**

Worldwide trends underweight & obesity 1990-2022

pooled analysis of 3663 population- representative studies

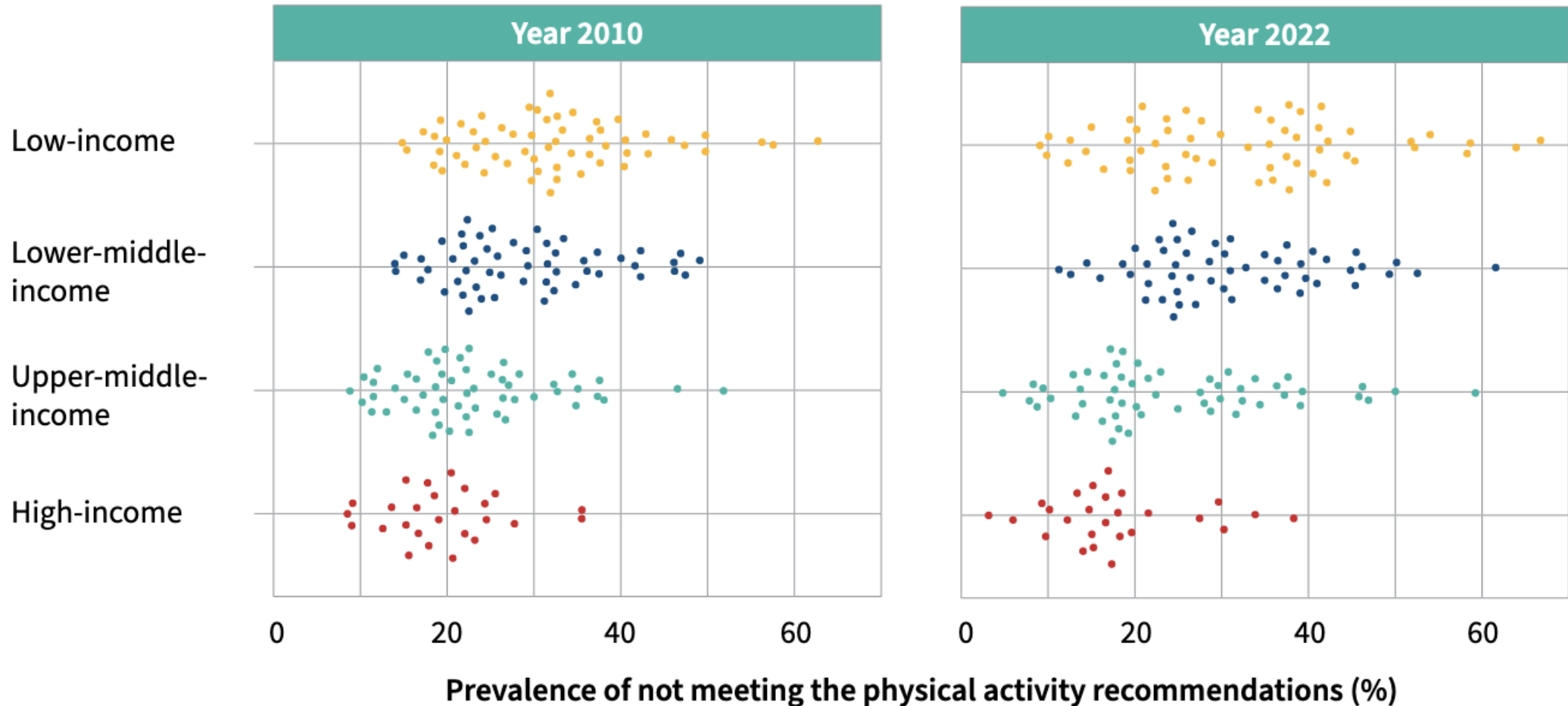
222 million children, adolescents & adults

