

SAÚDE CARDIOVASCULAR INOVAÇÃO E ACESSO

15 de Fevereiro
CCB - Sala Fernando Pessoa

**Como podemos melhorar a prevenção
das doenças cardiovasculares?**

João Morais

Presidente Honorário da SPC




1927 - 2022



*Entrevista ao médico do coração
Fernando Pádua*

**“Quero chegar
aos 120 anos,
alegre, ativo
e saudável”**

Foi o primeiro português a ir para Harvard, onde estudou com Paul White, o médico que mandava Eisenhower jogar golfe para recuperar dos enfartes. Durante 44 anos trabalhou no 9.º andar do Hospital de Santa Maria “e subia sempre a pé as escadas, de



Higher spending does not always improve health, but making the right investments at the right time can.

World Health Organization, 2017





Lancet 2004; 364: 937–52

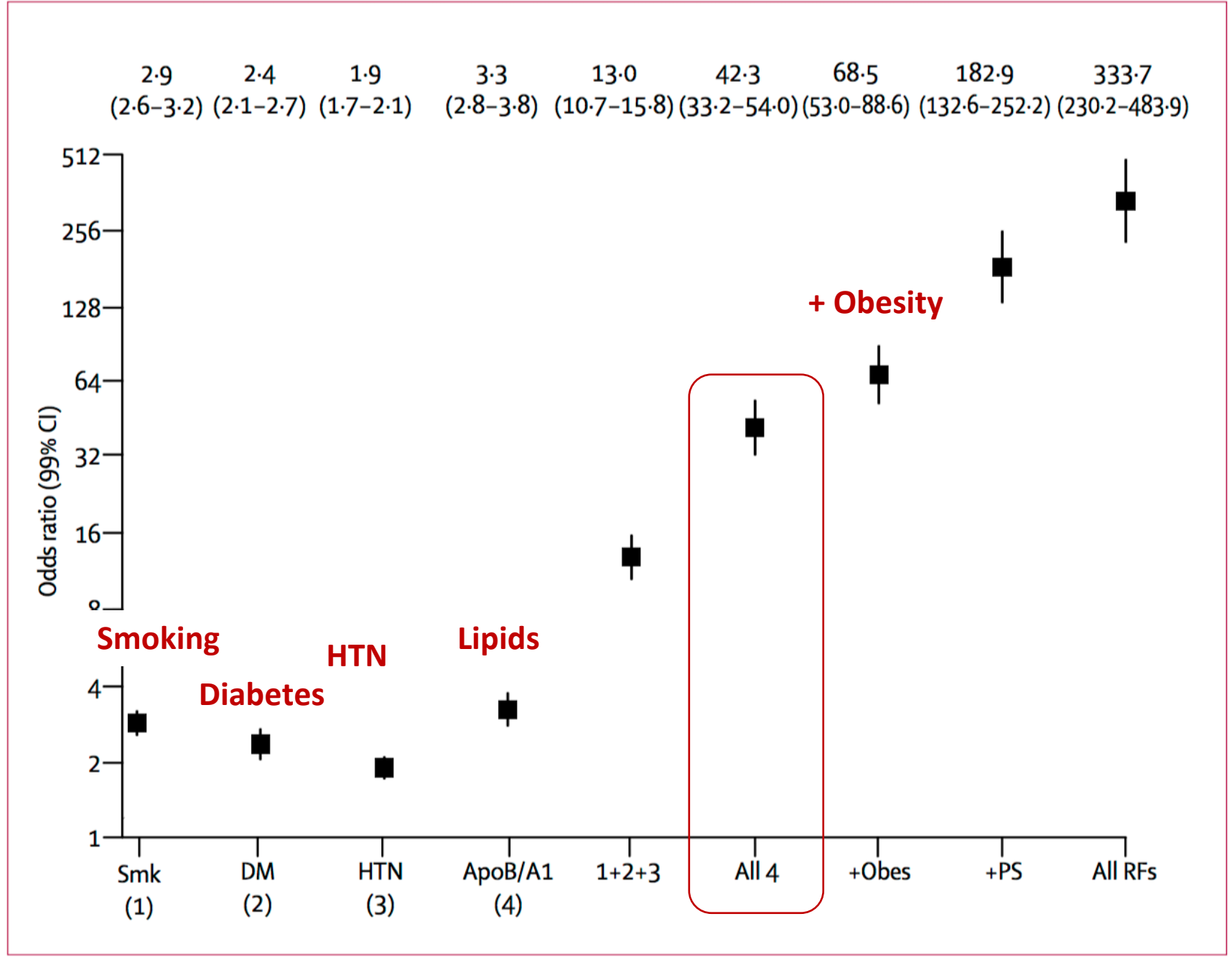


Figure 2: Risk of acute myocardial infarction associated with exposure to multiple risk factors



