

PREVENZIONE CARDIOVASCOLARE

cosa c'è di nuovo?

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Epidemiologia delle malattie cardiovascolari



17.9 million
people die each year

from CVDs, an estimated 31% of all deaths worldwide.

85%

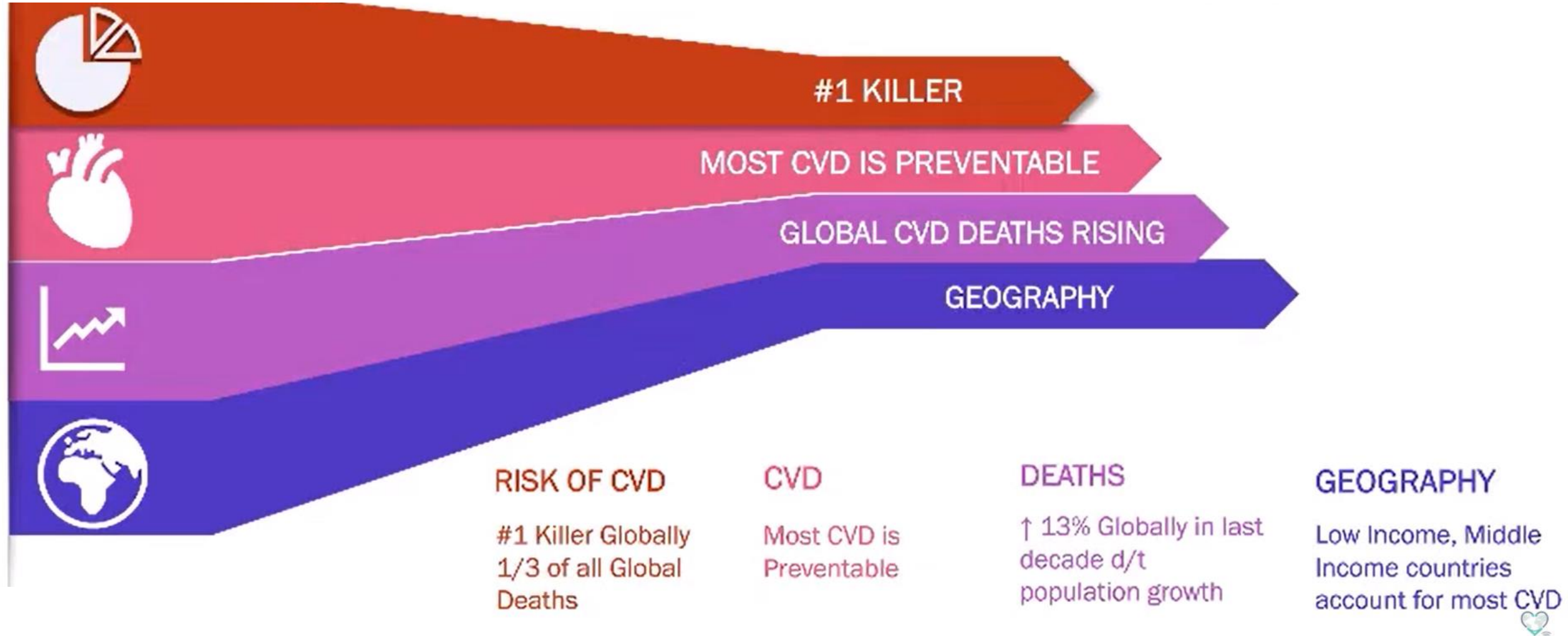
of all CVD deaths are due to heart attacks and strokes.

>75%

of CVD deaths occur in low- and middle-income countries.



Epidemiologia delle malattie cardiovascolari



Cause di decesso in italia

35,1%

20,1%

| Cause di morte (Ordinamento secondo il numero dei decessi nel 2014) | 2003 | | | | 2014 | | | | Variazione rango 2003-2014 | Variazione % tasso 2003-2014 |
|---|-------|-------------------|----------------|--------------|-------|-------------------|----------------|-------------|----------------------------------|------------------------------------|
| | Rango | Numero decessi | % su totale | Tasso | Rango | Numero decessi | % su totale | Tasso | | |
| Malattie ischemiche del cuore | 1 | 82.059 | 13,9 | 15,6 | 1 | 69.653 | 11,6 | 9,8 | ↔ | -37,2 |
| Malattie cerebrovascolari | 2 | 68.927 | 11,7 | 13,4 | 2 | 57.230 | 9,6 | 8,0 | ↔ | -40,5 |
| Altre malattie del cuore | 3 | 51.017 | 8,7 | 10,1 | 3 | 49.554 | 8,3 | 7,0 | ↔ | -30,5 |
| Tumori maligni di trachea, bronchi e polmoni | 4 | 32.264 | 5,5 | 5,7 | 4 | 33.386 | 5,6 | 4,9 | ↔ | -13,7 |
| Malattie ipertensive | 6 | 22.325 | 3,8 | 4,4 | 5 | 30.690 | 5,1 | 4,3 | ↑ | -1,3 |
| Demenza e Malattia di Alzheimer | 9 | 14.685 | 2,5 | 2,8 | 6 | 26.600 | 4,4 | 3,7 | ↑ | 29,1 |
| Malattie croniche basse vie respiratorie | 5 | 23.325 | 4,0 | 4,5 | 7 | 20.234 | 3,4 | 2,8 | ↓ | -36,8 |
| Diabete mellito | 7 | 19.759 | 3,4 | 3,7 | 8 | 20.183 | 3,4 | 2,8 | ↓ | -23,0 |
| Tumori maligni di colon, retto e ano | 8 | 17.255 | 2,9 | 3,1 | 9 | 18.671 | 3,1 | 2,7 | ↓ | -13,8 |
| Tumori maligni del seno | 10 | 11.589 | 2,0 | 2,1 | 10 | 12.330 | 2,1 | 1,8 | ↔ | -13,5 |
| Tumori maligni del pancreas | 15 | 8.777 | 1,5 | 1,6 | 11 | 11.186 | 1,9 | 1,6 | ↑ | 3,9 |
| Malattie del rene e dell'uretere | 17 | 8.110 | 1,4 | 1,6 | 12 | 10.043 | 1,7 | 1,4 | ↑ | -9,5 |
| Tumori maligni del fegato | 12 | 9.841 | 1,7 | 1,7 | 13 | 9.915 | 1,7 | 1,4 | ↓ | -17,1 |
| Tumori maligni dello stomaco | 11 | 11.024 | 1,9 | 2,0 | 14 | 9.557 | 1,6 | 1,4 | ↓ | -31,0 |
| Influenza e Polmonite | 14 | 8.878 | 1,5 | 1,8 | 15 | 9.413 | 1,6 | 1,3 | ↓ | -25,6 |
| Tumori non maligni | 16 | 8.127 | 1,4 | 1,5 | 16 | 8.204 | 1,4 | 1,2 | ↔ | -22,8 |
| Setticemia | 31 | 2.490 | 0,4 | 0,5 | 17 | 7.636 | 1,3 | 1,1 | ↑ | 131,1 |
| Tumori maligni della prostata | 18 | 7.707 | 1,3 | 1,4 | 18 | 7.174 | 1,2 | 1,0 | ↔ | -29,8 |
| Leucemia | 20 | 5.561 | 0,9 | 1,0 | 19 | 6.049 | 1,0 | 0,9 | ↑ | -12,3 |
| Cirrosi, fibrosi ed epatite cronica | 13 | 9.742 | 1,7 | 1,7 | 20 | 6.035 | 1,0 | 0,9 | ↓ | -48,7 |
| Tumori maligni della vescica | 21 | 5.116 | 0,9 | 0,9 | 21 | 5.610 | 0,9 | 0,8 | ↔ | -14,5 |
| Morbo di Hodgkin e Linfomi | 22 | 4.885 | 0,8 | 0,9 | 22 | 5.175 | 0,9 | 0,8 | ↔ | -13,3 |
| Morbo di Parkinson | 24 | 3.391 | 0,6 | 0,6 | 23 | 5.110 | 0,9 | 0,7 | ↑ | 10,8 |
| Tumori maligni del cervello e del SNC | 25 | 3.108 | 0,5 | 0,5 | 24 | 4.237 | 0,7 | 0,6 | ↑ | 17,6 |
| Suicidio e autolesione intenzionale | 23 | 4.075 | 0,7 | 0,7 | 25 | 4.147 | 0,7 | 0,6 | ↓ | -8,5 |
| Prime 25 | | 444.037 | 75,4 | | | 448.022 | 74,8 | | | |
| Altre | | 144.860 | 24,6 | | | 150.648 | 25,2 | | | |
| Totale | | 588.897 | 100,0 | 110,8 | | 598.670 | 100,0 | 85,3 | | -23,0 |