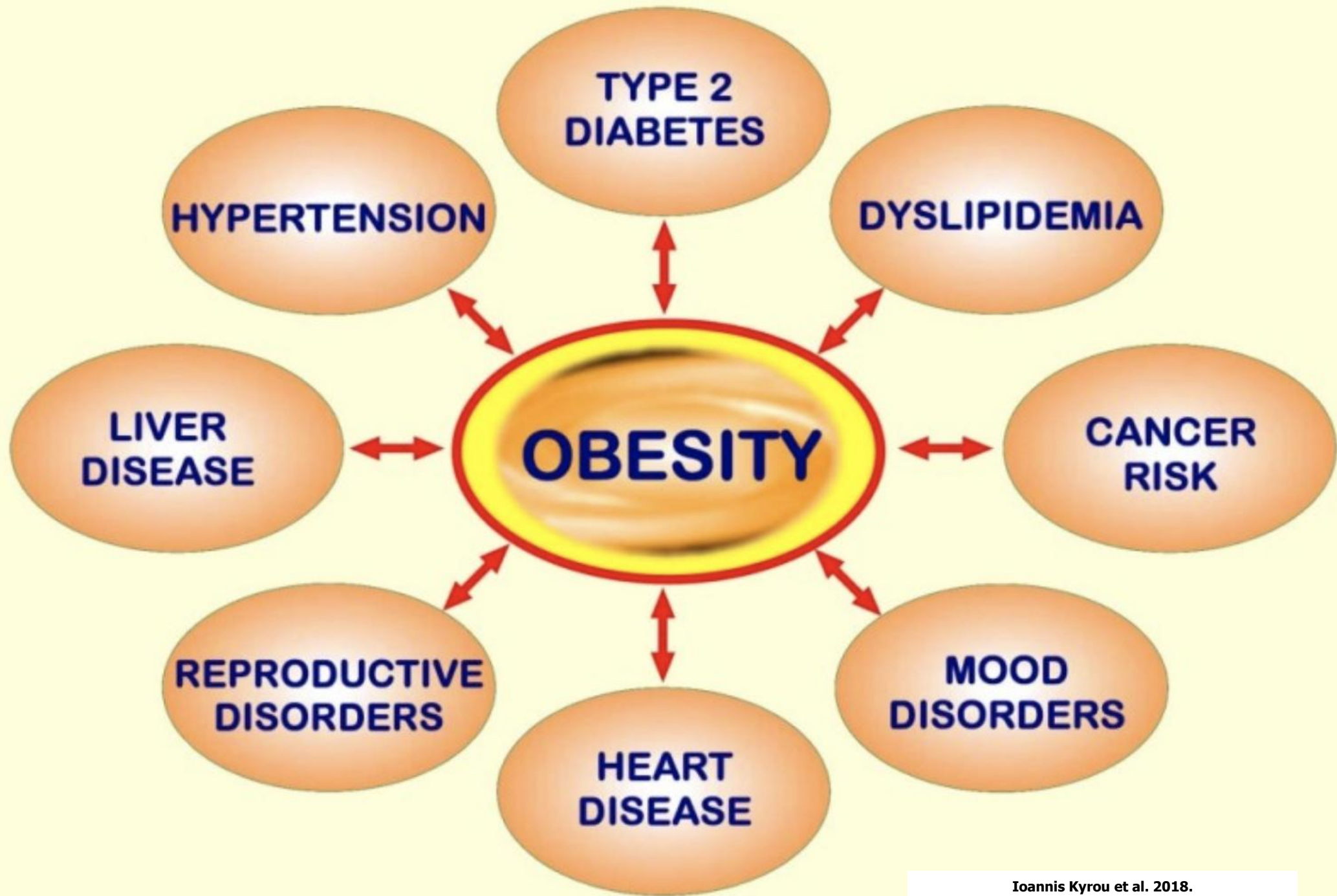


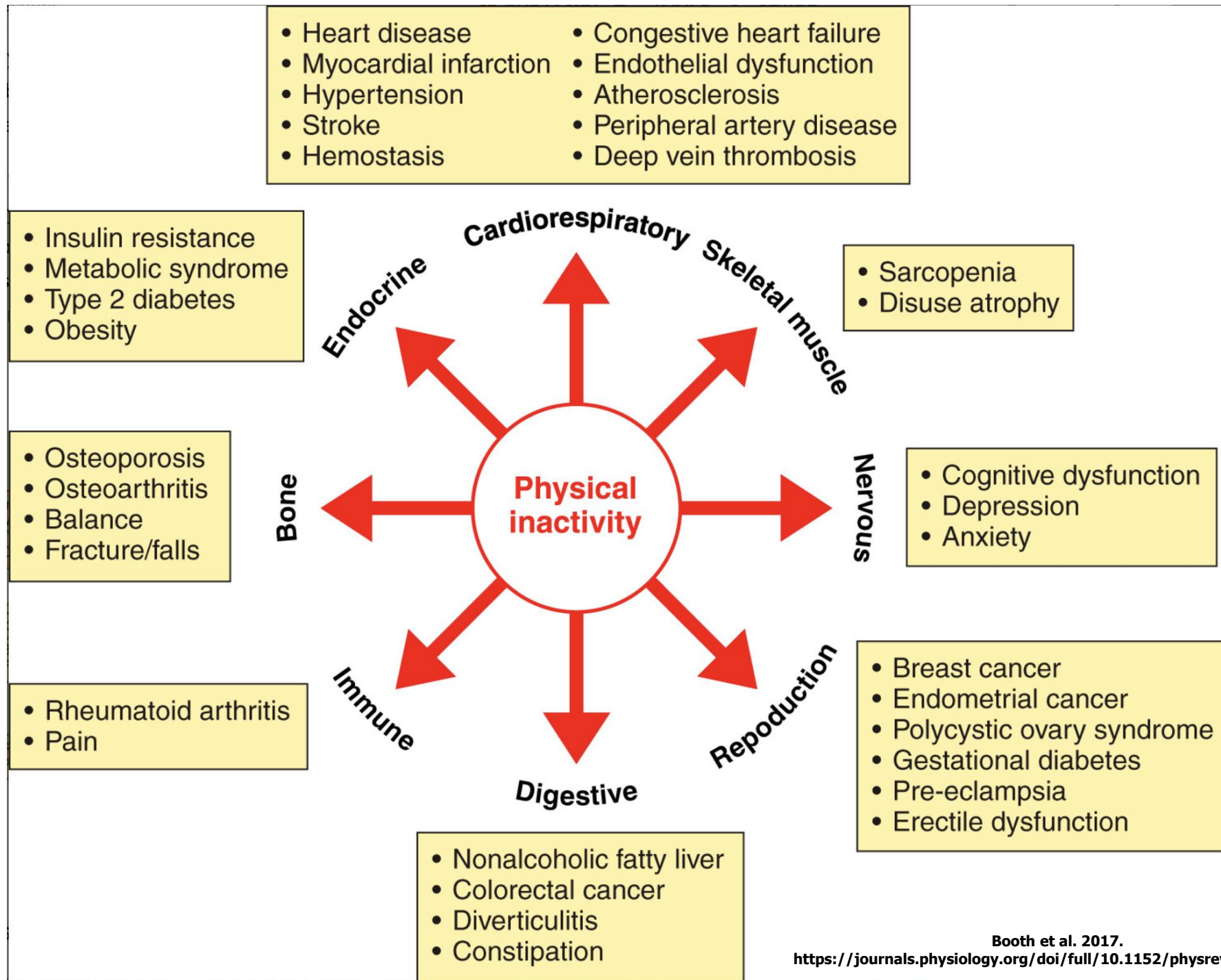
WHO 2024 Key Facts Physical Activity


- ❖ **31% adults & 80% adolescents do not meet the recommended levels of PA**
- ❖ **2010 - 2022 : Physical Inactivity has increased by \pm 5%**
- ❖ **If trend continues, global levels of physical inactivity will rise to 35% by 2030 (38% in women & 32% in men)**
- ❖ **world is off track to meet the global target of a 15% relative reduction in physical inactivity by 2030**
- ❖ **note that there are regional differences**

Prevalence physical inactivity by World Bank country-income group 2010 and 2022







A colorful cartoon illustration serves as the background. It features a character with a large blue bow on its head, wearing a red and white outfit, holding a yellow card with a dollar sign. The character is surrounded by falling money, including green and yellow banknotes and coins. The scene is set against a bright blue sky with a yellow sun.

global estimate cost of physical inactivity to public health care systems between 2020 and 2030 is about US\$ 300 billion (approximately US\$ 27 billion per year), if levels of physical inactivity are not reduced

<https://www.who.int/news-room/fact-sheets/detail/physical-activity>, June 2024

the global economic impact of overweight & obesity will reach US\$4.32 trillion annually by 2035, if prevention and treatment measures do not improve

<https://www.worldobesity.org/news/economic-impact-of-overweight-and-obesity-to-surpass-4-trillion-by-2035>, World Obesity Atlas 2024.

Huge Public Health & Societal Problem

- overweight, obesity & physical inactivity have gotten worse over the past decades
- marked differences between:
 - males & females
 - countries
 - socio-economic status
- massive health & financial implications



READ
ALL
ABOUT
it!



New shit has
come to light. DUDE!

The Big Lebowski - Joel and Ethan Coen

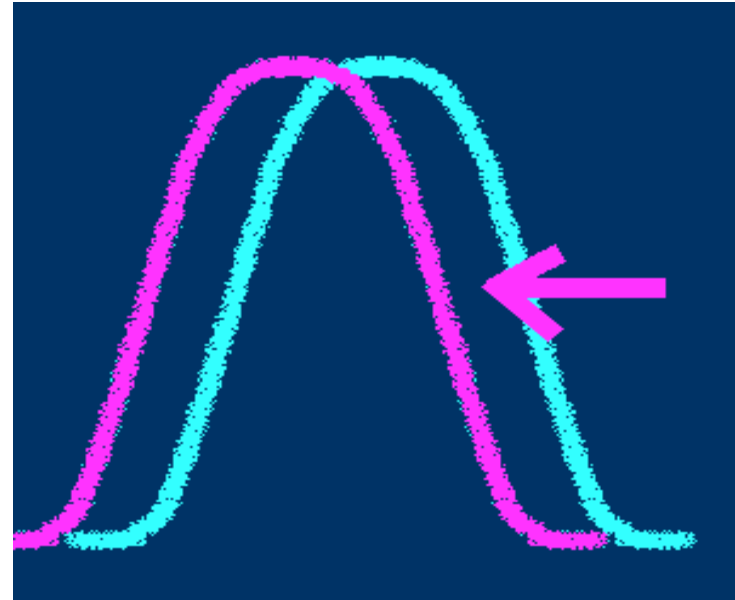
“Unless effective population-level interventions to reduce obesity are developed, the steady rise in life expectancy observed in the modern era may soon come to an end and the youth of today may, on average, live less healthy and possibly even shorter lives than their parents.”

Outline

- What is the Public Health problem?
- **How to deal with the problem?**
- Self-regulation & self-responsibility doesn't help: the ecological proof?
- The need for political solutions
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Prevention Strategies

High Risk vs. Population

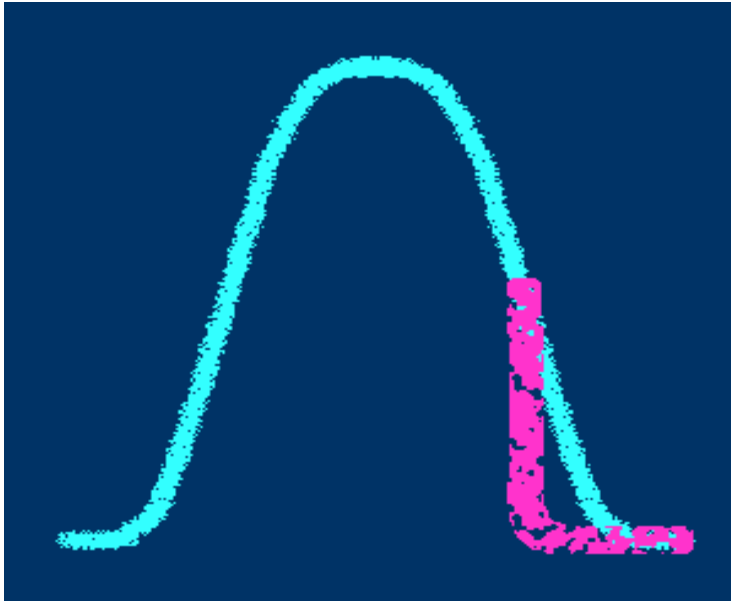


Reduce risk a little risk in most people

Primary & primordial prevention

Prevention Strategies

High Risk vs. Population



**Truncate high risk end of
exposure distribution**

**Secondary & tertiary
prevention**



A photograph of a crowded public space, likely a transit station or a large indoor arena. A wide staircase with grey steps and red handrails leads up from the foreground. Several people are walking up the stairs. To the right, a bright yellow wall is visible, and a large white structural beam runs horizontally across the upper part of the frame. The ceiling features a complex network of white metal trusses. The overall atmosphere is one of a busy, normal environment.

Physical inactivity, is that

**..... abnormal behaviour in a
normal environment?**

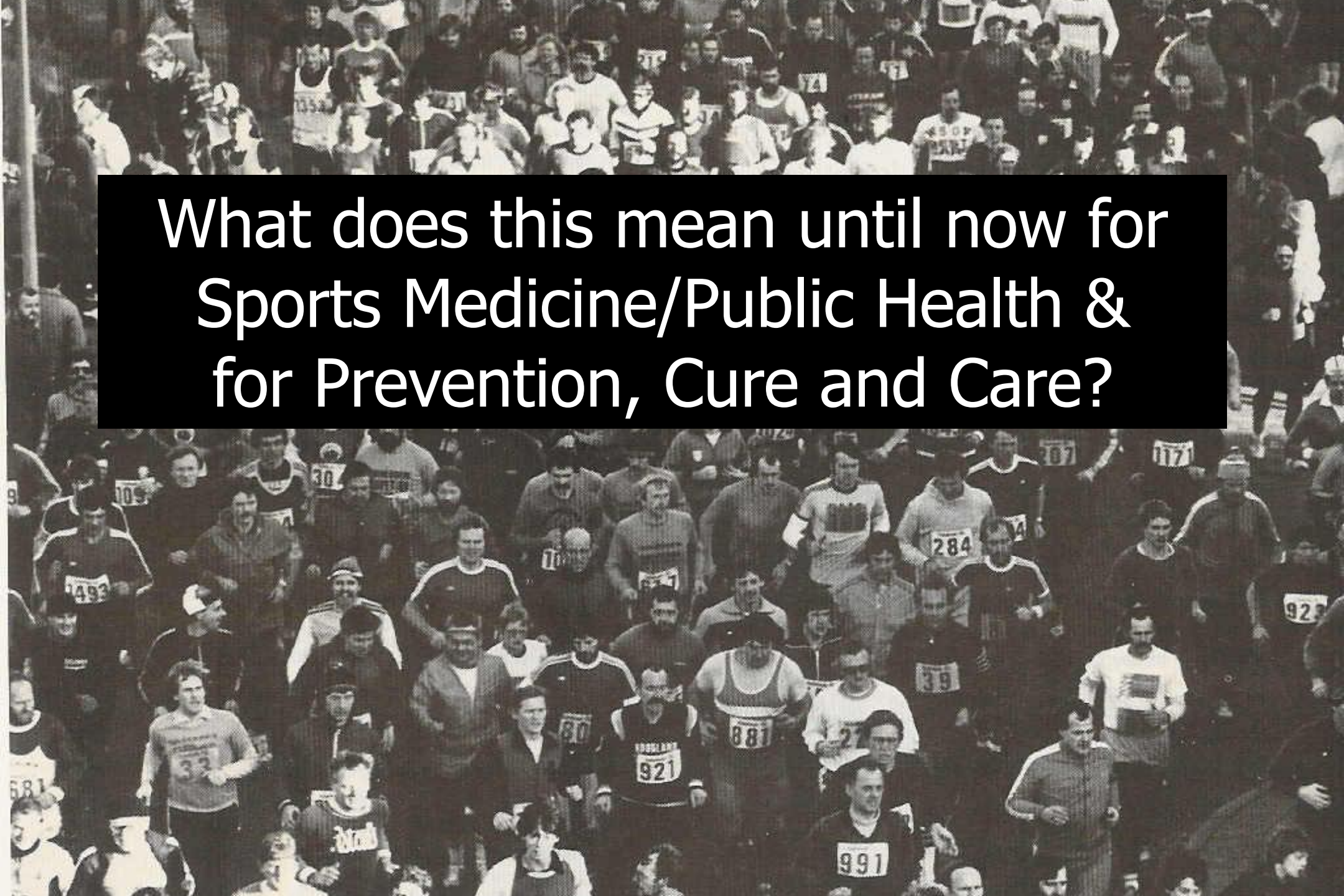
**..... normal behaviour in an
abnormal environment?**