EUROASPIRE IV and V Countries



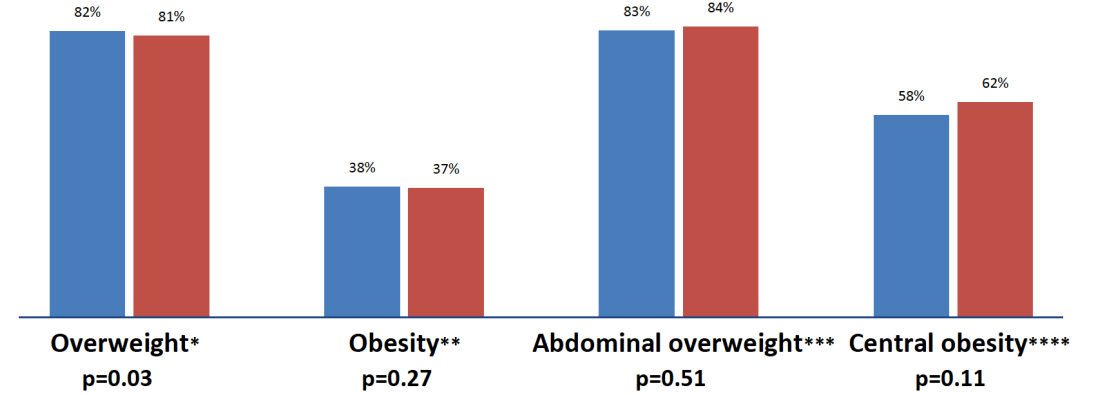
ESC Congress
Munich 2018



EUROASPIRE IV and V Overweight and Obesity



■ EUROASPIRE IV
■ EUROASPIRE V



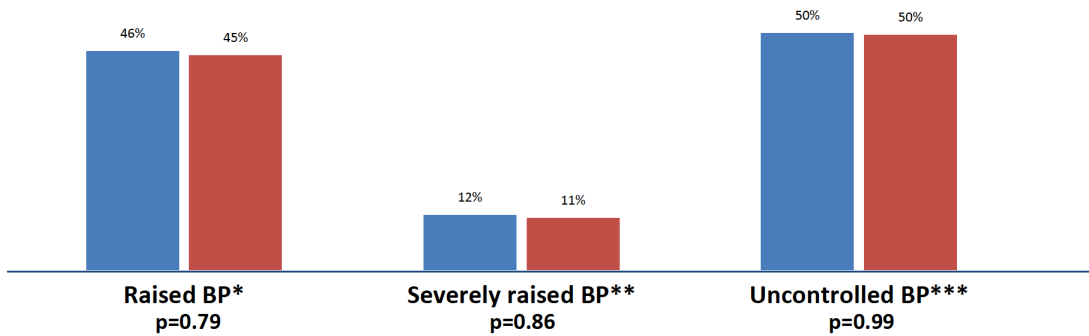
*BMI ≥ 25 kg/m²; **BMI ≥ 30 kg/m²; ***Waist circumference ≥ 94 cm for men or ≥ 80 cm for women;
****Waist circumference ≥ 102 cm for men or ≥ 88 cm for women



EUROASPIRE IV and V Blood pressure



■ EUROASPIRE IV
■ EUROASPIRE V



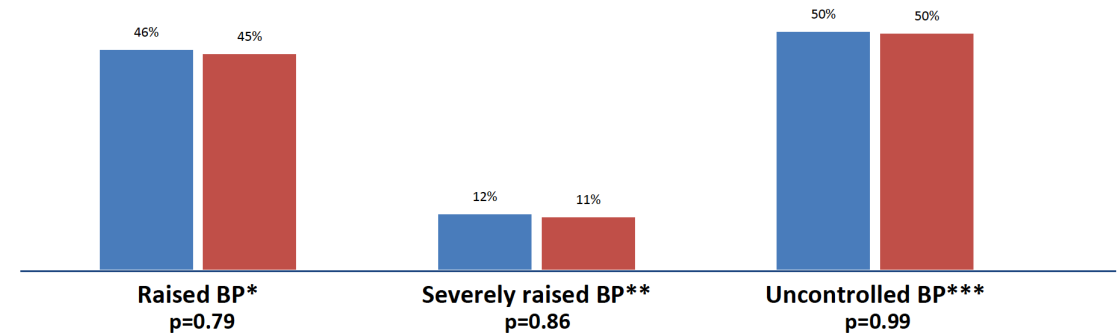
*SBP/DBP $\geq 140/90$ ($\geq 140/80$ for patients with diabetes); **SBP/DBP $\geq 160/100$ mmHg;
***Raised blood pressure in patients using blood pressure lowering drugs