CVD RELATED DEATHS

Cardiovascular disease is the leading cause of death worldwide



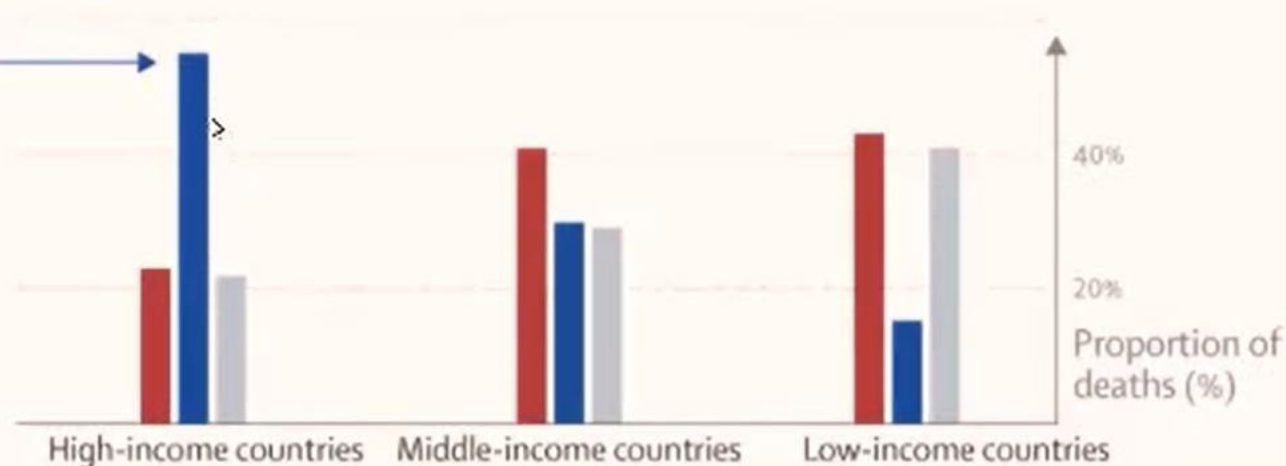
17.7 million deaths

Cancer

All other causes

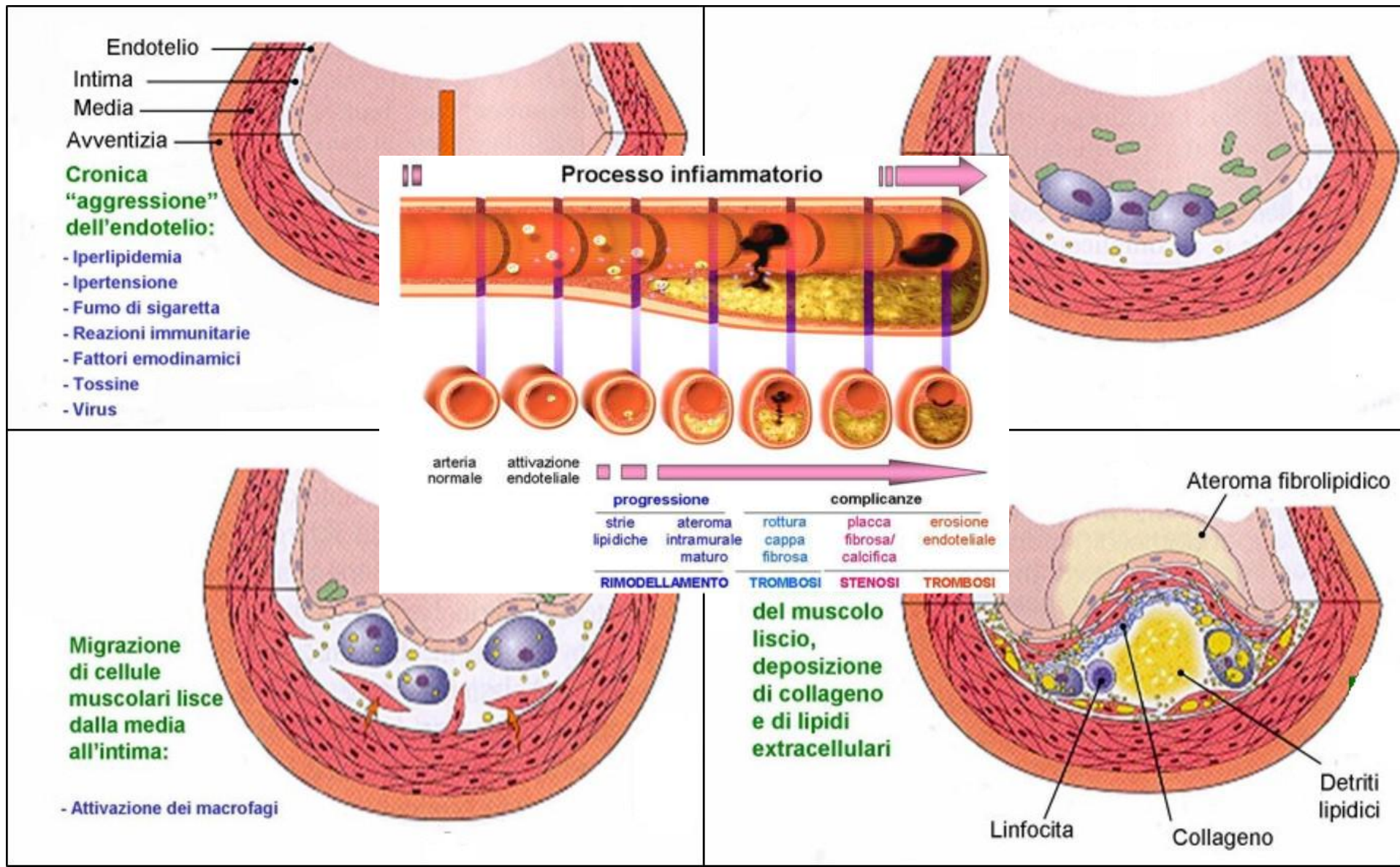
100% of deaths globally

But in high-income countries, **cancer** causes twice as many deaths as **cardiovascular disease**



For more, visit www.thelancet.com

- Modifiable risk factors, cardiovascular disease, and mortality in 155 722 individuals from 21 high-income, middle-income, and low-income countries (PURE)
- Variations in common diseases, hospital admissions, and deaths in middle-aged adults in 21 countries from five continents (PURE): a prospective cohort study



ATEROSCLEROSI Coronarica è
PRIMARIA CAUSA DI MORTALITA'
LA PRIMA CAUSA DI MORBIDITA'



ISCHEMIC HEART DISEASE

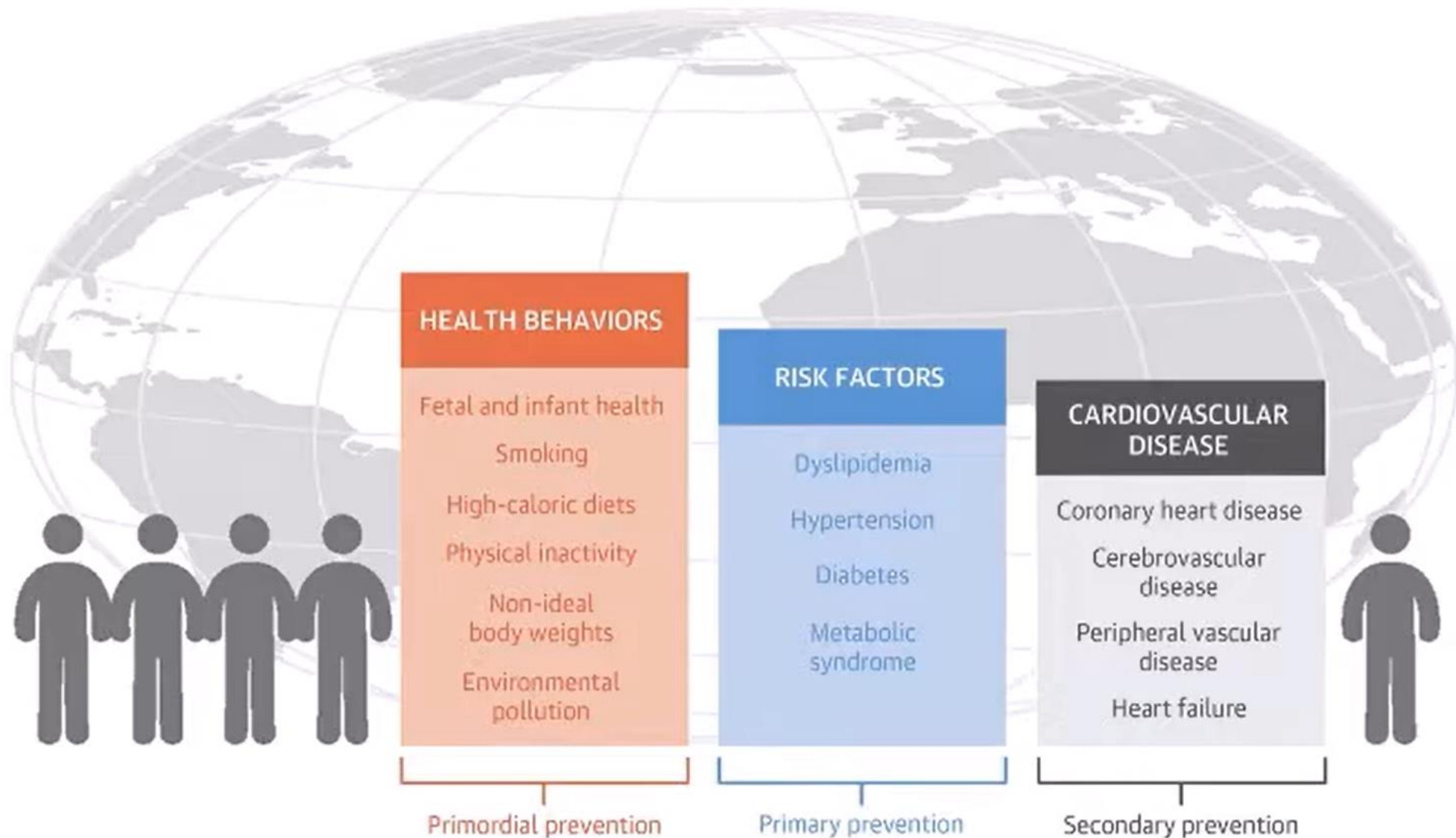


**8.92
million**

The number of **deaths due to ischemic heart disease (IHD)** in 2015, making it the leading cause of death in the world. The highest IHD death rates were observed in Central Asia and Eastern Europe. IHD was the leading cause of all health loss globally as well as in each world region.



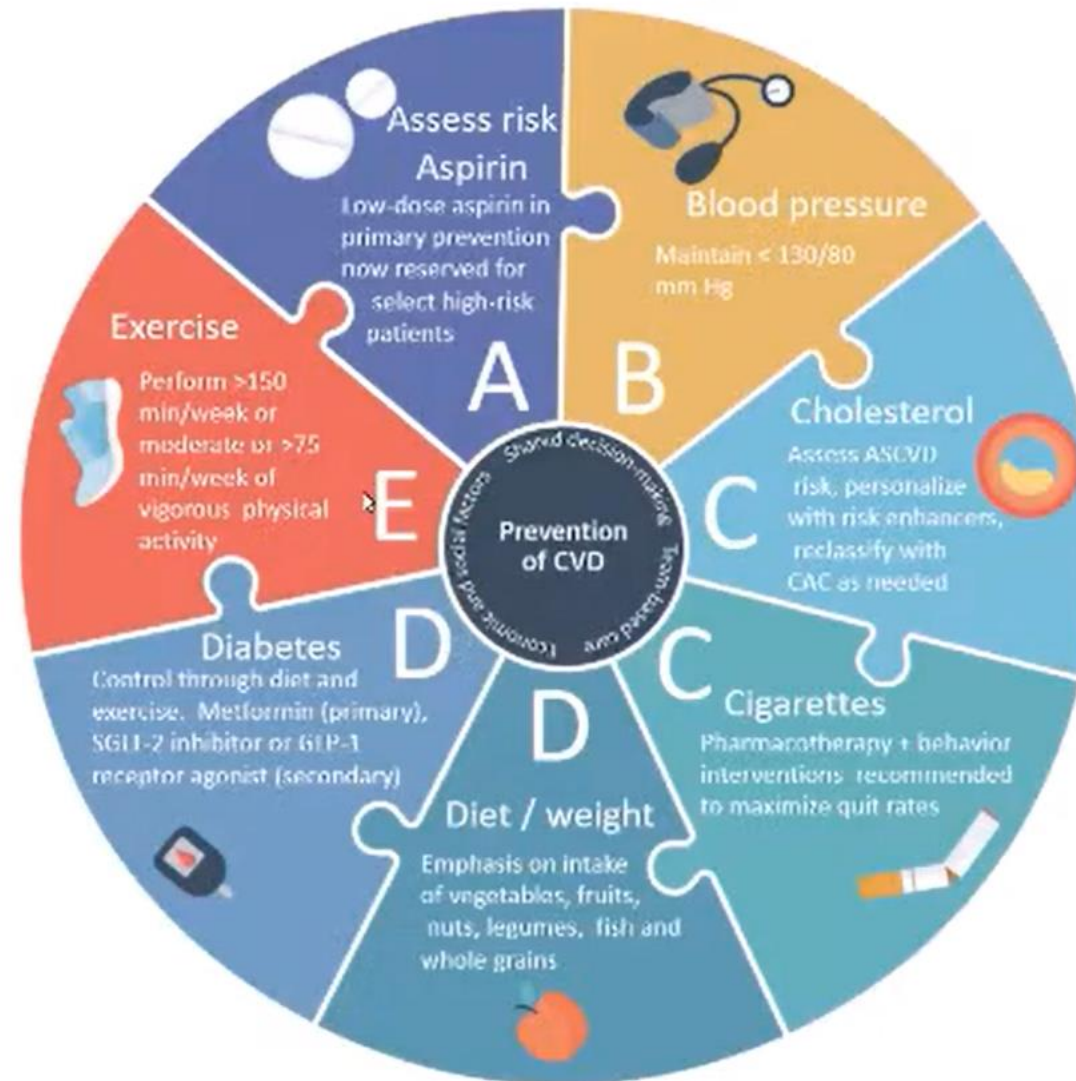
PREVENTION OF CVD



Vaduganathan et al. JACC 2015;66:1535-1537



L' ABC (D, E...) della prevenzione primaria



I promotori del rischio («risk enhancers»)

Table 1: ASCVD Risk Enhancers

- Family history of premature ASCVD
- Primary hypercholesterolemia
- Chronic kidney disease
- Metabolic syndrome
- Conditions specific to women (e.g. preeclampsia, premature menopause)
- Chronic inflammatory conditions (especially rheumatoid arthritis, psoriasis, HIV)
- Ethnicity (e.g. south Asian ancestry)

Lipid/Biomarkers:

- Persistently elevated triglycerides (≥ 175 mg/dL)

In selected individuals if measured:

- hsCRP ≥ 2 mg/L
- Lp(a) levels ≥ 50 mg/dL or ≥ 125 nmol/L
- ApoB levels ≥ 130 mg/dL
- Ankle-brachial index < 0.9



I promotori del rischio («risk enhancers»)


Risk-Enhancing Factors

- **Family history of premature ASCVD** (males, age <55 y; females, age <65 y)
- **Primary hypercholesterolemia** (LDL-C 160–189 mg/dL [4.1–4.8 mmol/L]; non-HDL-C 190–219 mg/dL [4.9–5.6 mmol/L])*
- **Metabolic syndrome** (increased waist circumference [by ethnically appropriate cutpoints], elevated triglycerides [>150 mg/dL, nonfasting], elevated blood pressure, elevated glucose, and low HDL-C [<40 mg/dL in men; <50 mg/dL in women] are factors; a tally of 3 makes the diagnosis)
- **Chronic kidney disease** (eGFR 15–59 mL/min/1.73 m² with or without albuminuria; not treated with dialysis or kidney transplantation)
- **Chronic inflammatory conditions**, such as psoriasis, RA, lupus, or HIV/AIDS

ABI indicates ankle-brachial index; AIDS, acquired immunodeficiency syndrome; apoB, apolipoprotein B; ASCVD, atherosclerotic cardiovascular disease; eGFR, estimated glomerular filtration rate; HDL-C, high-density lipoprotein cholesterol; HIV, human immunodeficiency virus; LDL-C, low-density lipoprotein cholesterol; Lp(a), lipoprotein (a); and RA, rheumatoid arthritis.