Physical inactivity is a matter of

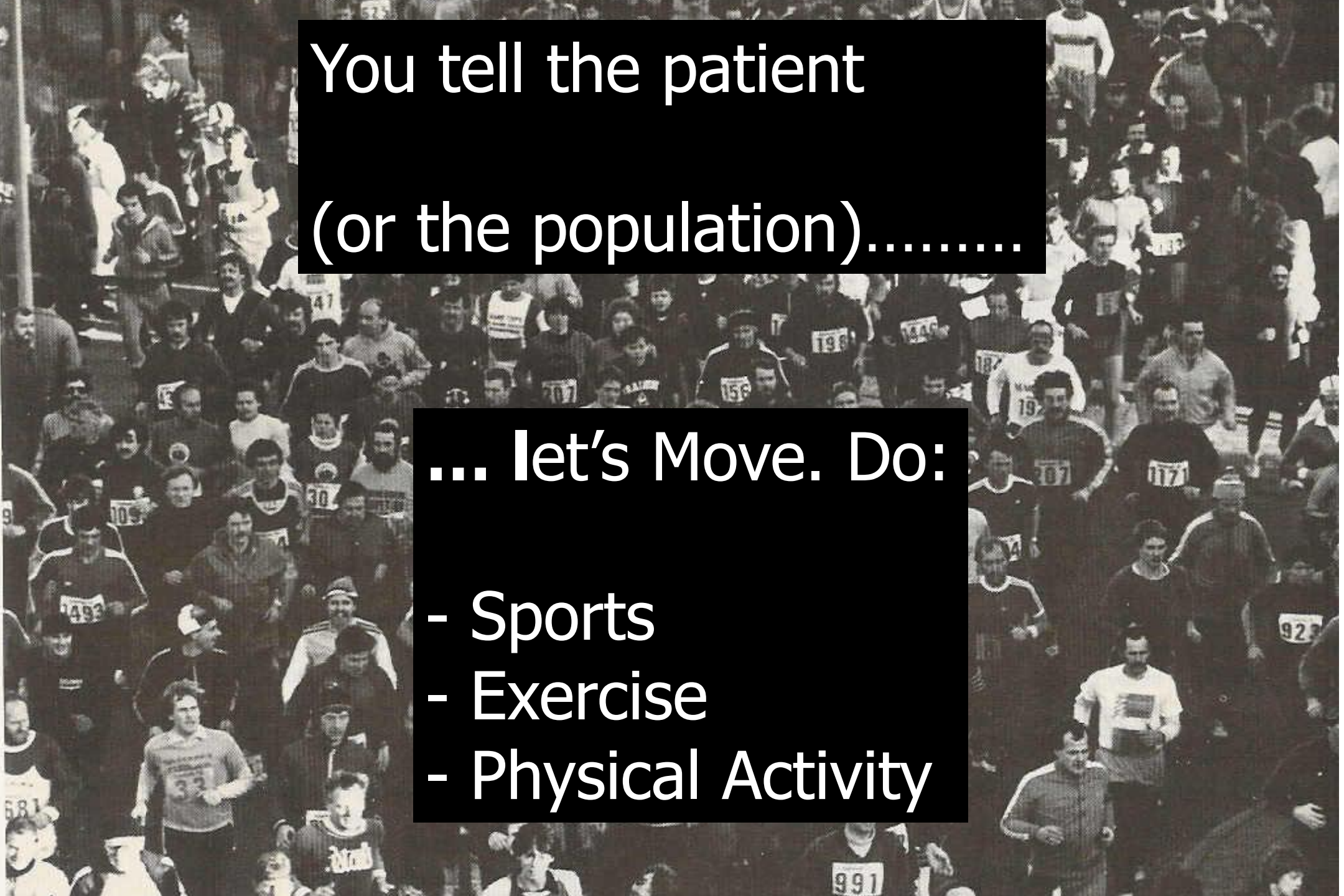
self-responsibility and self-regulation

..... or a Nanny State?



A black and white photograph of a large crowd of runners at a marathon. The runners are wearing various athletic gear and bib numbers. A large black rectangular box is superimposed over the center of the image, containing white text. The text reads: "What does this mean until now for Sports Medicine/Public Health & for Prevention, Cure and Care?".

What does this mean until now for
Sports Medicine/Public Health &
for Prevention, Cure and Care?



You tell the patient
(or the population).....

... let's Move. Do:

- Sports
- Exercise
- Physical Activity



**‘Whenever I feel
like **exercise**, I lie
down until the
feeling passes.’**

robert m hutchins

Can patients (populations) do that?

To what extent can patients
(populations) VOLUNTARILY *life long*
change their PA behaviour?

**How realistic is the (political)
solution of sustained self-
regulation & self-responsibility?**

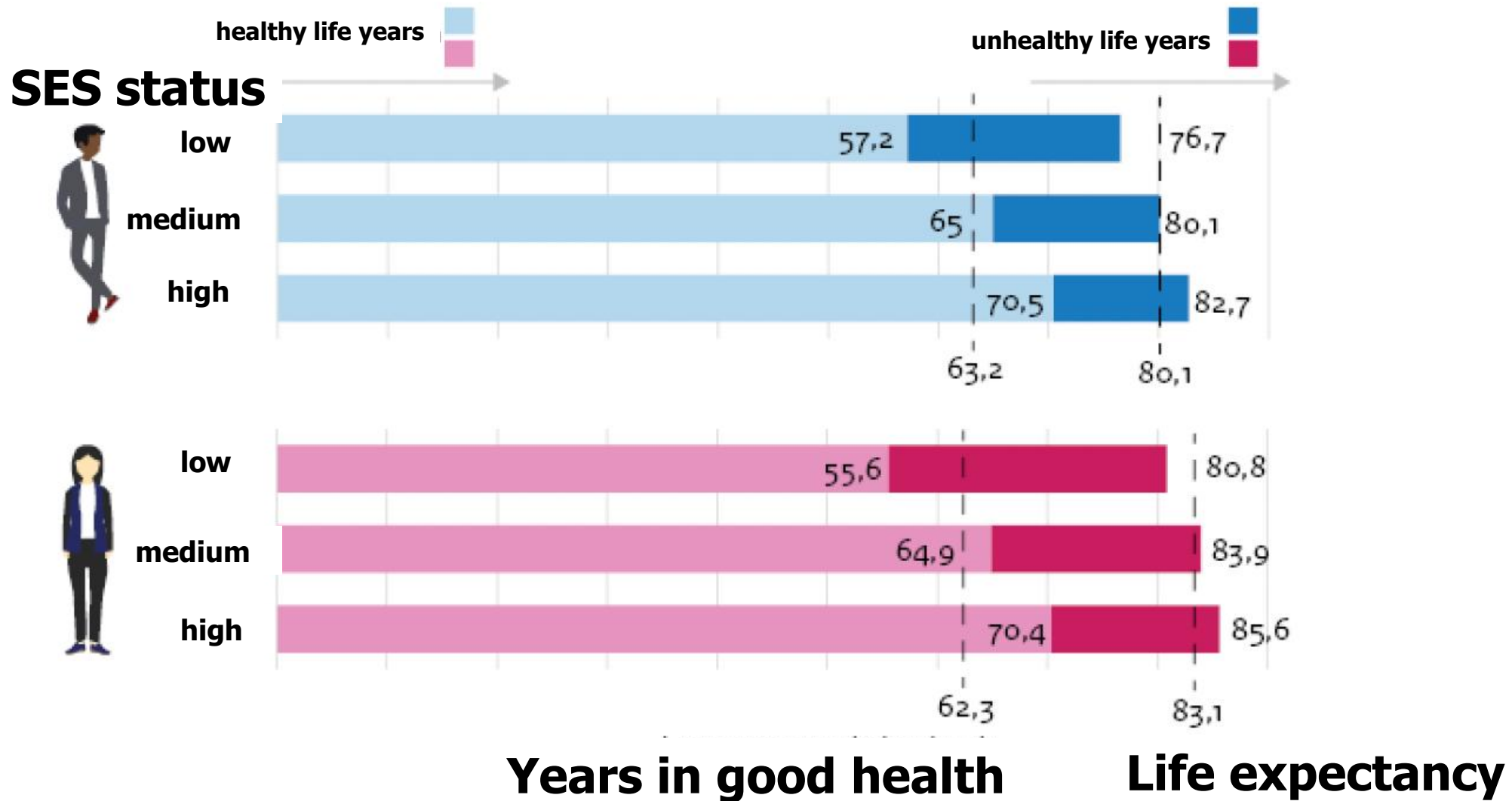
Not very

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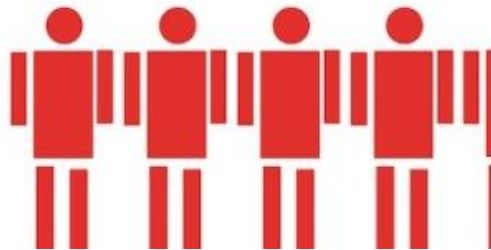
Self-regulation doesn't work