EUROASPIRE IV and V Blood pressure

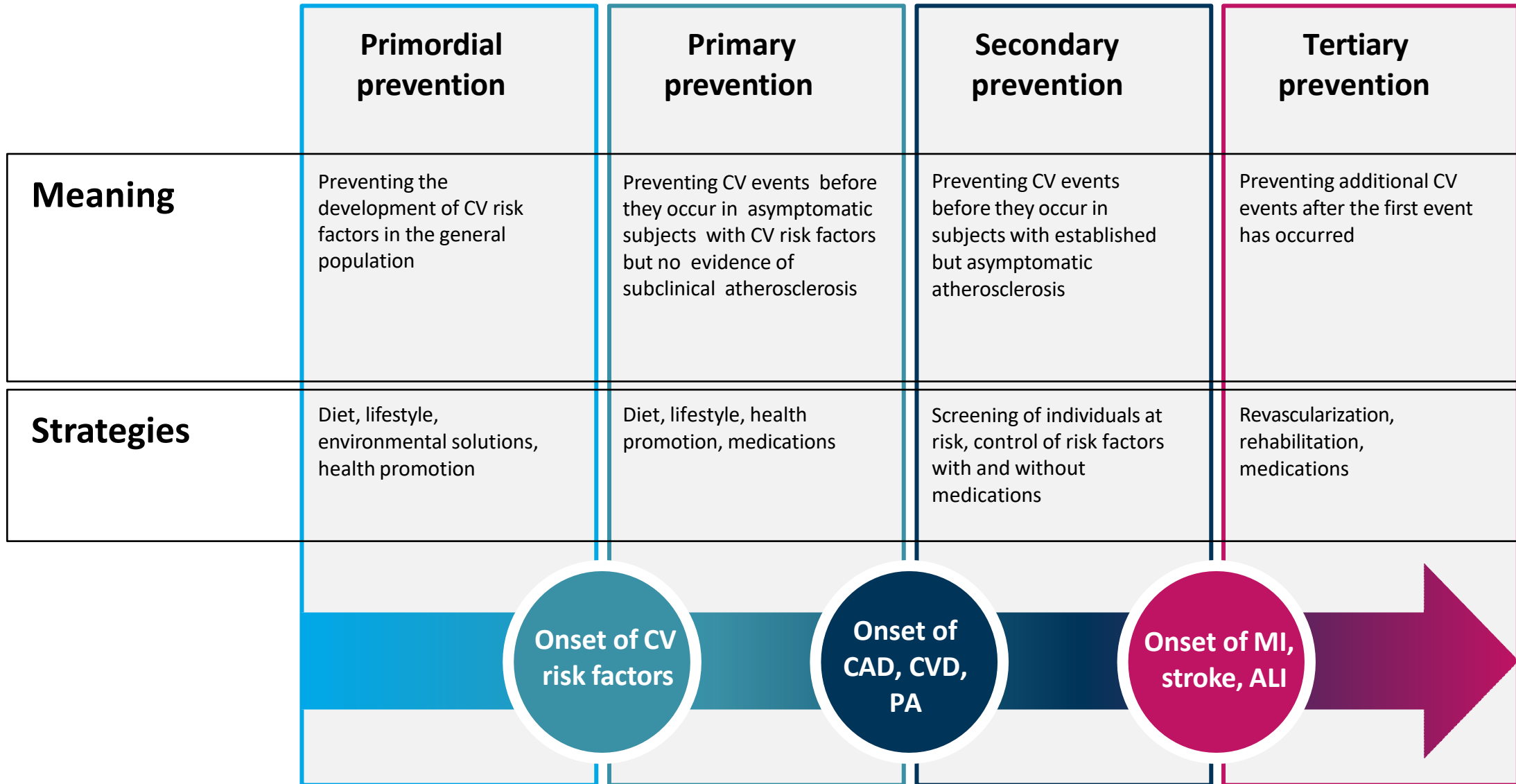


■ EUROASPIRE IV
■ EUROASPIRE V

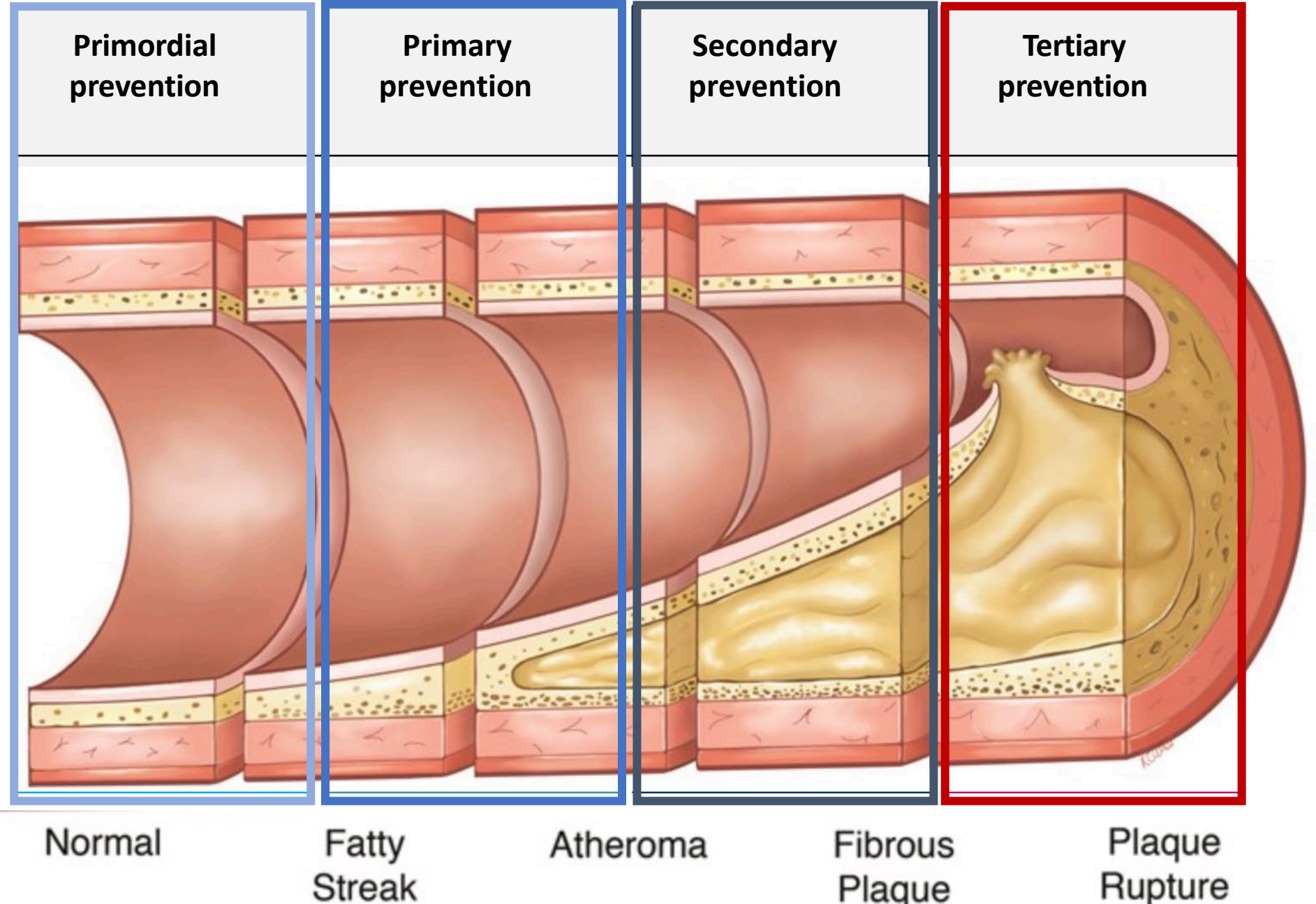


*SBP/DBP $\geq 140/90$ ($\geq 140/80$ for patients with diabetes); **SBP/DBP $\geq 160/100$ mmHg;
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Stages of atherosclerotic CV disease



Stages of atherosclerotic CV disease



Polypill for Primary Prevention CVD

--- Double placebo -.-.- Aspirin only -.-.- Polypill only — Polypill+aspirin

A First Event of the Primary Outcome (CV death, MI, stroke, resuscitated cardiac arrest, HF, arterial revasc)