Donne e malattia cardiovascolare: fattori specifici legati al sesso




YOUNGER WOMEN

- Early or late menarche
- PCOS
- OCPs
- Premature menopause
- Primary ovarian insufficiency



PREGNANCY

- Gestational diabetes
- Gestational hypertension
- Preeclampsia
- Preterm birth
- Fertility therapy



OLDER WOMEN

- Menopause
- Hormone replacement therapy



Terapia antiaggregante: “CARDIOASPIRIN”



Antiplatelet Therapy

- Aspirin should be used infrequently in the routine primary prevention of ASCVD because of lack of net benefit.

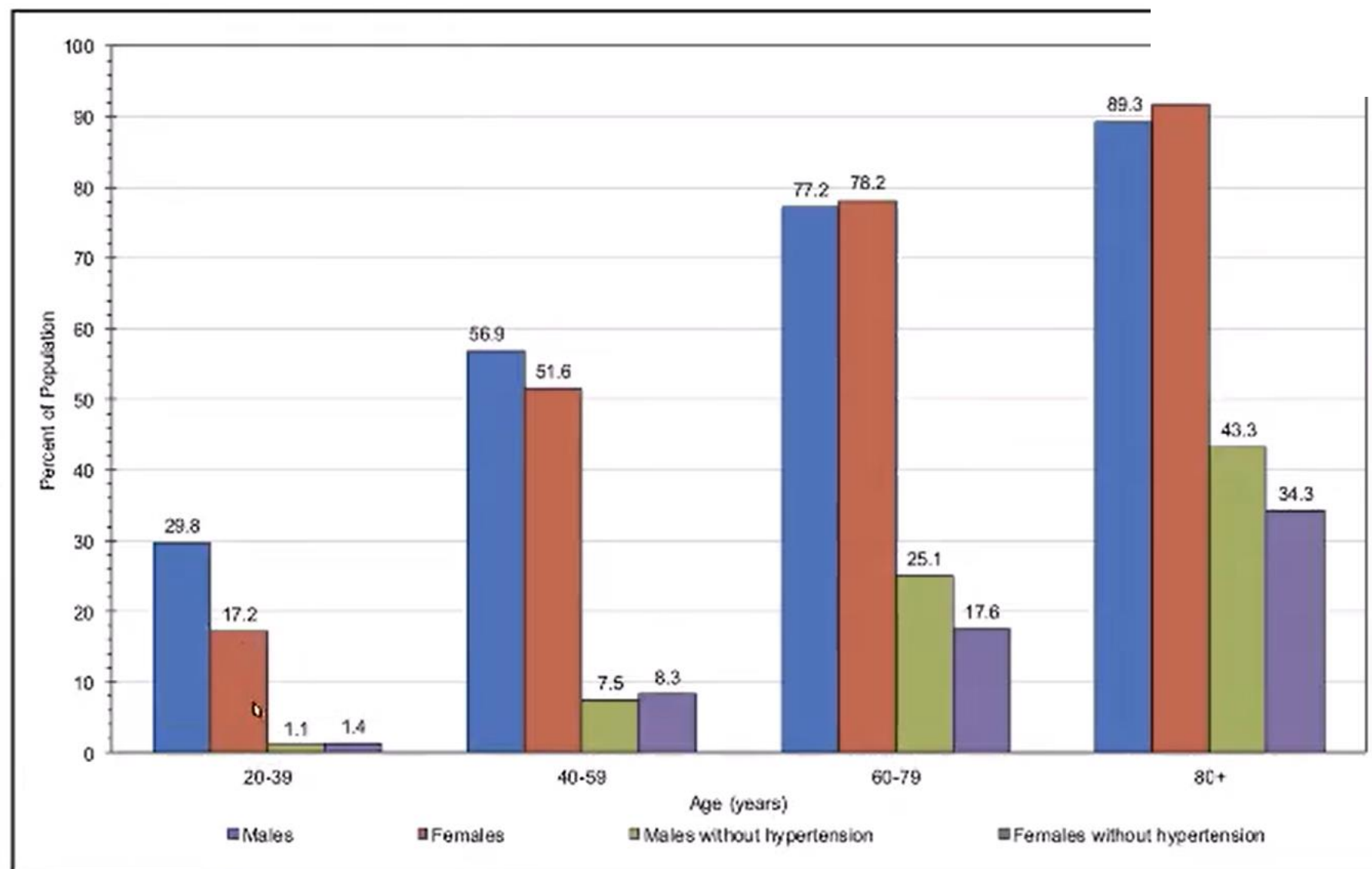


B: IPERTENSIONE ARTERIOSA («BLOOD PRESSURE»)



- Hypertension contributes significantly to ASCVD morbidity and mortality
- Nonpharmacological interventions are recommended for all adults with elevated blood pressure or hypertension. For those requiring pharmacological therapy, the target blood pressure should generally be $<130/80$ mm Hg

Prevalence of
CVD by Sex:
In those with &
without HTN

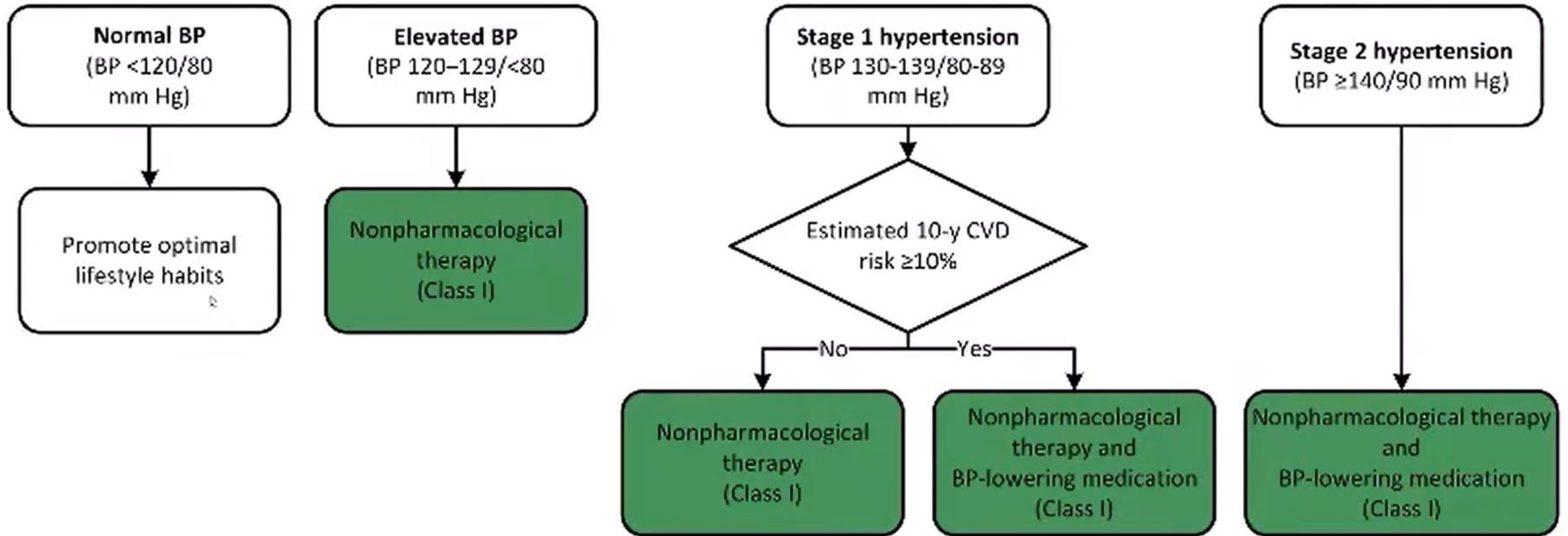


Adults with High Blood Pressure or Hypertension

| Recommendations for Adults with High Blood Pressure or Hypertension | | |
|---|-----|---|
| COR | LOE | Recommendations |
| I | A | <p>1. In adults with elevated blood pressure (BP) or hypertension, including those requiring antihypertensive medications nonpharmacological interventions are recommended to reduce BP. These include:</p> <ul style="list-style-type: none">• weight loss,• a heart-healthy dietary pattern,• sodium reduction,• dietary potassium supplementation,• increased physical activity with a structured exercise program; and• limited alcohol. |



Valori di pressione arteriosa raccomandazioni gestionali



BP indicates blood pressure; and CVD, cardiovascular disease.



INTERVENTI NON FARMACOLOGICI EFFICACI NEL PREVENIRE E TRATTARE L'IPERTENSIONE

| | Nonpharmacological Intervention | Goal | Approximate Impact on SBP | | |
|---|---------------------------------|--|---------------------------|--------------|--------------------|
| | | | Hypertension | Normotension | Reference |
| Weight loss | Weight/body fat | Best goal is ideal body weight, but aim for at least a 1-kg reduction in body weight for most adults who are overweight. Expect about 1 mm Hg for every 1-kg reduction in body weight. | -5 mm Hg | -2/3 mm Hg | {S4.4-2} |
| Healthy diet | DASH dietary pattern† | Consume a diet rich in fruits, vegetables, whole grains, and low-fat dairy products, with reduced content of saturated and total fat. | -11 mm Hg | -3 mm Hg | {S4.4-7, S4.4-8} |
| Reduced intake of dietary sodium | Dietary sodium | Optimal goal is <1500 mg/d, but aim for at least a 1000-mg/d reduction in most adults. | -5/6 mm Hg | -2/3 mm Hg | {S4.4-12, S4.4-10} |
| Enhanced intake of dietary potassium | Dietary potassium | Aim for 3500–5000 mg/d, preferably by consumption of a diet rich in potassium. | -4/5 mm Hg | -2 mm Hg | {S4.4-14} |



DASHdiet

6-8

servings per day
of whole grains

4-5

servings per day
of vegetables

4-5

servings per day
of fruits

2-3

servings per day of
fat-free or low-fat dairy

4-5

servings per week of
nuts, seeds, legumes

6

Less than
servings per day of
lean meat, poultry, fish

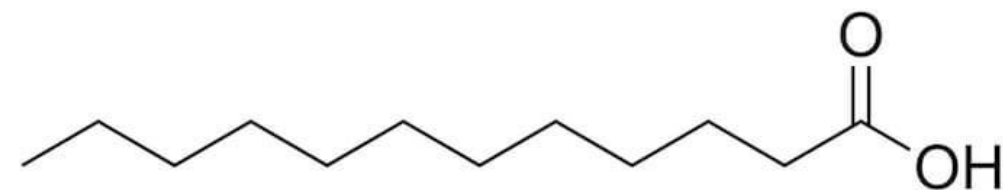
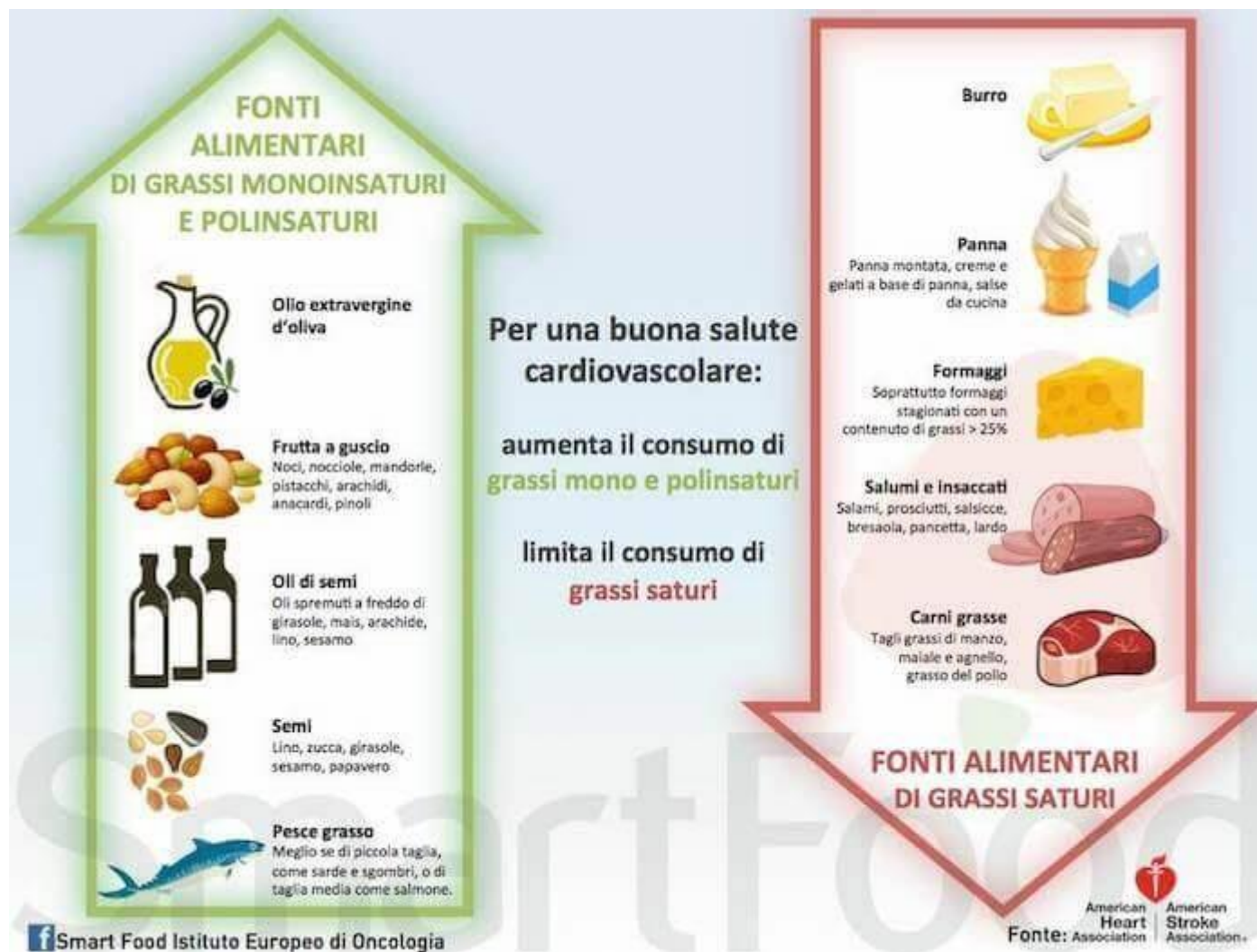
5