Prevalence of diabetes type II in NL as a function of SES

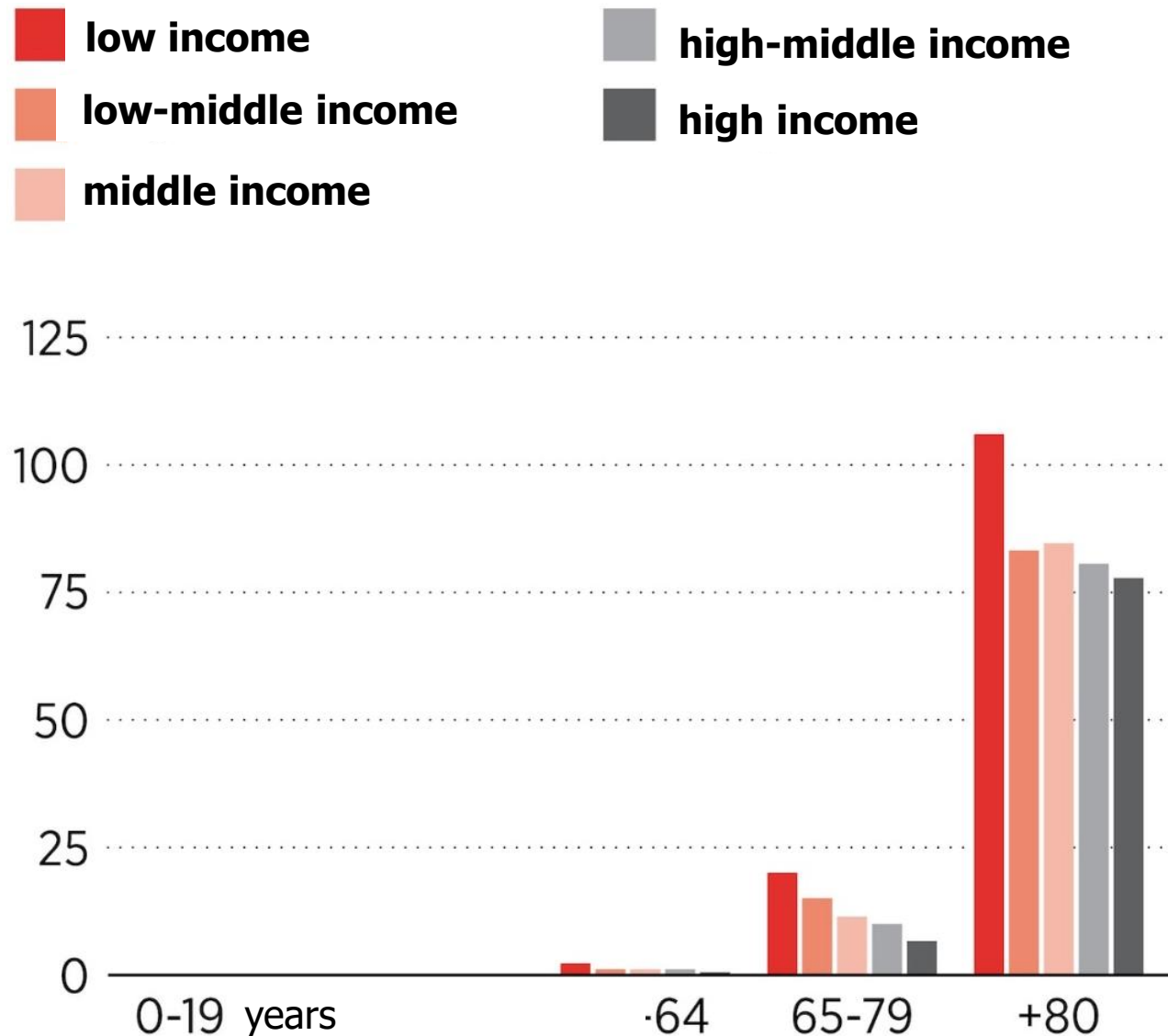


low SES
11,2%



high SES
4,3%

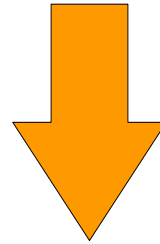
Prevalence/1000 of dementia in NL as a function of age and income



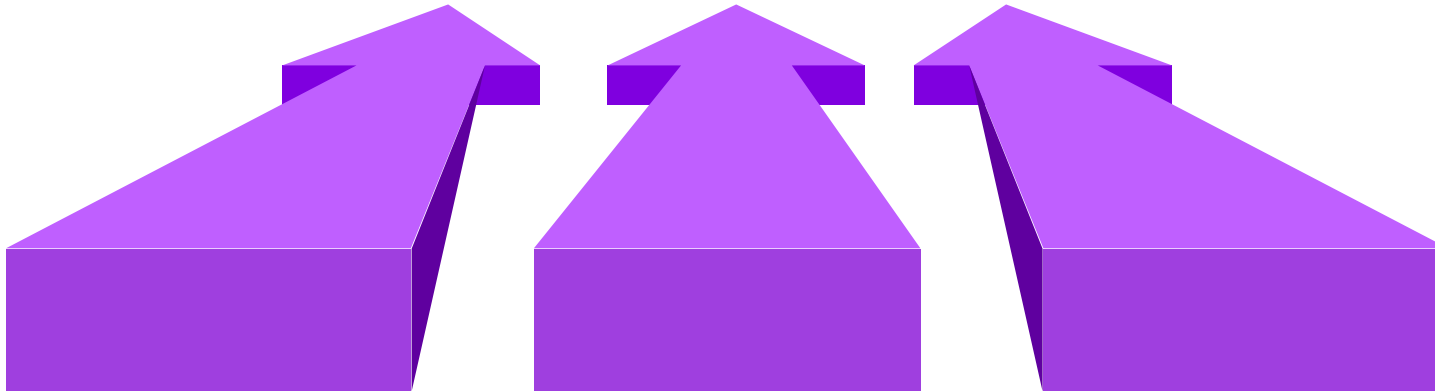
Context drives
behaviour



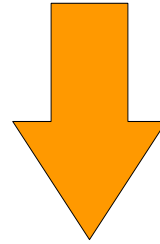
CONTEXT



individual behaviour



....various kinds of influences



individual behaviour



Macro environment
Micro environment

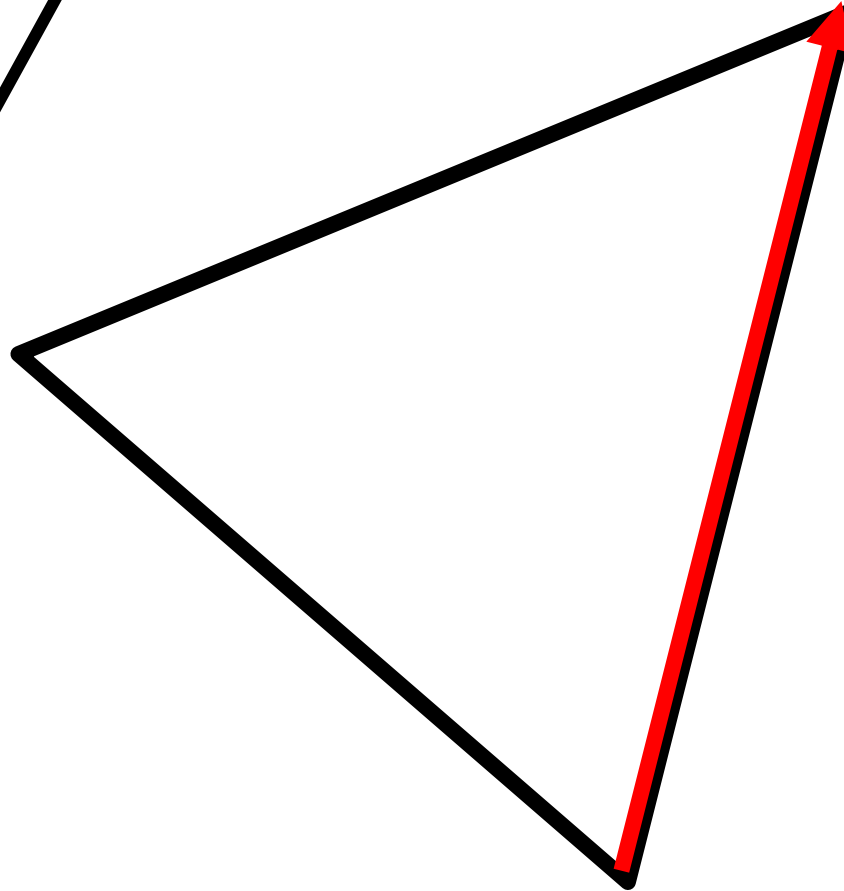
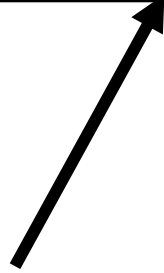
Environmental
justice