5713 pts w/o CVD

2x2 randomization

Aspirin 75 mg

Polypill*

Both

Neither

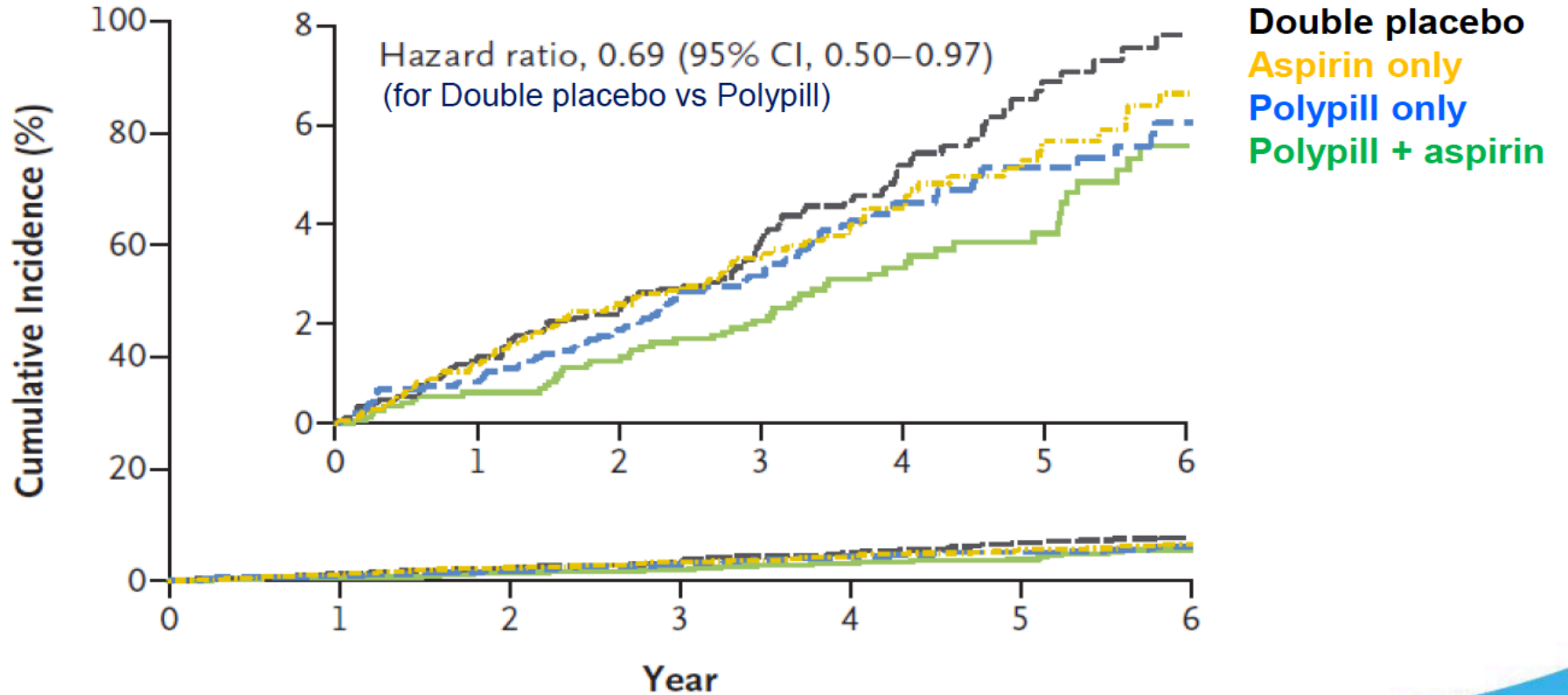
*Polypill = 4 drugs

simvastatin 40 mg

atenolol 100 mg

hydrochlorothiazide 25 mg

ramipril 10 mg



Yusuf, NEJM 2021;384:216-28

ACC.21

**CLEAN AIR,
SMART CITIES,
HEALTHY HEARTS:
ACTION ON AIR
POLLUTION FOR
CARDIOVASCULAR
HEALTH**

DEATHS LINKED TO OUTDOOR AND HOUSEHOLD AIR POLLUTION

7 MILLION →

people die prematurely every year from
air pollution – both household and outdoor

Among these deaths:



19%

from chronic
obstructive
pulmonary
disease
(COPD)



7%
from
lung
cancer



34%

from ischaemic
heart disease



20%

from stroke



21%

are due to
Pneumonia

Figure 1. (10)

Possible mechanistic effects of air pollution on CV morbi and mortality

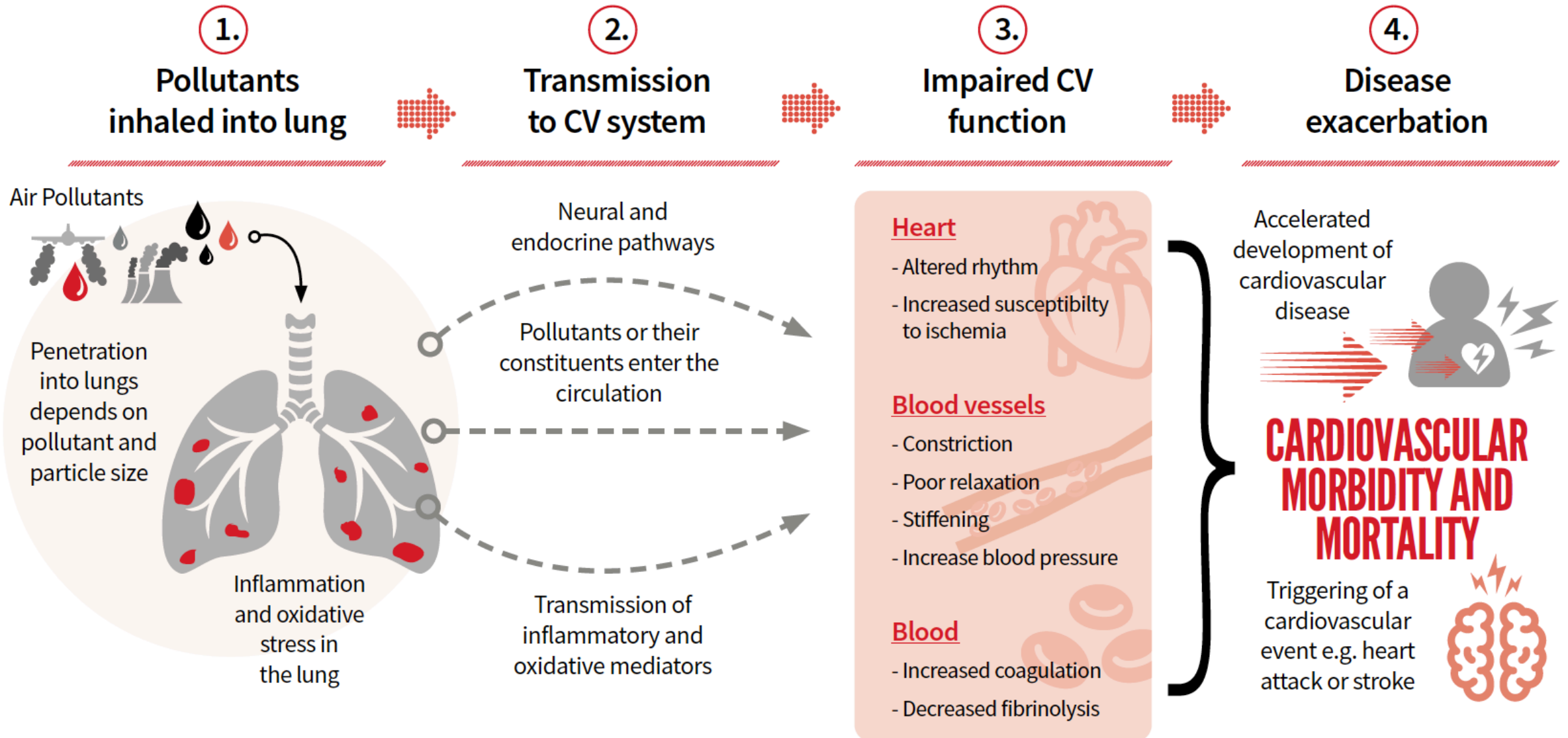
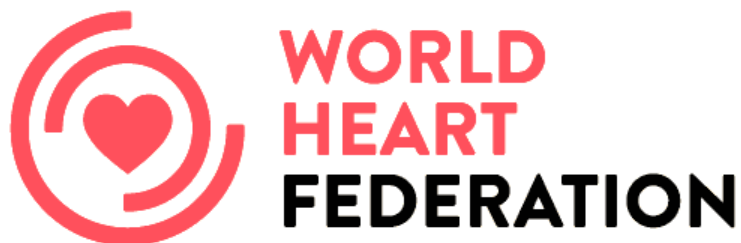
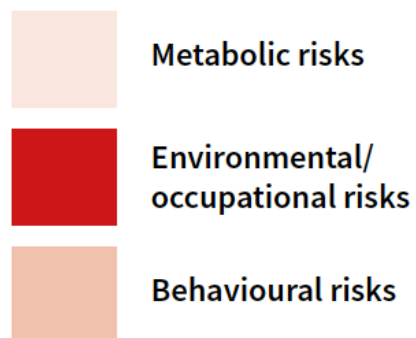