Less than
servings per week
of sweets

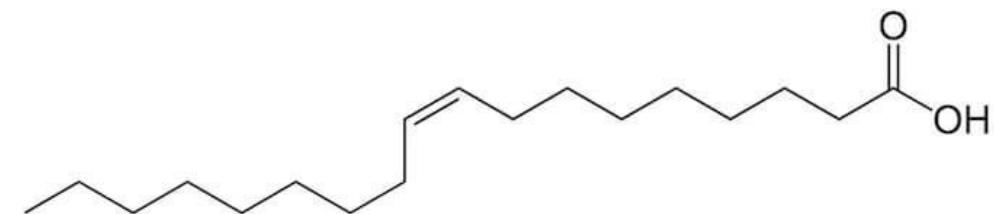
2-3

servings per day
of fats and oils





Schema grasso saturo
 I grassi **liquidi** (come l'olio) sono prevalentemente composti da grassi **insaturi**



Schema grasso insaturo
 1 doppio legame: mono-insaturo
 Più doppi legami: poli-insaturi

I grassi **solidi** (margarina) sono prevalentemente composti da grassi **saturi**

Quantità
approssimativa di
sodio contenuto in
diversi gruppi di
alimenti

OBIETTIVO MINIMO:
<1500 mg/die

Meglio < 1 g/die

| Alimenti | Contenuto di sodio mg / 100 g |
|--|----------------------------------|
| Sale, bicarbonato di sodio, lievito in polvere | 38.000 |
| Dadi da brodo, brodi, minestre in polvere, sughi | 20.000 |
| Salsa di soia | 7.000 |
| Snacks (ad esempio salatini, sbuffi di formaggio, popcorn) | 1.500 |
| Pancetta | 1.200 |
| Salse e condimenti pronti | 1.200 |
| Formaggio da grattugiare | 800 |
| Ortaggi trasformati | 600 |
| Carne in scatola | 500 |
| Margarina | 500 |
| Formaggio, morbido | 400 |
| Pesce lavorato | 400 |
| Cereali e prodotti a base di cereali (Ad esempio, pane, cereali, biscotti, torte, pasticcini) | 250 |
| Pesce, crudo o surgelato | 100 |
| Uova | 80 |
| Latte | 50 |
| Carne | 50 |
| Ortaggi, freschi o surgelati | 10 |
| Burro | 7 |
| Frutta, freschi o surgelati | 5 |

- fagioli,
- piselli,
- asparagi,
- patate,
- albicocche, sp. essiccate
- banane,
- cavolfiori,
- spinaci,
- arachidi
- in generale, i frutti, le verdure



INTERVENTI NON FARMACOLOGICI PER PREVENIRE E TRATTARE L'IPERTENSIONE

| | | | | | |
|-------------------------------------|----------------------|---|-------------------|-------------------|-----------------------------|
| Physical activity | Aerobic | <ul style="list-style-type: none"> • 90–150 min/wk • 65%–75% heart rate reserve | -5/8 mm Hg | -2/4 mm Hg | {S4.4-19, S4.4-20} |
| | Dynamic resistance | <ul style="list-style-type: none"> • 90–150 min/wk • 50%–80% 1 rep maximum • 6 exercises, 3 sets/exercise, 10 repetitions/set | -4 mm Hg | -2 mm Hg | {S4.4-19} |
| | Isometric resistance | <ul style="list-style-type: none"> • 4 × 2 min (hand grip), 1 min rest between exercises, 30%–40% maximum voluntary contraction, 3 sessions/wk • 8–10 wk | -5 mm Hg | -4 mm Hg | {S4.4-21, S4.4-63} |
| Moderation in alcohol intake | Alcohol consumption | <p>In individuals who drink alcohol, reduce alcohol[†] to:</p> <ul style="list-style-type: none"> • Men: ≤2 drinks daily • Women: ≤1 drink daily | -4 mm Hg | -3 mm Hg | {S4.4-20, S4.4-24, S4.4-25} |



COLESTEROLO

Statin therapy is first-line treatment for primary prevention of ASCVD in patients with elevated low-density lipoprotein cholesterol levels (≥ 190 mg/dL), those with diabetes mellitus, who are 40 to 75 years of age, and those determined to be at sufficient ASCVD risk after a clinician–patient risk discussion.



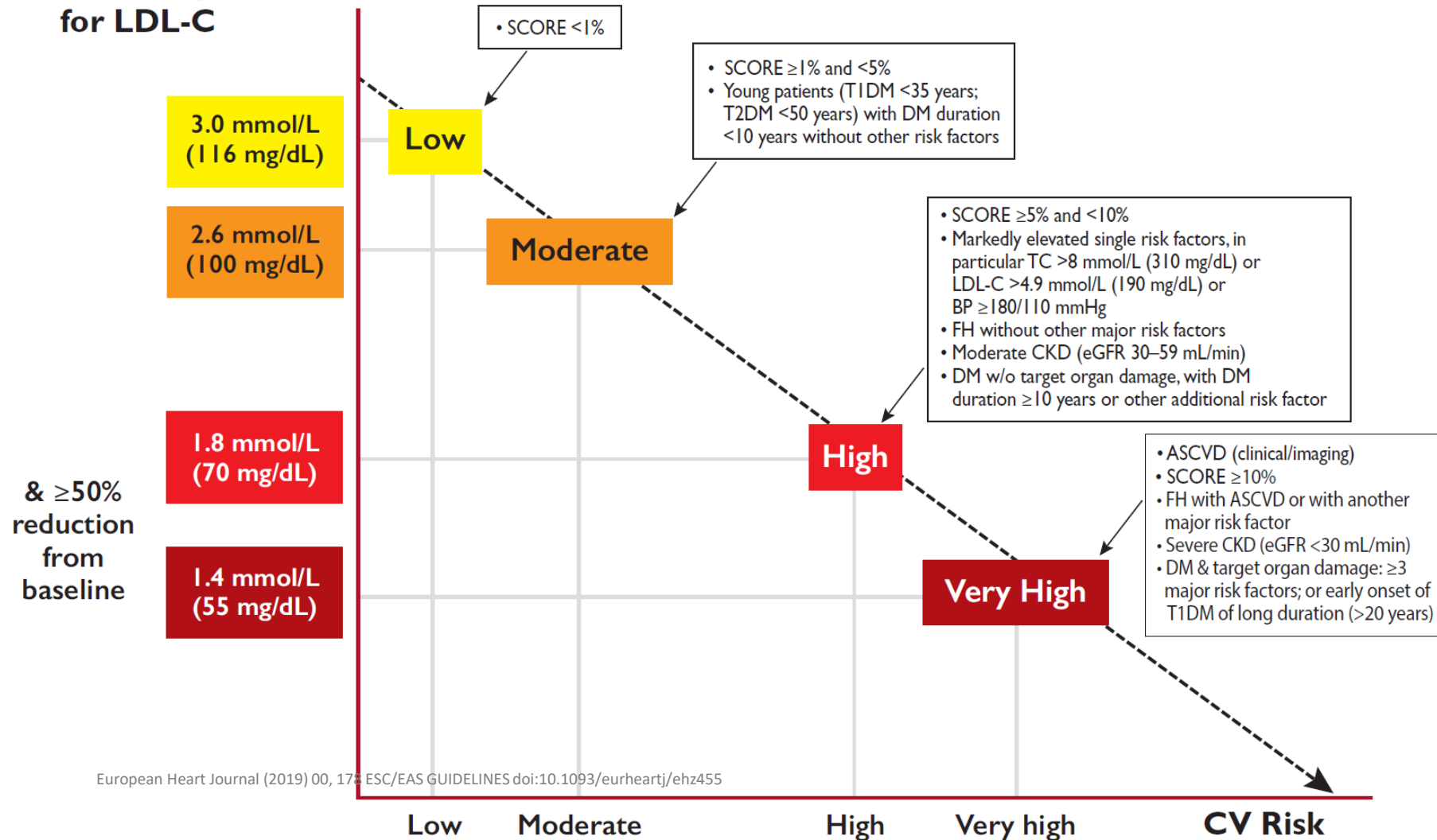
RACCOMANDAZIONI PER ADULTI CON ELEVATA COLESTEROLEMIA

| Recommendations for Adults with High Blood Cholesterol | | |
|--|-----|--|
| COR | LOE | Recommendations |
| I | A | 3. In adults 40 to 75 years of age with diabetes, regardless of estimated 10-year ASCVD risk, moderate-intensity statin therapy is indicated. |
| I | B-R | 4. In patients 20 to 75 years of age with an LDL-C level of 190 mg/dL (≥ 4.9 mmol/L) or higher, maximally tolerated statin therapy is recommended. |










Valori lipidici ottimali: sintesi

Treatment goal for LDL-C



ASTENSIONE DAL FUMO DI SIGARETTA

All adults should be assessed at every healthcare visit for tobacco use, and those who use tobacco should be assisted and strongly advised to quit.

| | | | |
|------------------------------|---|--------------|---|
| Nicotine replacement therapy |  | Patch | If >10 cigarettes/day use 21 mg If <10 cigarettes/day use 14 mg or 7 mg |
| |  | Gum | 2 mg or 4 mg (start with 4mg if first tobacco is ≤30 min from waking); max is 20 lozenges or 24 pieces of gum per day |
| |  | Lozenge | |
| |  | Nasal spray | 10 mg/mL |
| |  | Oral inhaler | 10 10-mg cartridge (max 6-16 cartridges/day) |
| Other pharmacotherapies |  | Bupropion | 150 mg SR daily (up to twice daily) |
| |  | Varenicline | 0.5 mg daily titrated to 1 mg twice daily |