population

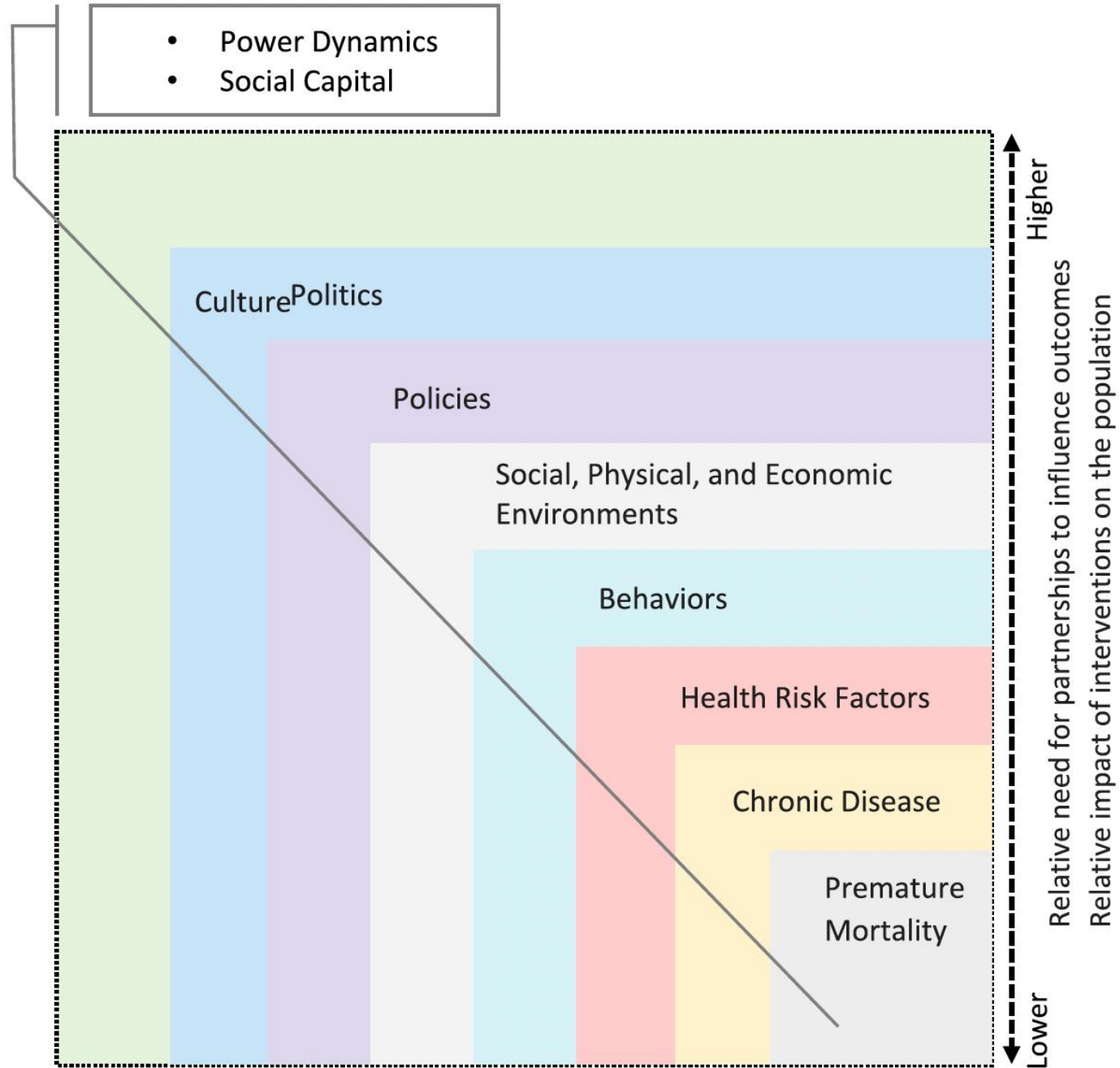
the individual

**society
(politics)**

health professional



Review Article
An ecological
Nicolaas P. Pr



The path toward a metabolic health revolution

May 2025

	Path 1: Reduce obesity and improve health	Path 2: Achieve metabolic health for all and end obesity as a human-made epidemic
Target population	People living with obesity and those at high risk of developing it	Entire population
Priority interventions	Additional innovation in medicine, technology, and healthcare to strengthen reactive-treatment approaches to obesity (eg, weight loss drugs, surgeries, and clinical weight management programs)	Substantial changes across many domains (eg, health, food, consumer products, the built environment, and civil society), creating proactive prevention and treatment approaches that address obesity and improve metabolic health
Health impact at stake	132 million healthy life years uplift from addressing high BMI	469 million healthy life years uplift from addressing metabolic health risk factors (3.5x path 1)
Economic impact at stake in 2050	\$2.76 trillion potential annual GDP impact	\$5.65 trillion potential annual GDP impact
Stakeholder mobilization	Lower need for cross-sector mobilization	Higher need for cross-sector mobilization

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- **The need for political solutions**
- The broader picture



Who is responsible?





Who is responsible?



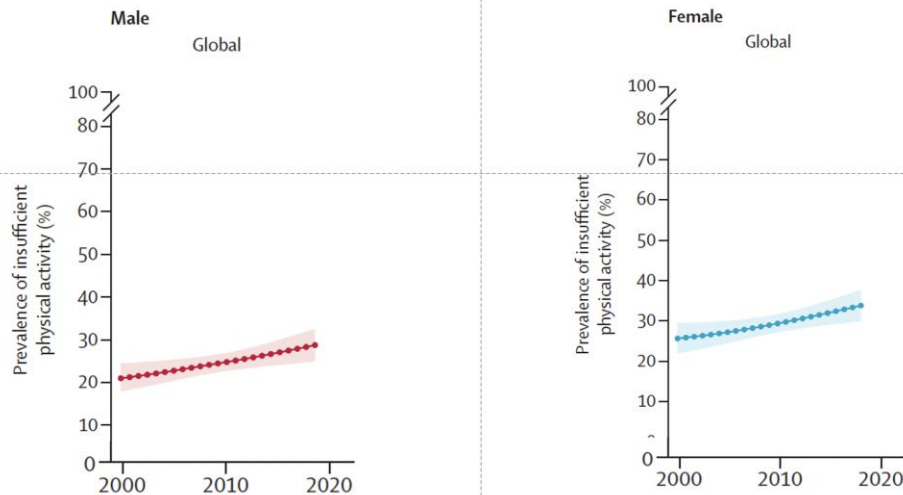
Who is responsible?

- **Driver?**
- **Manufacturer?**
- **Traffic system?**
- **Urban planner?**
- **Alcohol provider?**
- **...?**



Is this about Public Health or Sports Medicine?

Global trends in age standardised insufficient PA prevalence 2000–22 for adults aged 18+ years



Lancet 2024; 403: 1027–50

Published Online

February 29, 2024

[https://doi.org/10.1016/S0140-6736\(23\)02750-2](https://doi.org/10.1016/S0140-6736(23)02750-2)

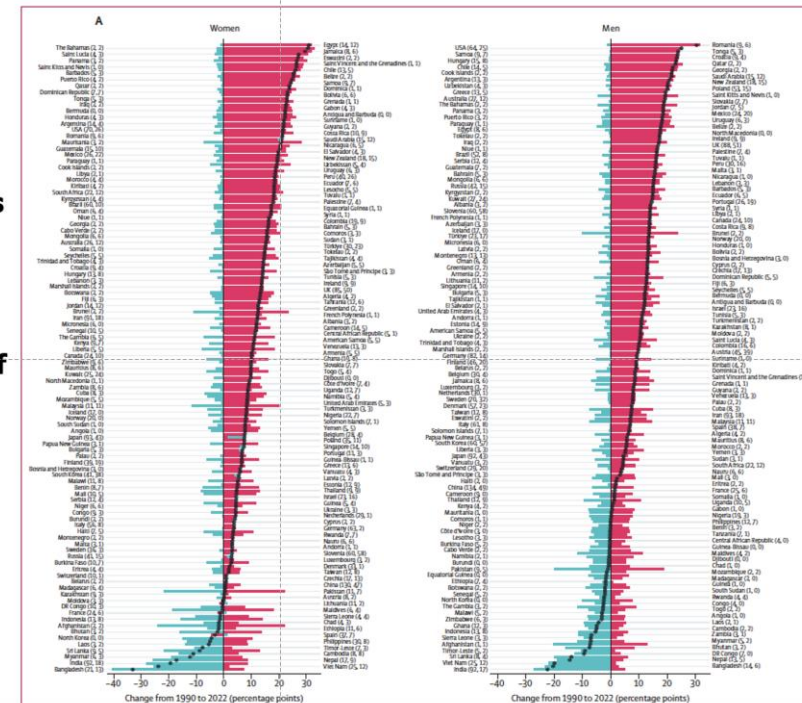
S0140-6736(23)02750-2

NCD Risk Factor Collaboration

Worldwide trends underweight & obesity 1990–2022

pooled analysis of 3663 population-representative studies

222 million children, adolescents & adults



It is not about Public Health or
Sports Medicine,

but all about politics

Market Failure!



Self-regulation or Nanny knows best?

political solutions

- Imperative health effects evaluation
- Tax incentives
- Stricter health-guided regulations
- Etc.