Figure 5. The biological mechanisms by which inhaled pollutants can cause cardiovascular (CV) morbidity and mortality⁽²²⁾

Mortality risk factors – 2019 ranking



A WORLD HEART FEDERATION POLICY BRIEF



1. High systolic blood pressure
2. Tobacco
3. Dietary risks
4. Air pollution
4. High fasting plasma glucose
6. High body-mass index
7. High LDL cholesterol
8. Kidney dysfunction
9. Child and maternal malnutrition
10. Alcohol use
11. Non-optimal temperature
12. Unsafe water, sanitation and handwashing



Portuguese Society of
CARDIOLOGY

Revista Portuguesa de
Cardiologia

Portuguese Journal of **Cardiology**

www.revportcardiol.org



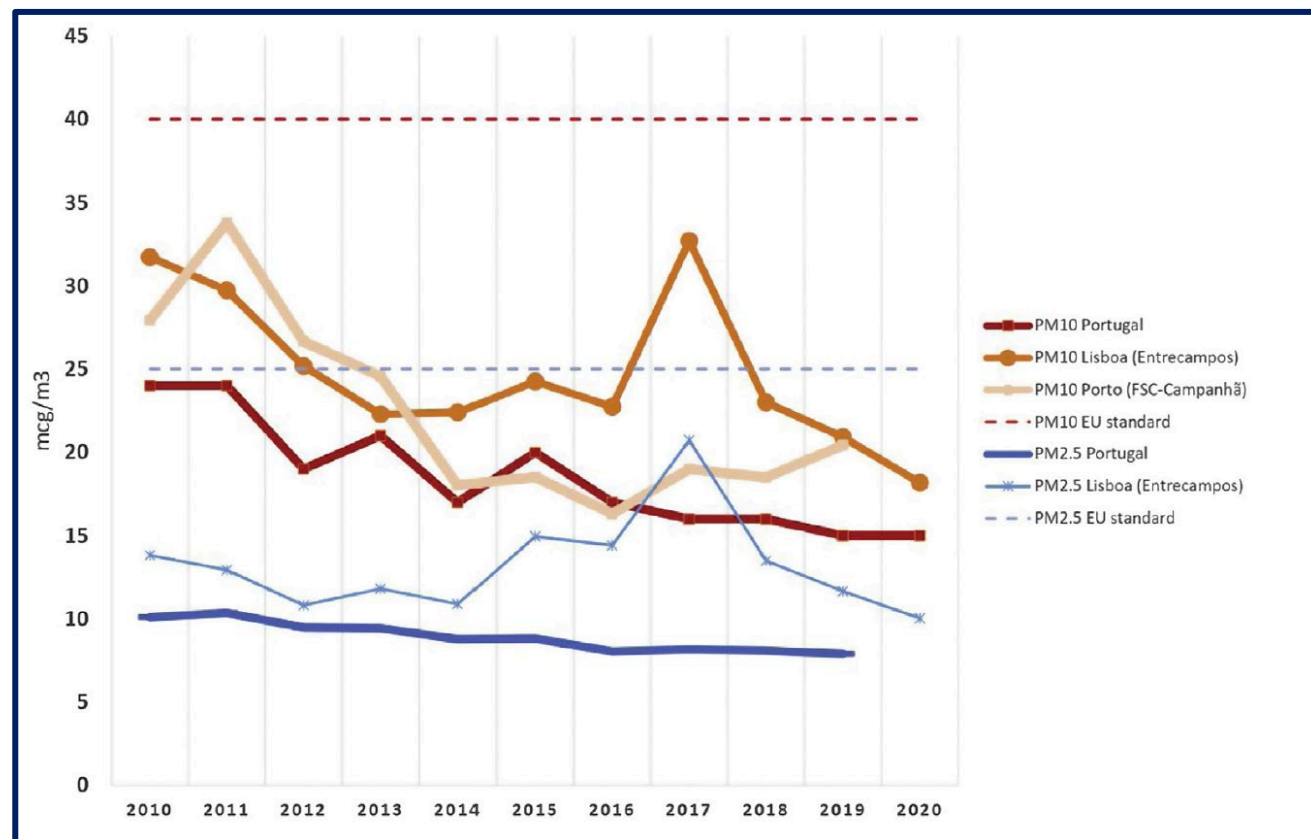
GUIDELINES

Air pollution and cardiovascular diseases: A position paper



Daniel Caldeira^{a,b,c,d,*}, Fátima Franco^{a,e}, Sérgio Bravo Baptista^{a,f,g}, Sofia Cabral^{a,h,i,j}, Maria do Carmo Cachulo^{a,k}, Hélder Soares^{a,l,m}, António Peixeiro^{a,n}, Rui Rodrigues^{a,h,i,j}, Mário Santos^{a,h,i,j}, Ana Teresa Timóteo^{a,m,o}, João Vasconcelos^{p,q}, Lino Gonçalves^{a,k}

Avoiding smoking and second-hand smoke (a neglected type of air pollution), reducing the use of motor vehicles whenever possible and exercising preferably at sites with lower air pollution, are the recommendations at individual-level related to air pollution. Other types of individual-level interventions still require further data before recommendations can be made.