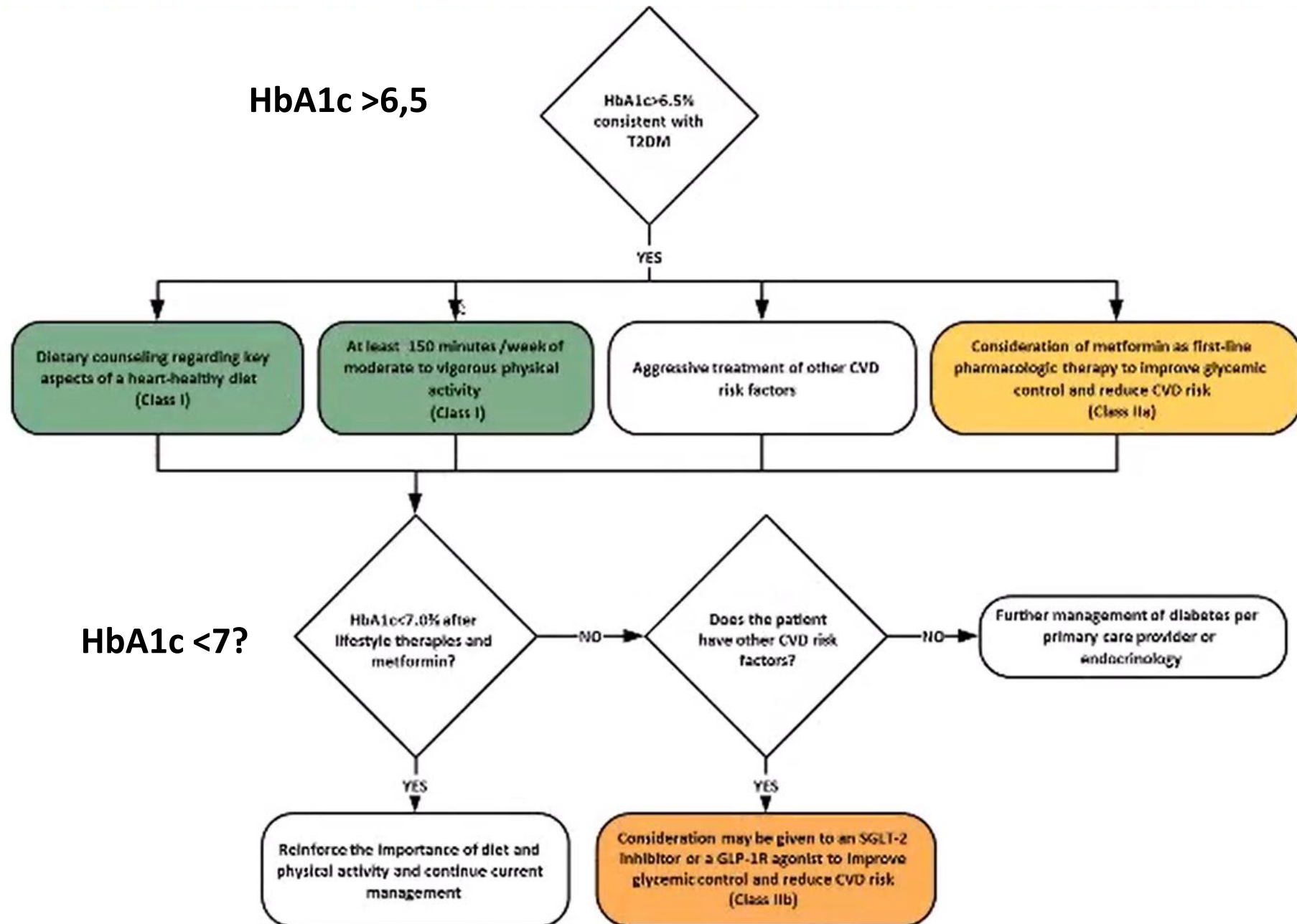


DIABETE

For adults with type 2 diabetes mellitus, lifestyle changes, such as improving dietary habits and achieving exercise recommendations, are crucial. If medication is indicated, metformin is first-line therapy, followed by consideration of a sodium-glucose cotransporter 2 inhibitor or a glucagon-like peptide-1 receptor agonist

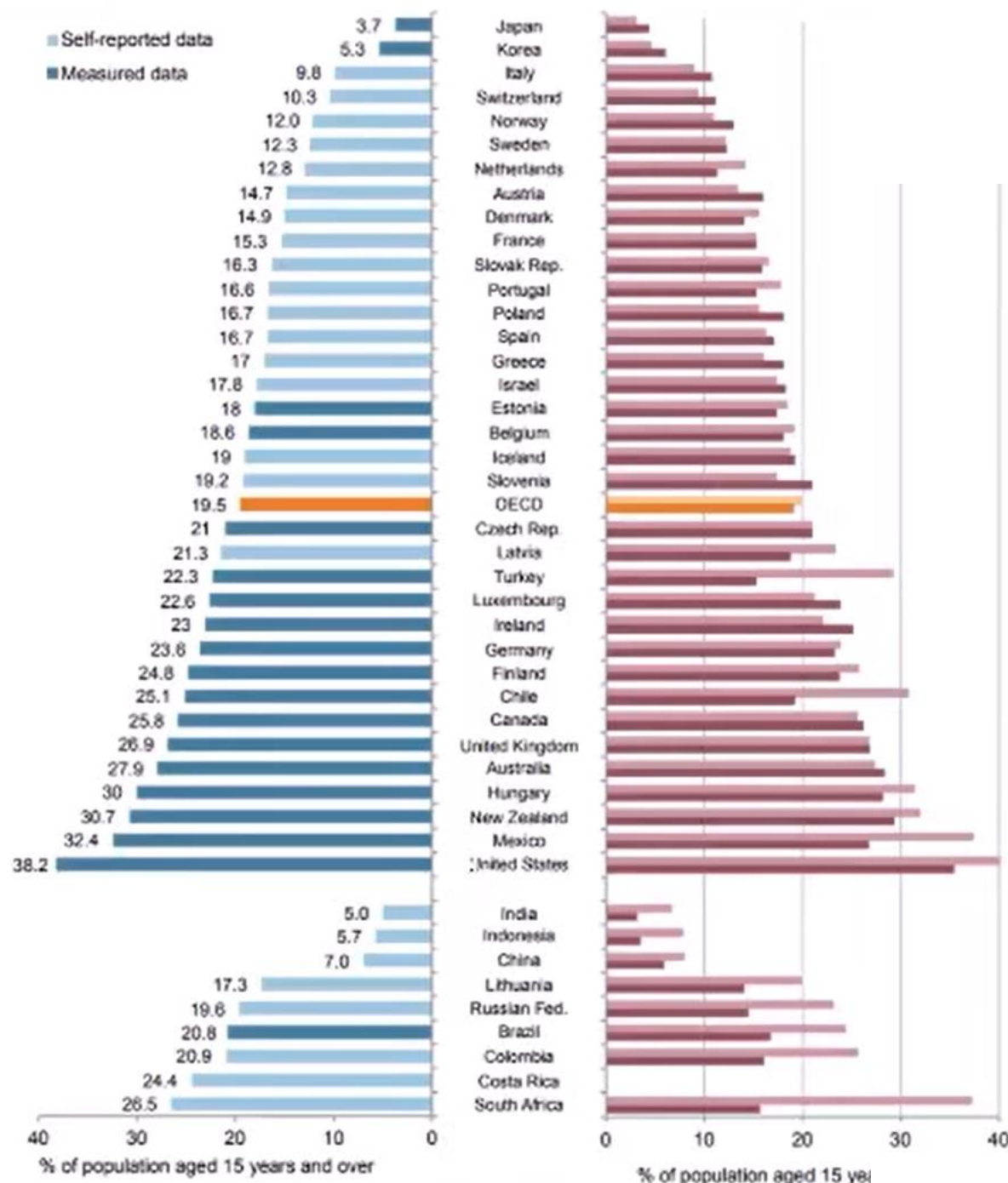


APPROCCIO AL DIABETE PER LA PREVENZIONE DELLE MALATTIE CARDIOVASCOLARI



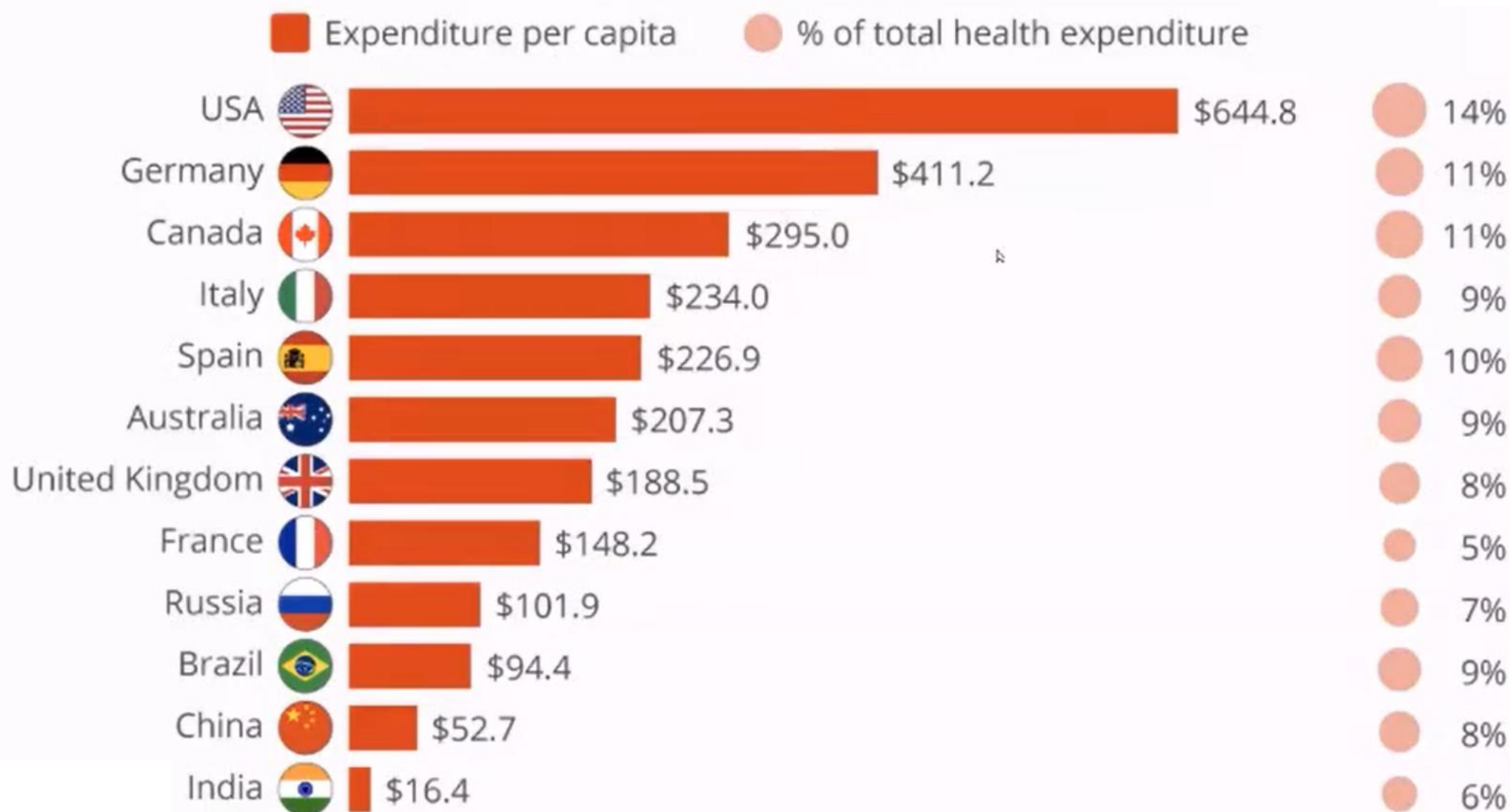
OBESITY IS A GROWING PROBLEM

1.9 Billion Adults obese worldwide (WHO 2020)



Where Obesity Places The Biggest Burden On Healthcare

Average annual health expenditure per capita due to obesity from 2020-2050*



$$\text{IMC} = \frac{\text{Peso (in KG)}}{\text{Altezza (in metri)}^2}$$

Adults with Overweight and Obesity (cont'd)

| Recommendations for Adults with Overweight and Obesity | | |
|--|------|--|
| COR | LOE | Recommendations |
| I | C-EO | 3. Calculating body mass index (BMI) is recommended annually or more frequently to identify adults with overweight and obesity for weight loss considerations. |
| Ila | B-NR | 4. It is reasonable to measure waist circumference to identify those at higher cardiometabolic risk. |



ATTIVITA' FISICA: 150 min/sett

Recommendation:

Adults should engage in at least 150 minutes per week of accumulated moderate-intensity physical activity or 75 minutes per week of vigorous-intensity physical activity.