Changes in soft drinks purchased by British households associated with the UK soft drinks industry levy: controlled interrupted time series analysis

Cite this as: *BMJ* 2021;372:n254
<http://dx.doi.org/10.1136/bmj.n254>

Accepted: 15 January 2021

David Pell,¹ Oliver Mytton,¹ Tarra L Penney,^{1,2} Adam Briggs,^{3,4} Steven Cummins,⁵ Catrin Penn-Jones,¹ Mike Rayner,^{3,6} Harry Rutter,⁷ Peter Scarborough,^{3,6} Stephen J Sharp,¹ Richard D Smith,⁸ Martin White,¹ Jean Adams¹

- **Compared with trends before the soft drink industry levy was announced, one year after implementation, the volume of soft drinks purchased did not change**
- **The amount of sugar in those drinks was 30 g, or 10% lower, per household/week, this is equivalent to one 250 mL serving of a low tier drink per person/week**
- **The soft drink industry levy might benefit public health without harming industry**

To sum up so far:

- Physical inactivity & obesity are significant PH-problems
- The problem is complex
- Consider individual, targeted interventions, but context (and political action) is paramount
- Educate, educate, educate
- Advocate, advocate, advocate,
because it is politics, stupid!

If it is all about politics



Outline

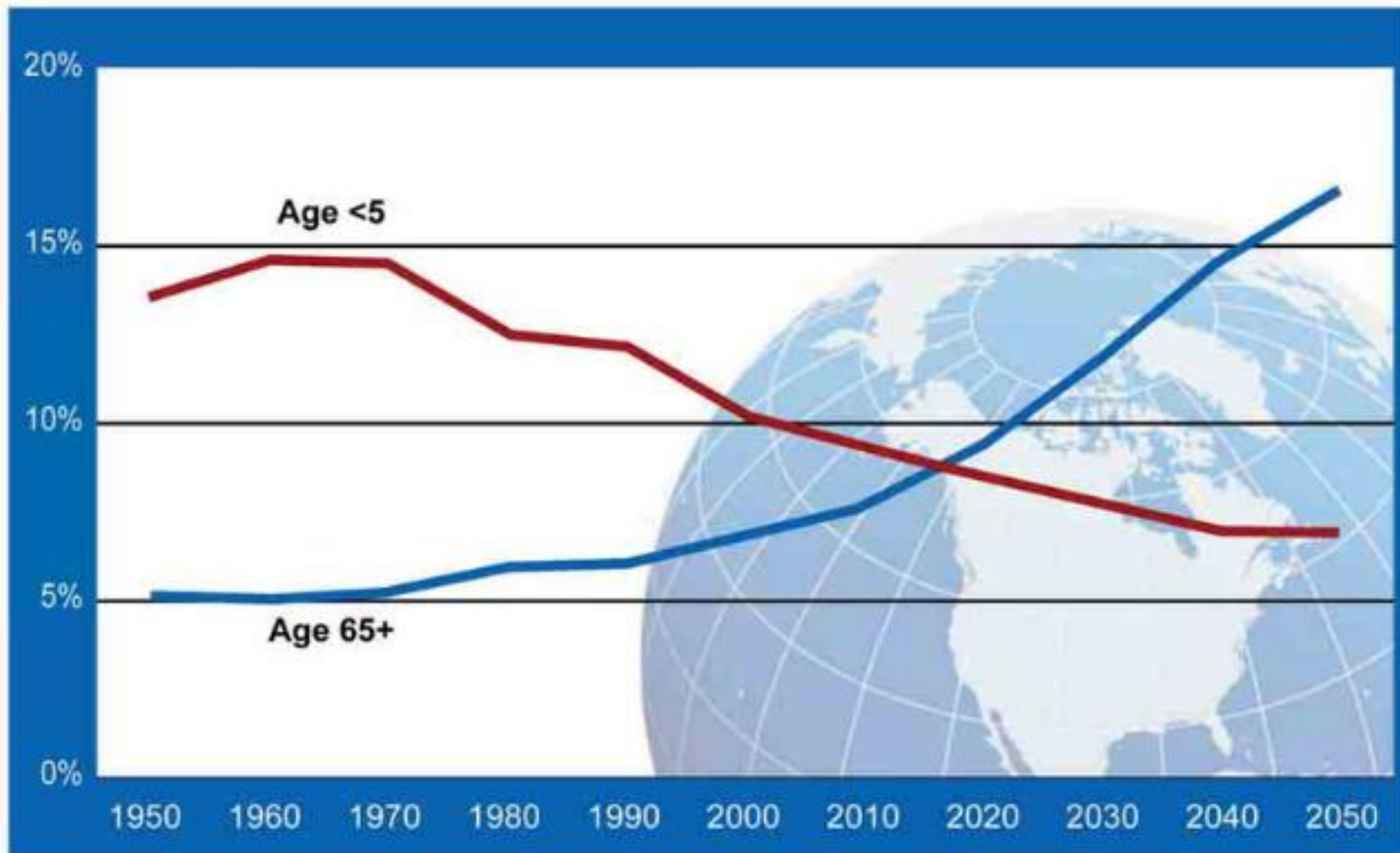
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- **The broader picture**

Physical inactivity & obesity wicked problems amongst wicked problems



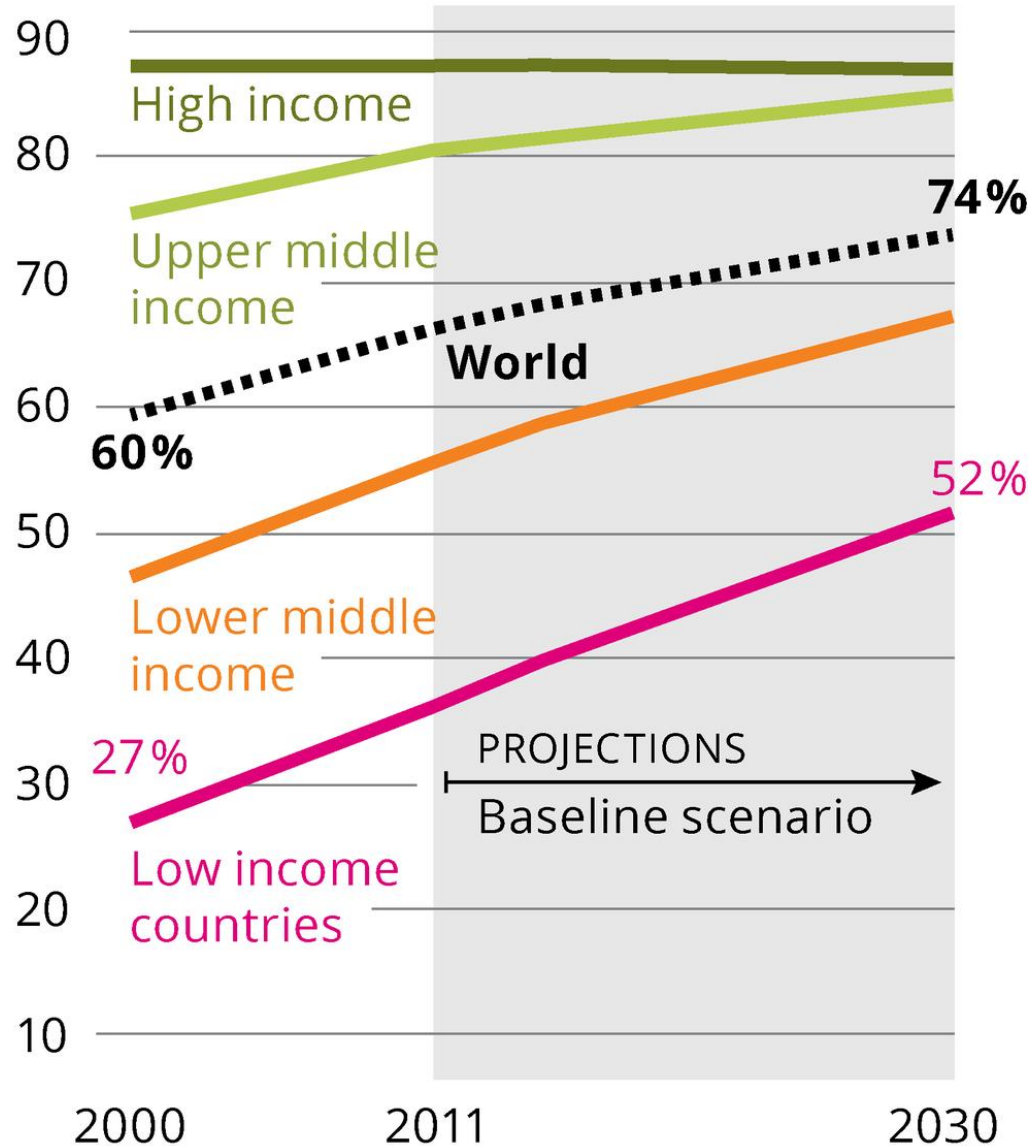
Young Children and Older People as a Percentage of Global Population: 1950-2050

Source: United Nations. *World Population Prospects: The 2010 Revision*.
Available at: <http://esa.un.org/unpd/wpp>.





Deaths related to non-communicable diseases (in percentage of total deaths)



NONCOMMUNICABLE DISEASES

PROGRESS MONITOR 2020



Netherlands

Noncommunicable diseases progress monitor 2020.
Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO.