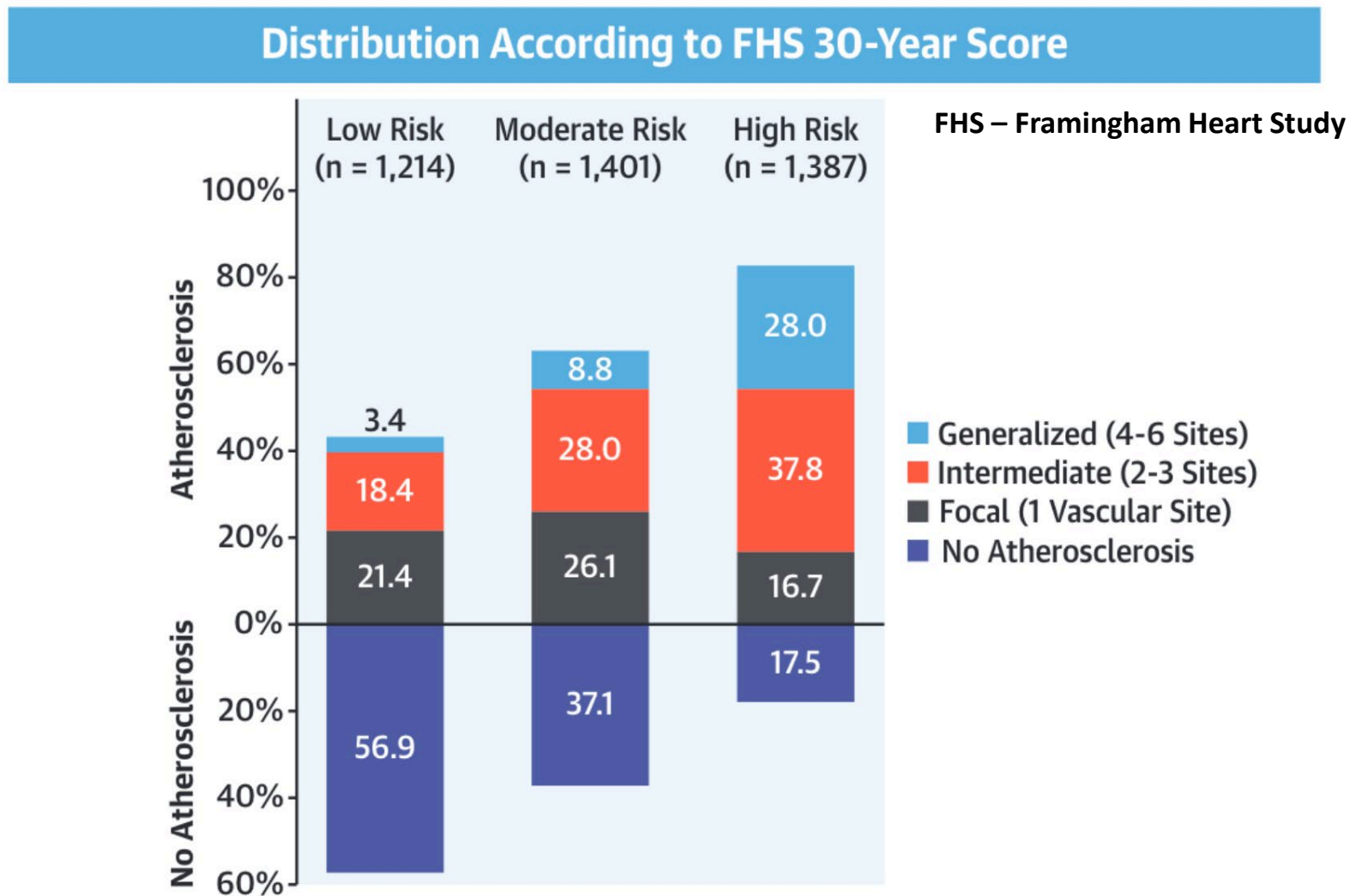


The Portuguese Society of Cardiology advocates greater interdisciplinary involvement to improve knowledge of air quality exposure and cardiovascular diseases, including by strengthening environmental monitoring; it also advocates for a concerted effort to raise awareness and literacy on this issue in Portugal among all stakeholders, including health-care providers and clinicians.

Subclinical atherosclerosis - the new challenge for prevention

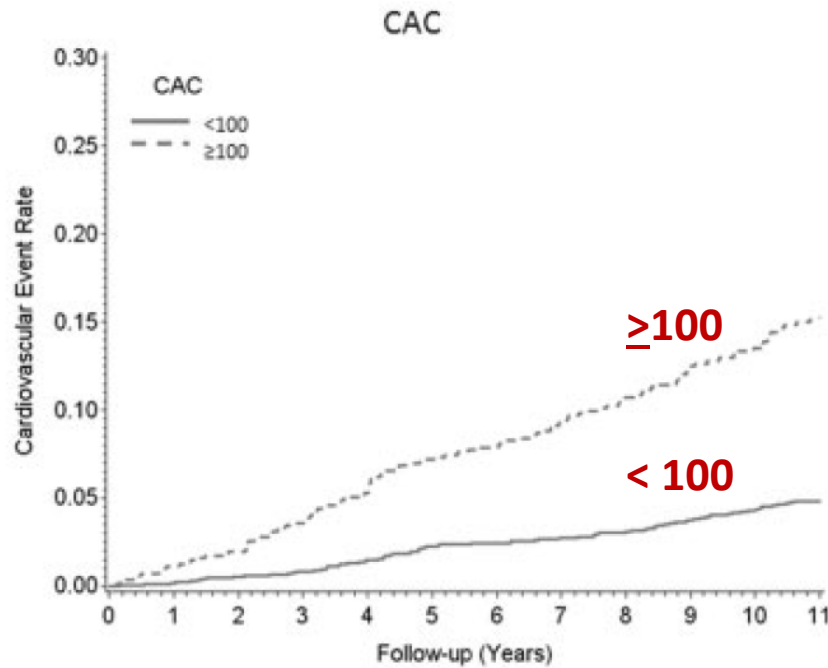
PESA study

Atherosclerotic plaques are seen in 43% of patients categorized as low risk according to the Framingham Heart Score