Exercise and Physical Activity

| Recommendations for Exercise and Physical Activity | | |
|--|------|--|
| COR | LOE | Recommendations |
| I | B-R | 1. Adults should be routinely counseled in healthcare visits to optimize a physically active lifestyle. |
| I | B-NR | 2. Adults should engage in at least 150 minutes per week of accumulated moderate-intensity or 75 minutes per week of vigorous-intensity aerobic physical activity (or an equivalent combination of moderate and vigorous activity) to reduce ASCVD risk. |



INTENSITÀ DI VARIE ATTIVITÀ FISICHE

| Intensity | METs | Examples |
|---------------------|----------|---|
| Sedentary behavior* | 1–1.5 | Sitting, reclining, or lying; watching television |
| Light | 1.6–2.9 | Walking slowly, cooking, light housework |
| Moderate | 3.0 –5.9 | Brisk walking (2.4–4 mph), biking (5–9 mph), ballroom dancing, active yoga, recreational swimming |
| Vigorous | ≥6 | Jogging/running, biking (≥10 mph), singles tennis, swimming laps |

9 mph =
15 Km/h

**Sedentary behavior* is defined as any waking behavior characterized by an energy expenditure ≤ 1.5 METs while in a sitting, reclining, or lying posture. Standing is a sedentary activity in that it involves ≤ 1.5 METs, but it is not considered a component of sedentary behavior.

T indicates metabolic equivalent; mph, miles per hour.



FATTORI ECONOMICI E SOCIALI

The social determinants of health are the conditions in which we are born, we grow and age, and in which we live and work. The factors below impact on our health and wellbeing.



Childhood experiences



Housing



Education



Social support



Family income



Employment

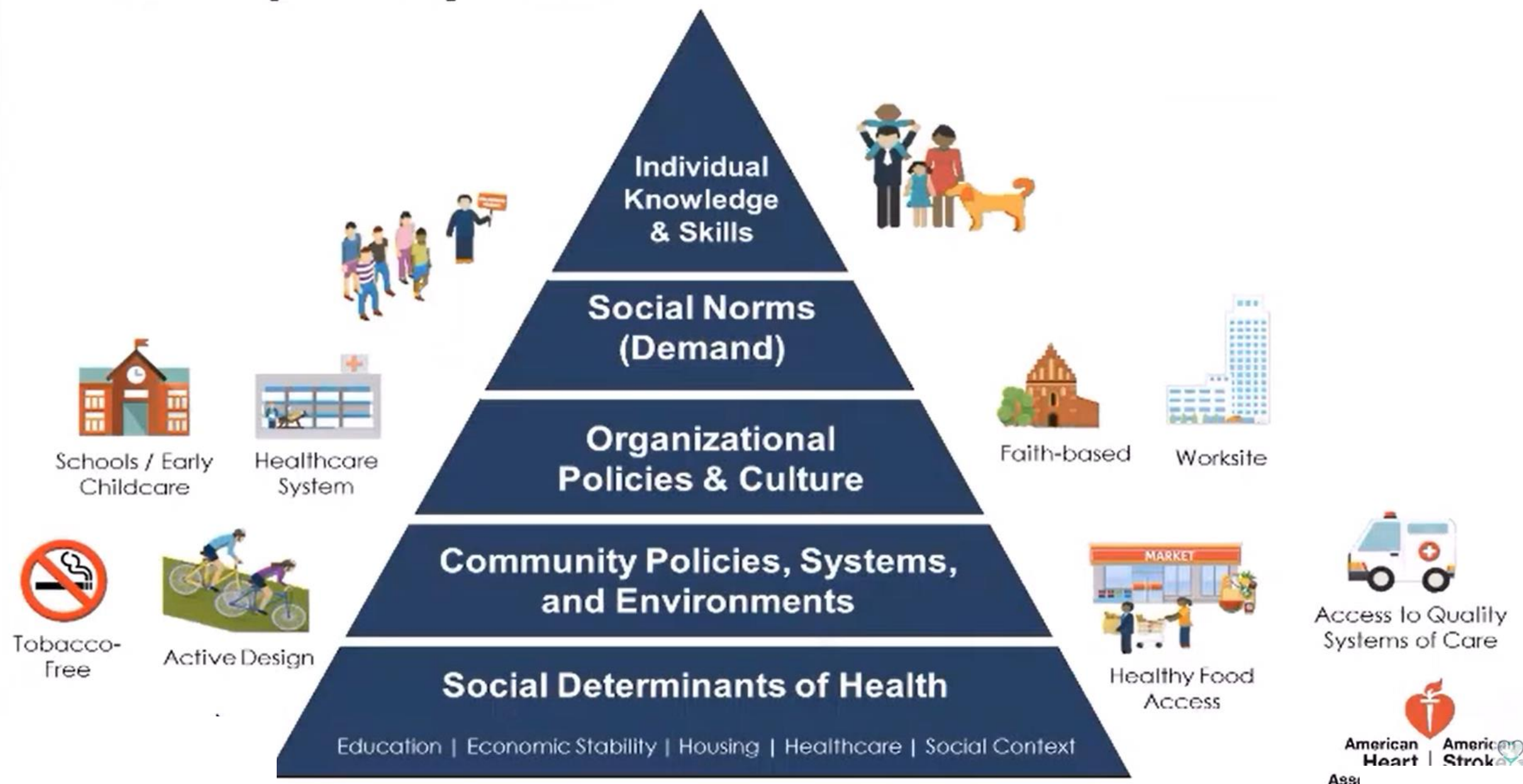


Our communities

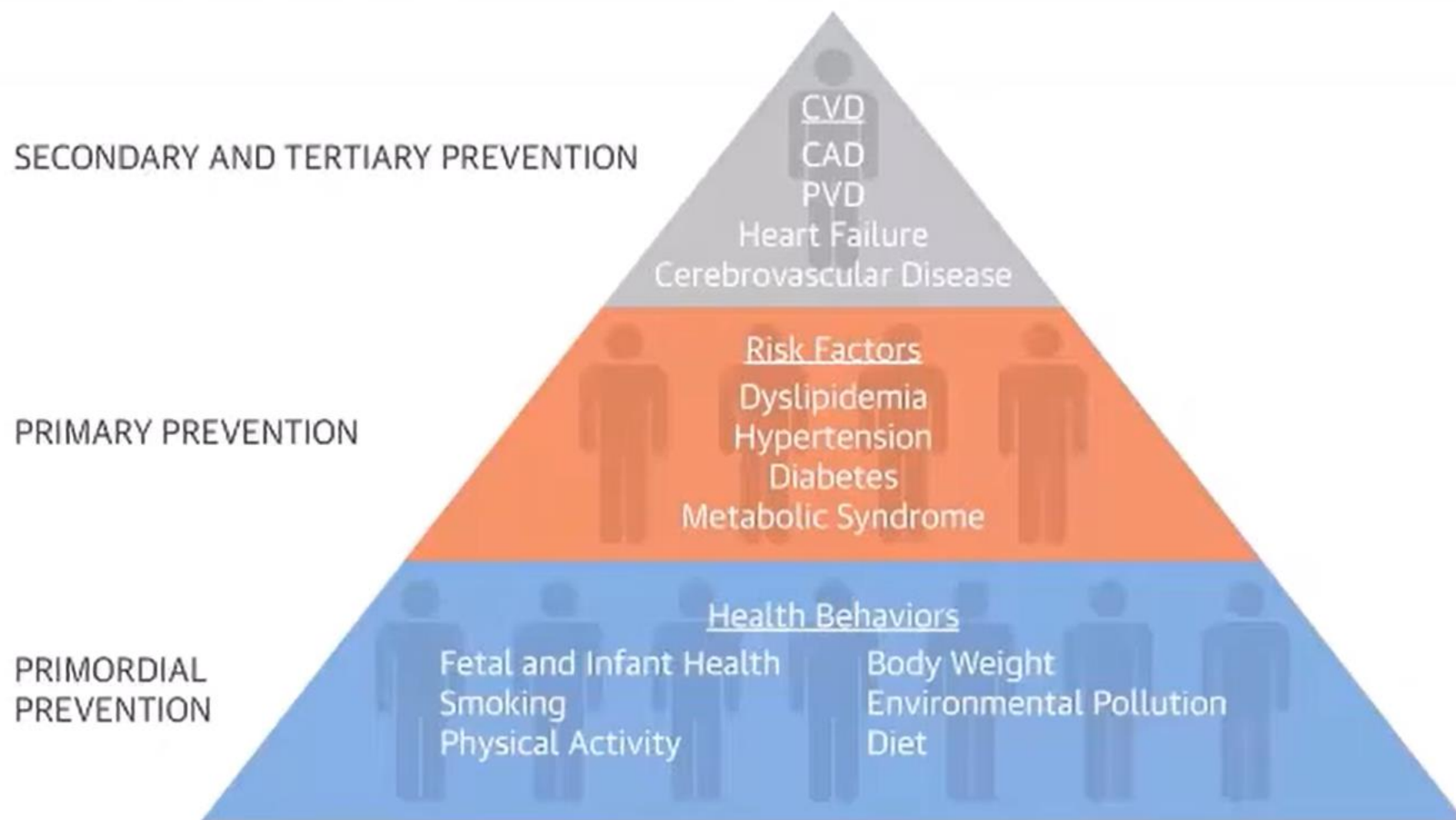


Access to health services

Health Impact Pyramid



CENTRAL ILLUSTRATION: Cardiovascular Disease Prevention and Health Promotion



Hong, K.N. et al. J Am Coll Cardiol. 2017;70(17):2171-85.





European Society
of Cardiology

European Heart Journal (2021) 00, 1–111

doi:10.1093/eurheartj/ehab484

ESC GUIDELINES



2021 ESC Guidelines on cardiovascular disease prevention in clinical practice

Developed by the Task Force for cardiovascular disease prevention in clinical practice with representatives of the European Society of Cardiology and 12 medical societies

With the special contribution of the European Association of Preventive Cardiology (EAPC)

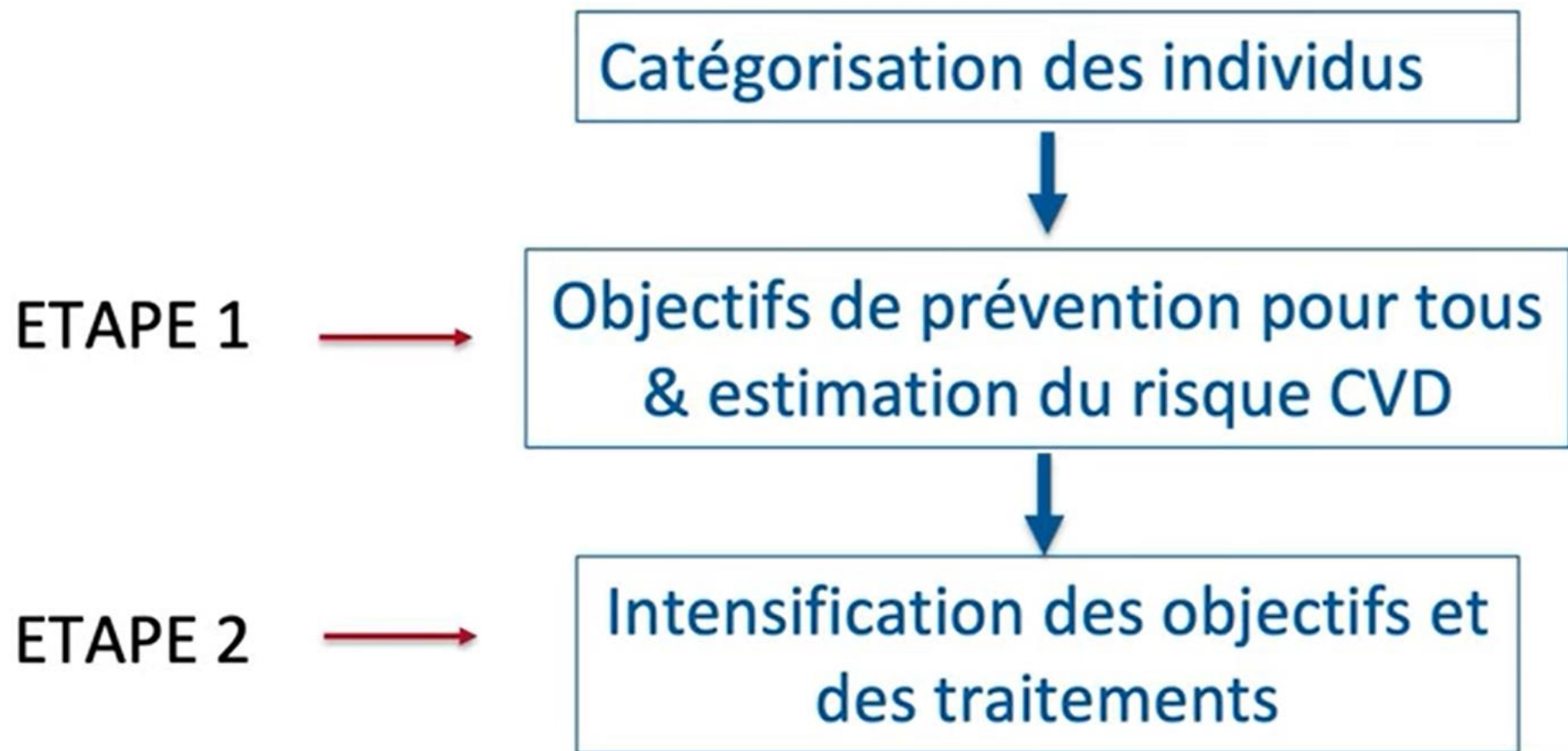
Authors/Task Force Members: Frank L.J. Visseren* (Chairperson) (Netherlands), François Mach* (Chairperson) (Switzerland), Yvo M. Smulders[†] (Task Force Coordinator) (Netherlands), David Carballo[†] (Task Force Coordinator)