16 987 000

Total population

90%

Percentage of deaths
from NCDs

133 500

Total number of
NCD deaths

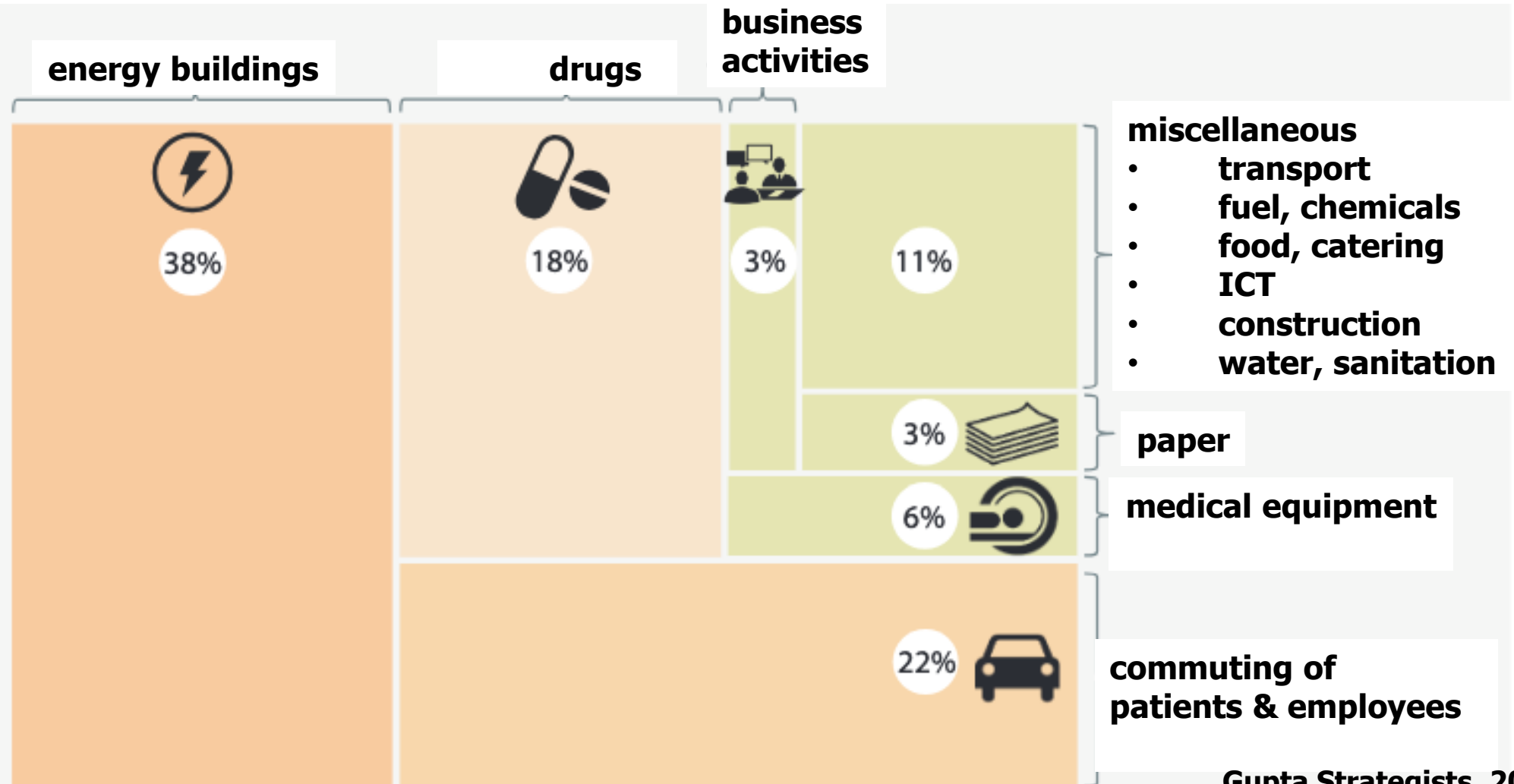
11%

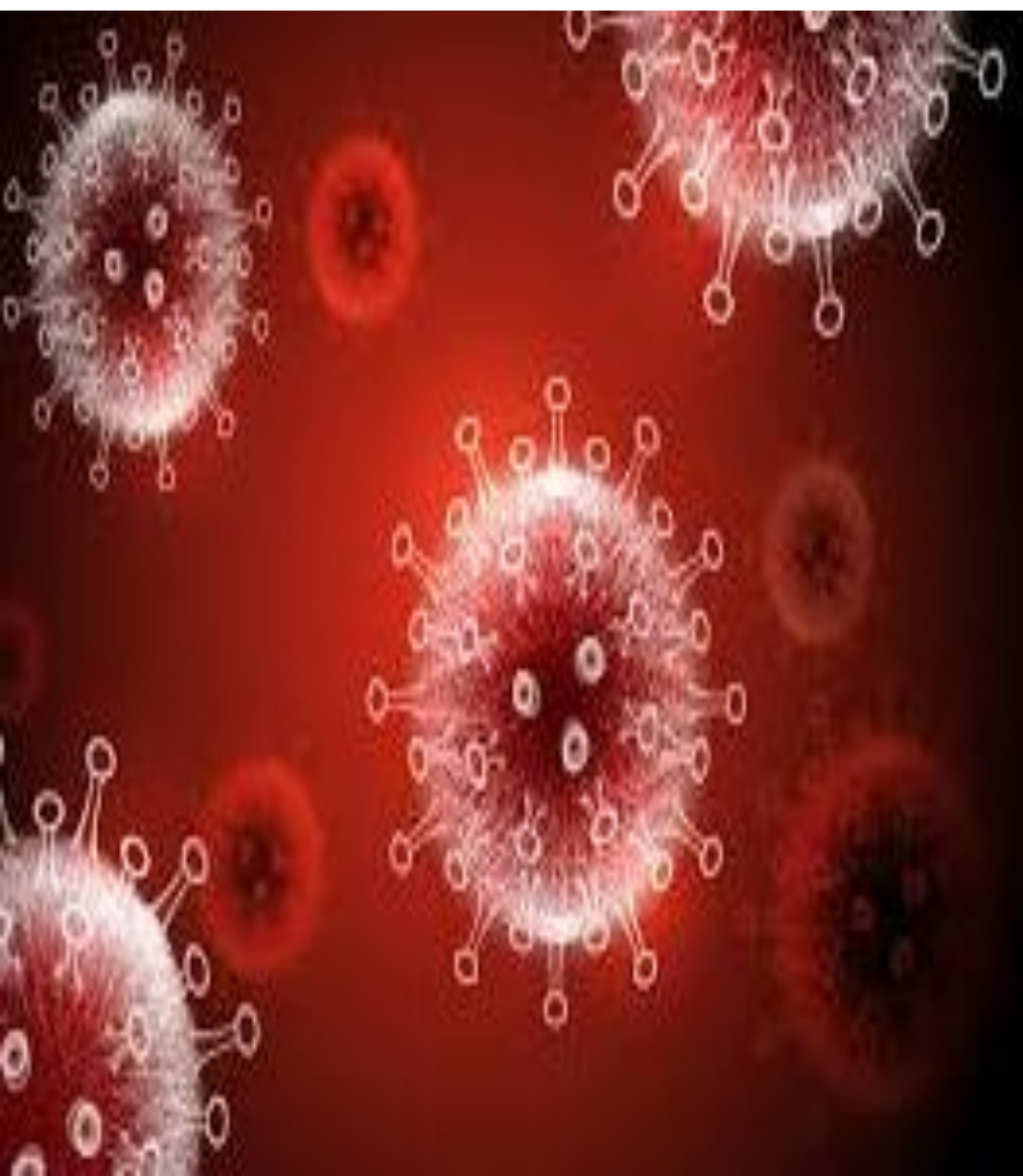
Probability of premature
mortality from NCDs