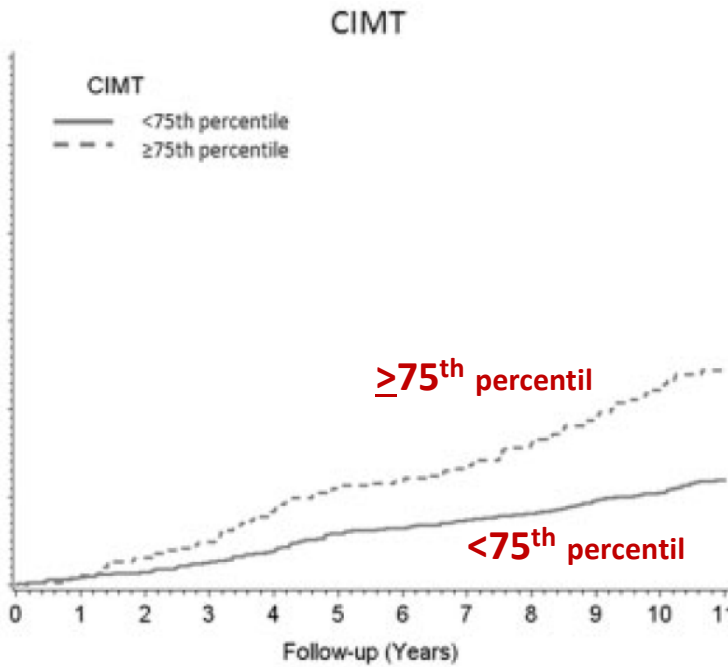


Subclinical atherosclerosis - the new challenge for prevention

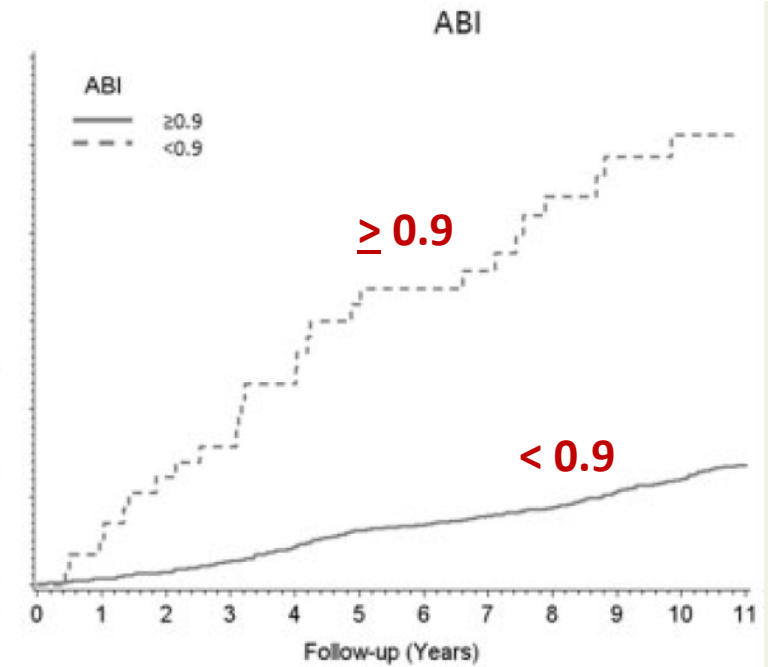
Coronary artery calcification



Carotid-intima media thickness



Ankle braquial index



Event rates stratified by Framingham risk score categories

Cardiac rehabilitation - an essential part of tertiary prevention

Revista Portuguesa de Cardiologia 40 (2021) 877–887



Revista Portuguesa de
Cardiologia
Portuguese Journal of *Cardiology*
www.revportcardiol.org



ORIGINAL ARTICLE

Current state of cardiac rehabilitation in Portugal: Results of the 2019 national survey

José Paulo Fontes^{a,*}, Eduardo M. Vilela^b, Anaí Durazzo^c, Madalena Teixeira^b

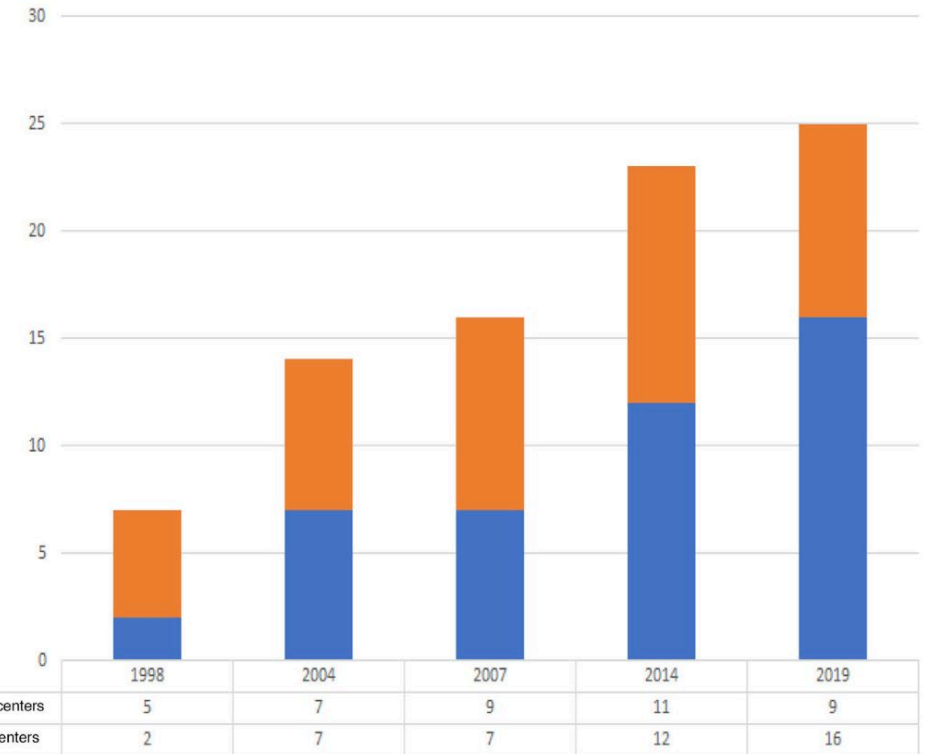
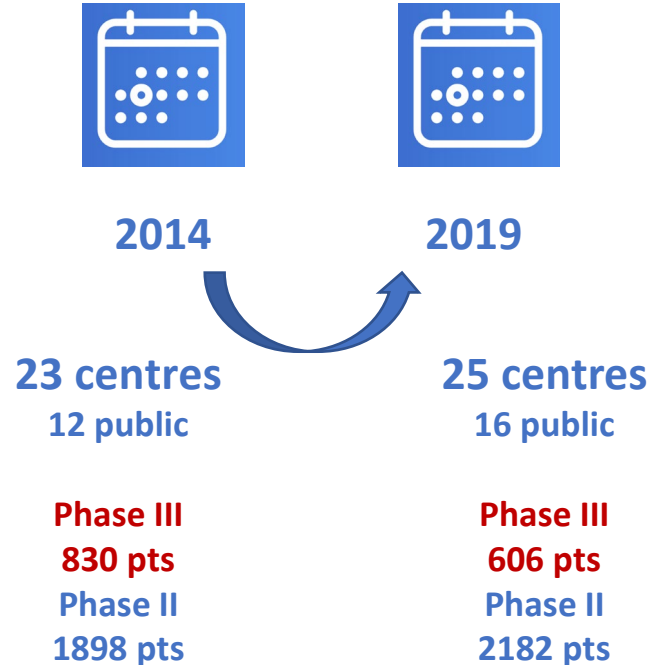


Figure 1 Changes in numbers of cardiac rehabilitation centers in Portugal over the last two decades.