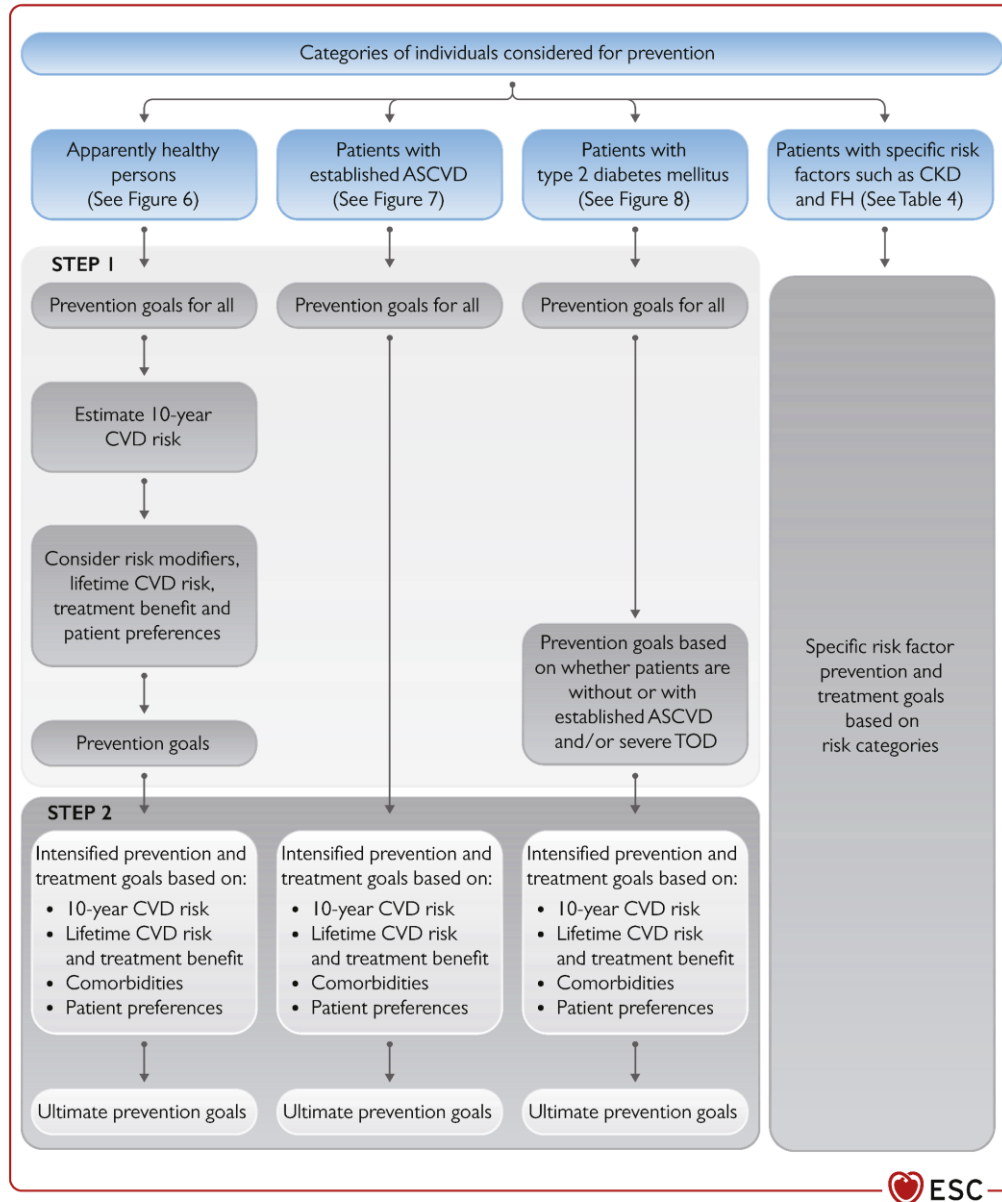
Qu'est ce qui est nouveau en 2021

- Il est maintenant proposé une approche individualisé « pas à pas »
- ...avec l'inclusion des nouveaux scores de prédiction de risque SCORE2 et SCORE2-OP calibrés pour 4 régions géographiques
- ...avec des seuils de risques basés sur l'âge pour les personnes apparemment en bonne santé
- ...et l'introduction de l'estimation du risque sur la durée de vie ainsi que sur es bénéfices potentiels d'une prise en charge

Stepwise approach to CVD prevention

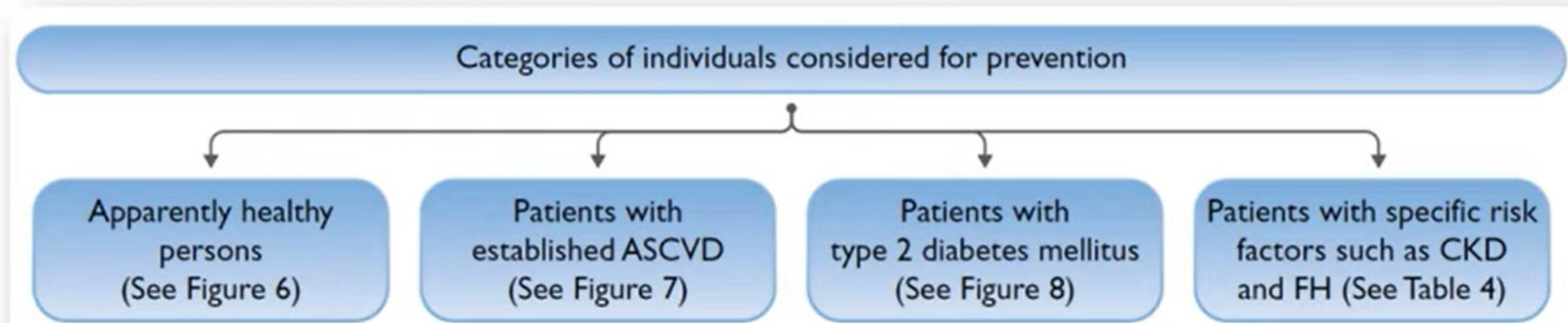
Approche “pas à pas”





Examples of a stepwise approach to risk stratification and treatment options

Stepwise approach to CVD prevention



→ Objectifs de prévention pour tous

→ ETAPE 1

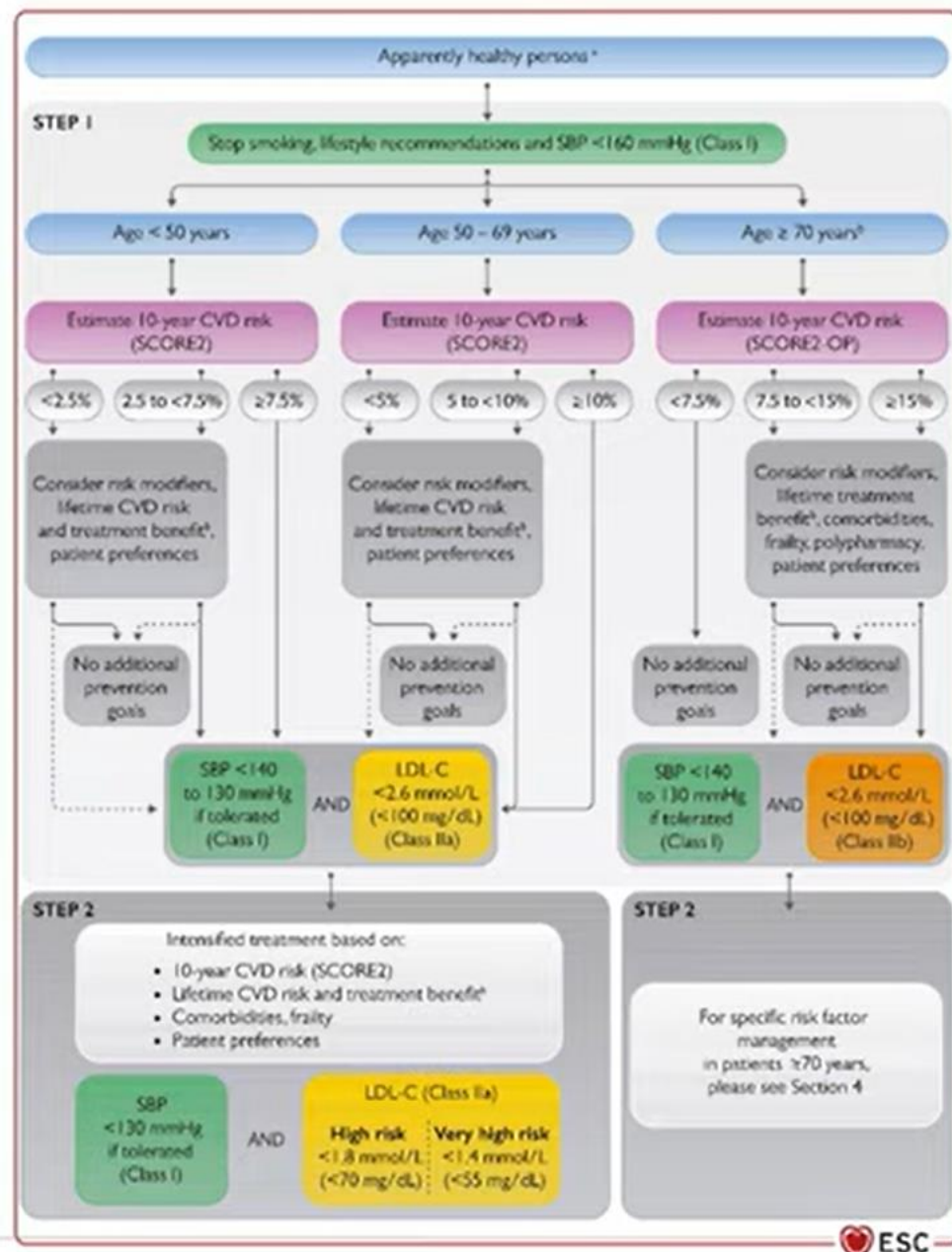
→ ETAPE 2 (objectifs de prevention et de traitement intensifiés)