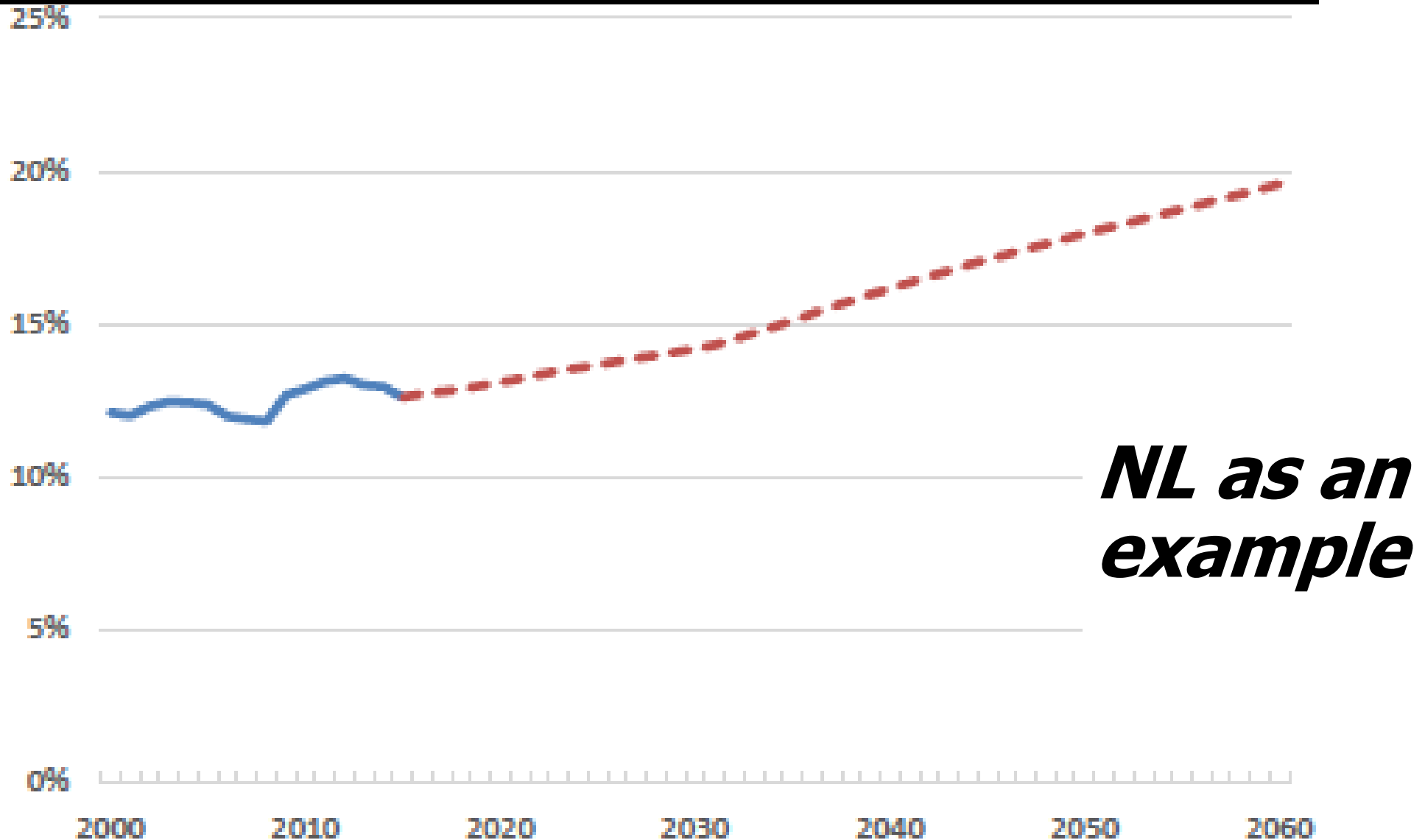


Dutch Health Care Carbon Emission is 4–8% of total footprint

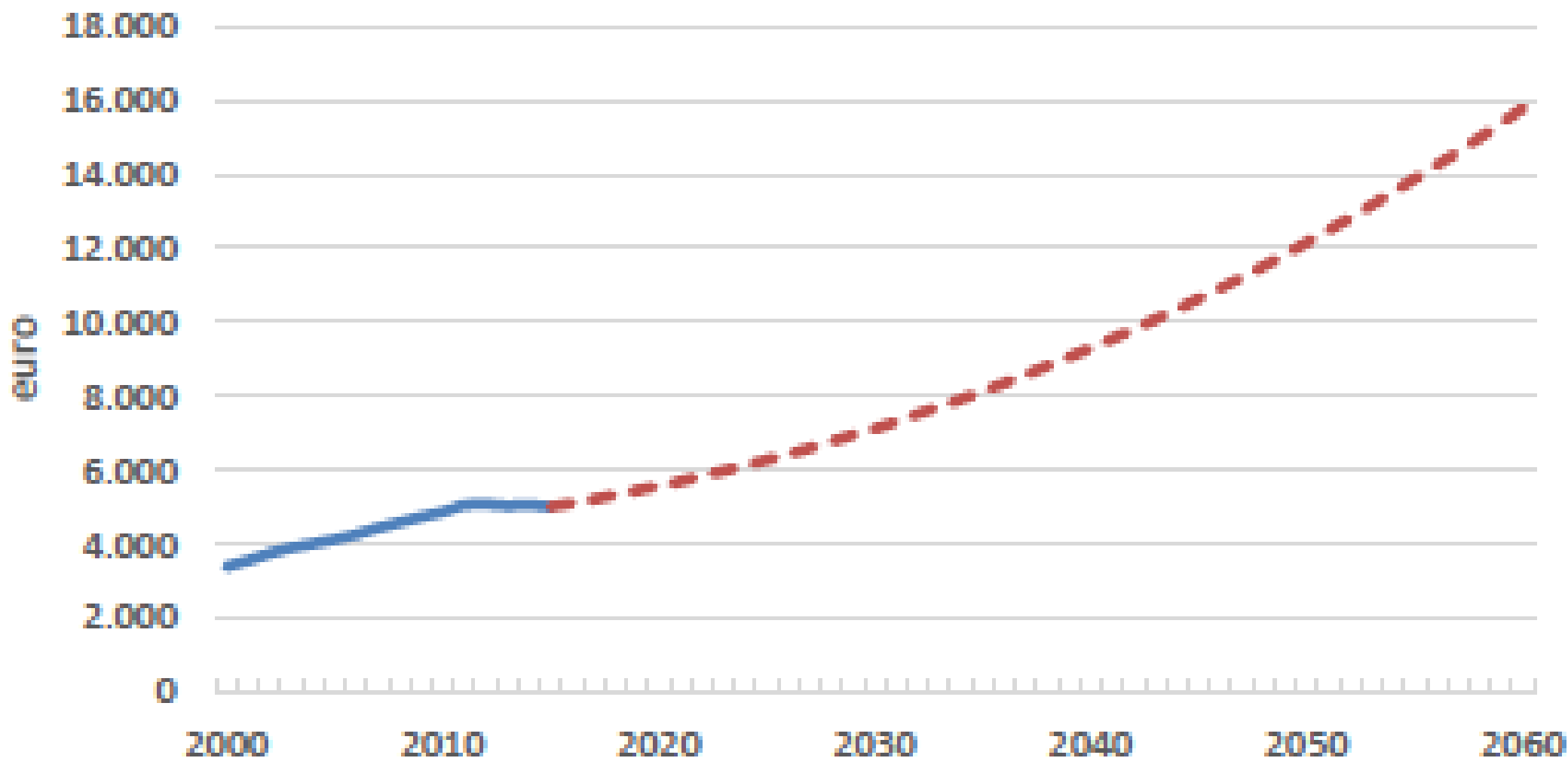




health care cost as % GDP: 2000-2060



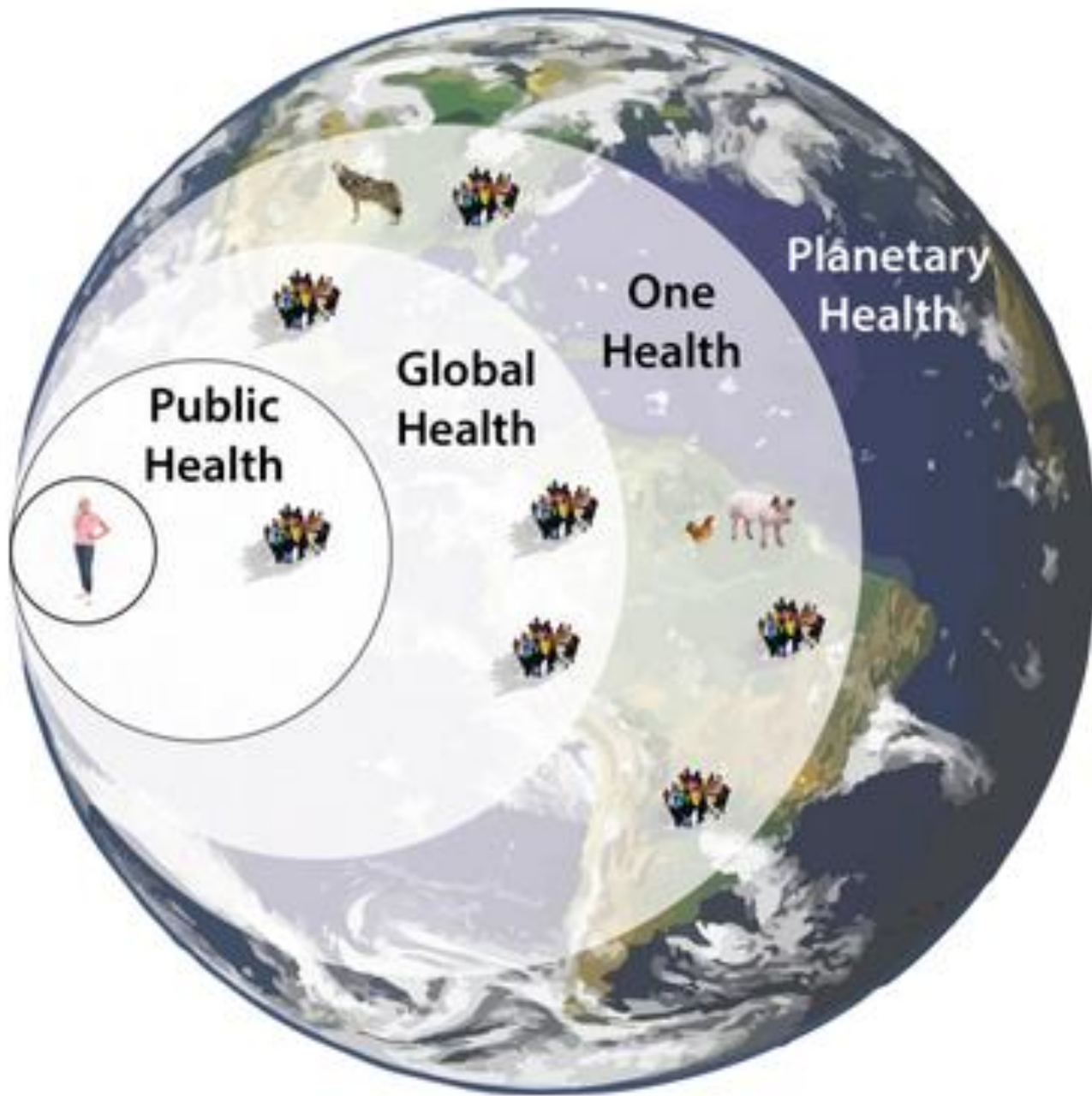
care cost per capita: 2000-2060



Proportion of population working in health care

2060





Planetary health links health of humans to 'health' of the earth

Concerns:

- **climate change**
- **loss of biodiversity**
- **large-scale environmental pollution**
- **deforestation**
- **erosion**
- **etc.**

It entails health risks:

- **infectious diseases**
- **problems with food**
- **problems with drinking water migration and conflict**
- **mental health**
- **etc.**

To sum up:

- Climate change
- Epidemiological changes
- Demographical changes
- Life-threatening infectious diseases
- Scarce availability of (health care) professionals
- Unsustainable cost pressure on the (health care) system
- Current health care system is coming to an end
- Contextual need for prevention and a healthy lifestyle
- Sports & Exercise Science & Medicine has a political role to play

What does this all mean for the Sports Sector?



If the Sports Sector is to play a role
in meeting the current Public Health
challenges of Physical Inactivity and
Obesity, than

**the Sports Sector
has a
political role to play**