The total number of patients included in phase II programs translates to an **estimated 9.3% coverage of ACS survivors**.

Although these results are significant, they still highlight **an important unmet need** in terms of CR enrolment.

WORLD HEART VISION 2030: DRIVING POLICY CHANGE

Some toplines:

- **Expand prevention** measures and promote **widespread screening**
- Bridge gaps in digital understanding for health
- Strengthen coordination on **links between medical conditions** such as diabetes and cardiovascular health
- Implement **taxes on harmful products** such as tobacco and sugary beverages
- **Widen access to essential and proven therapies**
- **Engage widely with the private sector and industry** including the medical sector to promote heart health and access to care.

WORLD HEART VISION 2030: DRIVING POLICY CHANGE - FOR EVERYONE'S HEALTH

WORLD HEART FEDERATION

CARDIOVASCULAR HEALTH – REIMAGINED. REDEFINED.



CALLS TO ACTION ON:

GOVERNMENTS TO:

- Invest in basic prevention, screening, early detection, and access to treatment and care, and to secondary prevention and rehabilitation following a CVD event
- Secure everyone's access to healthcare including via digital means and allocate resources to education and digital literacy for both workforce and patients
- Develop public policies that enable healthy lifestyles through physical activity, proper nutrition, cessation of tobacco smoking and mitigating air pollution
- Implement evidence-based policies and address regulatory bottlenecks and other barriers to access for treatment.

HEALTH PROFESSIONALS TO:

- Engage actively in the prevention, detection, and treatment of all CVDs, including neglected cardiovascular diseases
- Be attuned to, and learn from, those living with CVD and at risk for CVD
- Build better links with communities focusing on other preventable chronic conditions and infectious diseases
- Participate in learning programmes that prioritise digital health literacy.

CIVIL SOCIETY TO:

- Form communities among those dealing with diabetes or obesity to help strengthen a holistic care approach
- Advocate for measures that include better nutrition options; healthy meals in schools and other public settings; taxes on harmful products such as tobacco and sugary beverages; improved air quality; and investment in clean sources of energy and transport
- Stay informed about decisions including at local level and seek to actively influence policymakers.

THE PRIVATE SECTOR TO:

- Reorient activities and products to make them compatible with a healthy lifestyle
- Partner with others and sectors for greater impact through combined funding and expertise
- Make people's health a leading priority and a first premise of business.

THE PHARMACEUTICAL, MEDICAL TECHNOLOGY, AND MEDICAL DEVICE INDUSTRY TO:

- Deploy resources and expertise to support and initiate programmes that widen access to essential and proven therapies
- Use a holistic approach based on the needs of real-life patients
- Engage actively in delivering solutions to prevent, detect and treat all CVDs, including neglected cardiovascular diseases.

PATIENTS AND OTHER INDIVIDUALS TO:

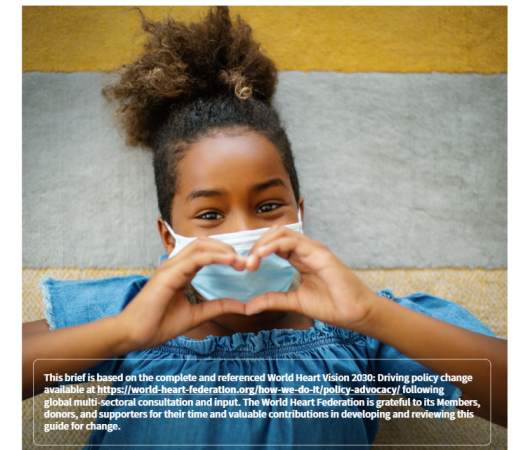
- Seek out ever-growing knowledge to become heart-aware: healthy food choices, regular exercise, and eliminating tobacco use or exposure are among the pillars of good health
- Exercise civic duties such as voting when policy reforms and health incentives are at stake
- Take steps to preserve cardiovascular health, sticking to treatments where prescribed and keeping track of health readings
- Advocate for patient engagement with health practitioners, researchers, and policymakers.

ACT NOW

THE ACADEMIC, RESEARCH AND EDUCATION COMMUNITY TO:

- Further its understanding of CVD's incidence, clinical course, and prognosis in understudied populations around the world to inform national strategies for prevention and control
- Ensure that observational and interventional studies encompass real-life patients treated for various conditions and coming from all backgrounds to account for genetic, cultural, and environmental factors affecting CVD risk

- Further involve patients in research and scientific communications
- Initiate studies on science and its application to narrow the gap between what we know and what we do for CVD prevention
- Promote lifelong medical education and training opportunities in the field of cardiovascular medicine.



This brief is based on the complete and referenced World Heart Vision 2030: Driving policy change available at <https://world-heart-federation.org/how-we-do-it/policy-advocacy/> following global multi-sectoral consultation and input. The World Heart Federation is grateful to its Members, donors, and supporters for their time and valuable contributions in developing and reviewing this guide for change.

SAÚDE CARDIOVASCULAR INOVAÇÃO E ACESSO

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Algumas ideias-chave

- ♥ A prevenção das doenças cardiovasculares não é um problema centrado apenas nos sistemas de saúde. Depende acima de tudo de uma estratégia política e económica que vise uma melhor qualidade de vida das pessoas.
- ♥ A prevenção primordial e a prevenção primária dirigem-se a toda a população e passam no essencial pelo ensino e educação, visando melhorar os níveis de literacia para as questões da saúde e bem estar
- ♥ A prevenção secundária exige um trabalho de "screening" dos grupos de risco o que pressupõe disponibilizar as ferramentas mais adequadas
- ♥ A prevenção terciária tem de estar ao alcance de todos independente do local onde foram tratados ou do local onde vivem