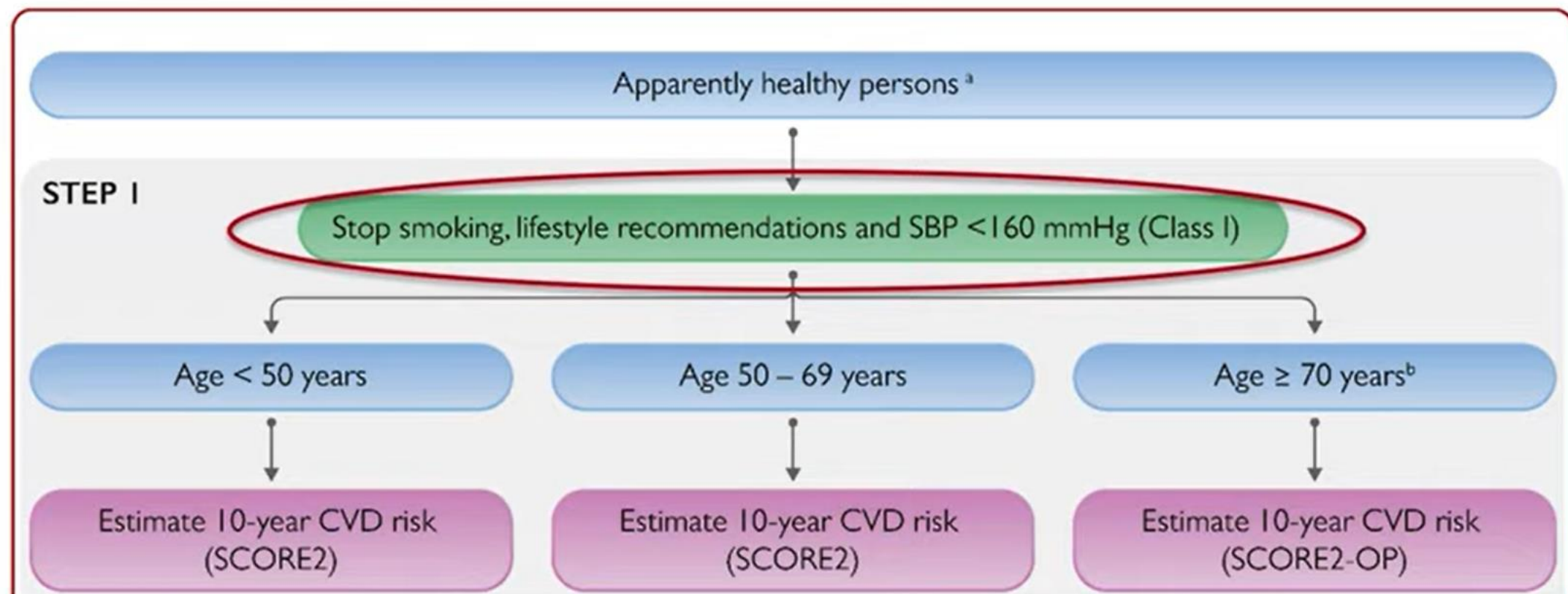
Pz APPARENTEMENTE SANI

Cardiovascular risk and risk factor treatment in apparently healthy persons:

Persons without:

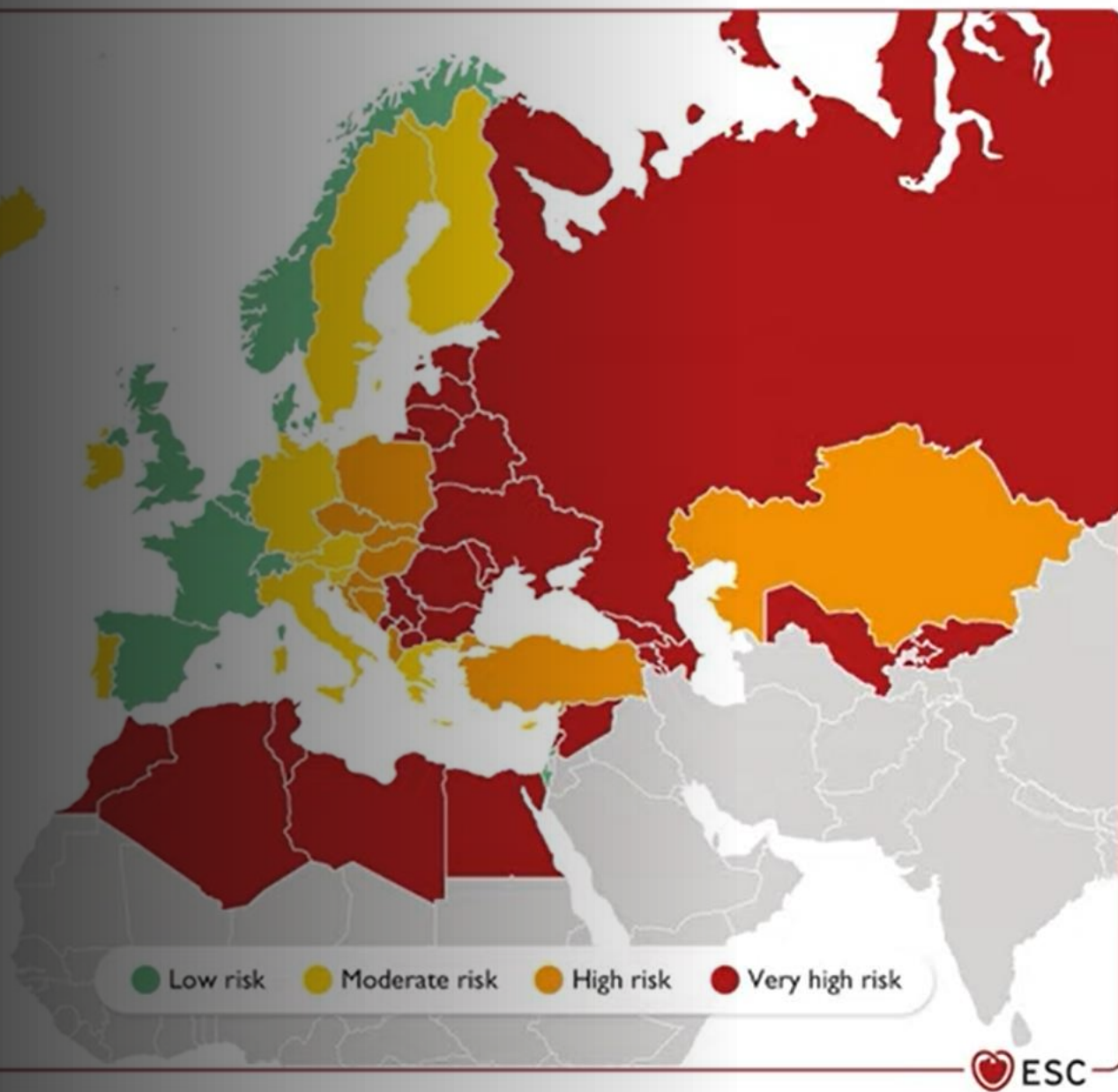
- Established ASCVD (*event or plaque*)
- Chronic Kidney Disease
- Familial Hypercholesterolemia
- Diabetes



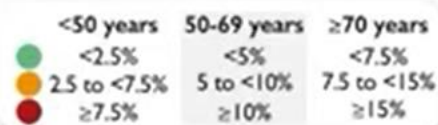


Risk regions based on World Health Organization cardiovascular mortality rates

Ces scores de prédiction
sont maintenant calibrés
pour 4 zones de risques
basé sur des taux de
mortalité rapportés



SCORE2 & SCORE2-OP

10-year risk of (fatal and non-fatal) CV events in populations at low CVD risk

Women

Men

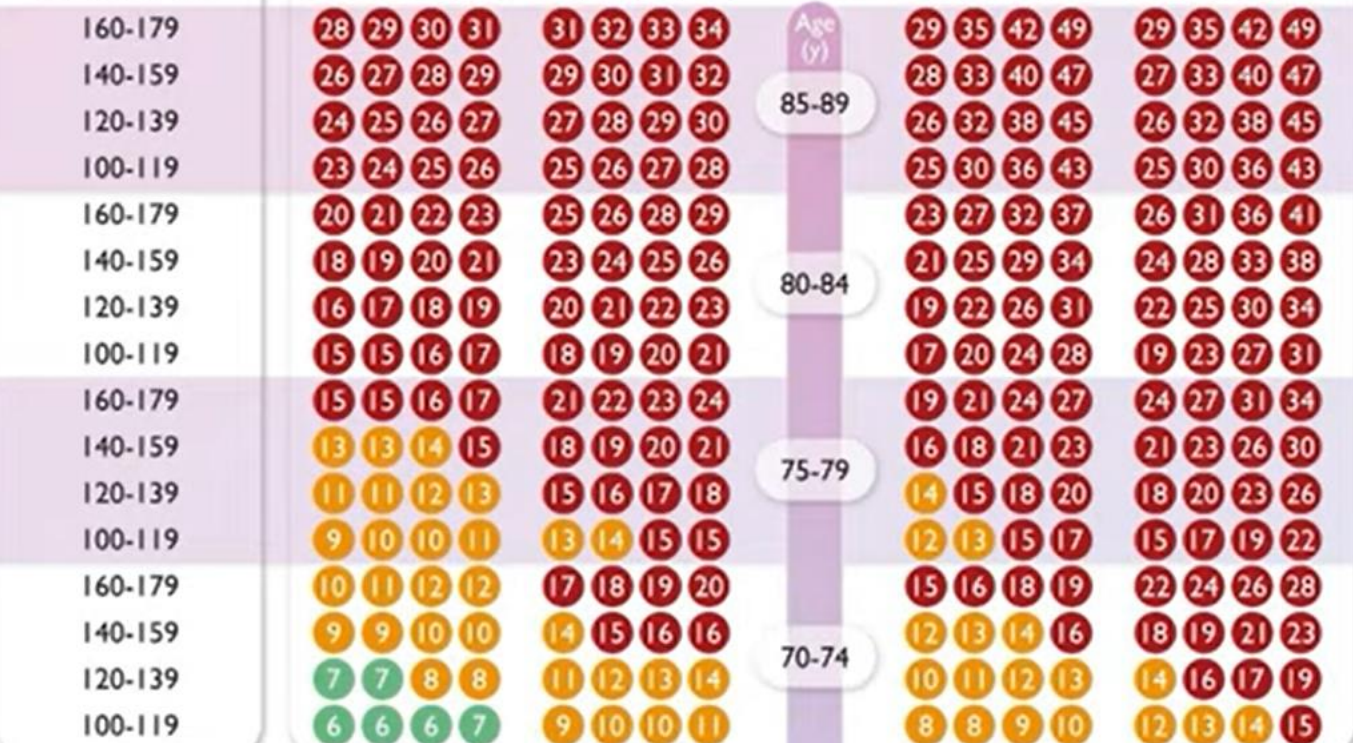
Non-smoking

Smoking

Non-smoking

Smoking

Non-HDL cholesterol

Systolic blood pressure (mmHg)
SCORE2-OP

SCORE2 and SCORE2-OP
risk chart for fatal and
non-fatal (MI, stroke)
ASCVD
Low CVD Risk (1)

SCORE2

160-179
140-159
120-139
100-119
160-179
140-159
120-139
100-119
160-179
140-159
120-139
100-119
160-179
140-159
120-139
100-119
160-179
140-159
120-139
100-119
160-179
140-159
120-139
100-119



65-69

60-64

55-59

50-54

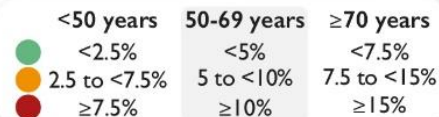
45-49

40-44

**SCORE2 and SCORE2-OP
risk chart for fatal and
non-fatal (MI, stroke)
ASCVD
Low CVD Risk (2)**

SCORE2 & SCORE2-OP

10-year risk of (fatal and non-fatal) CV events in populations at moderate CVD risk



Women



Men

Non-smoking

Smoking

Non-smoking

Smoking

Non-HDL cholesterol

Systolic blood pressure (mmHg)
SCORE2-OP

3.0-3.9
150 200 250

4.0-4.9
150 200 250

5.0-5.9
150 200 250

6.0-6.9
150 200 250

mmol/L
mg/dL

3.0-3.9
150 200 250

4.0-4.9
150 200 250

5.0-5.9
150 200 250

6.0-6.9
150 200 250

160-179

37 39 40 42

41 43 44 46

Age (y)

37 45 53 62

37 45 53 61

140-159

35 36 38 39

39 40 42 43

85-89

36 43 51 59

35 43 51 59

120-139

32 34 35 37

36 38 39 41

80-84

34 41 49 57

34 41 48 57

100-119

30 32 33 34

34 35 37 38

75-79

32 39 47 55

32 39 46 55

160-179

27 28 30 31

34 35 37 39

70-74

30 35 41 47

34 40 46 53

140-159

24 25 27 28

30 32 33 35

27 32 37 43

31 36 42 48

120-139

21 22 24 25

27 28 30 31

25 29 34 40

28 33 38 44

100-119

19 20 21 22

24 25 27 28

22 26 31 36

25 30 35 40

160-179

19 20 21 23

27 29 30 32

24 27 31 35

31 35 39 44

140-159

16 17 18 19

24 25 26 28

21 23 27 30

27 30 34 38

120-139

14 15 15 16

20 21 22 24

17 20 23 26

23 26 29 33

100-119

12 12 13 14

17 18 19 20

15 17 19 22

19 22 25 29

160-179

13 14 15 16

22 23 25 26

19 21 23 25

28 31 34 36

140-159

11 11 12 13

18 19 20 22

15 17 18 20

23 25 28 30

120-139

9 9 10 11

15 16 17 18

12 13 15 16

19 20 22 24

100-119

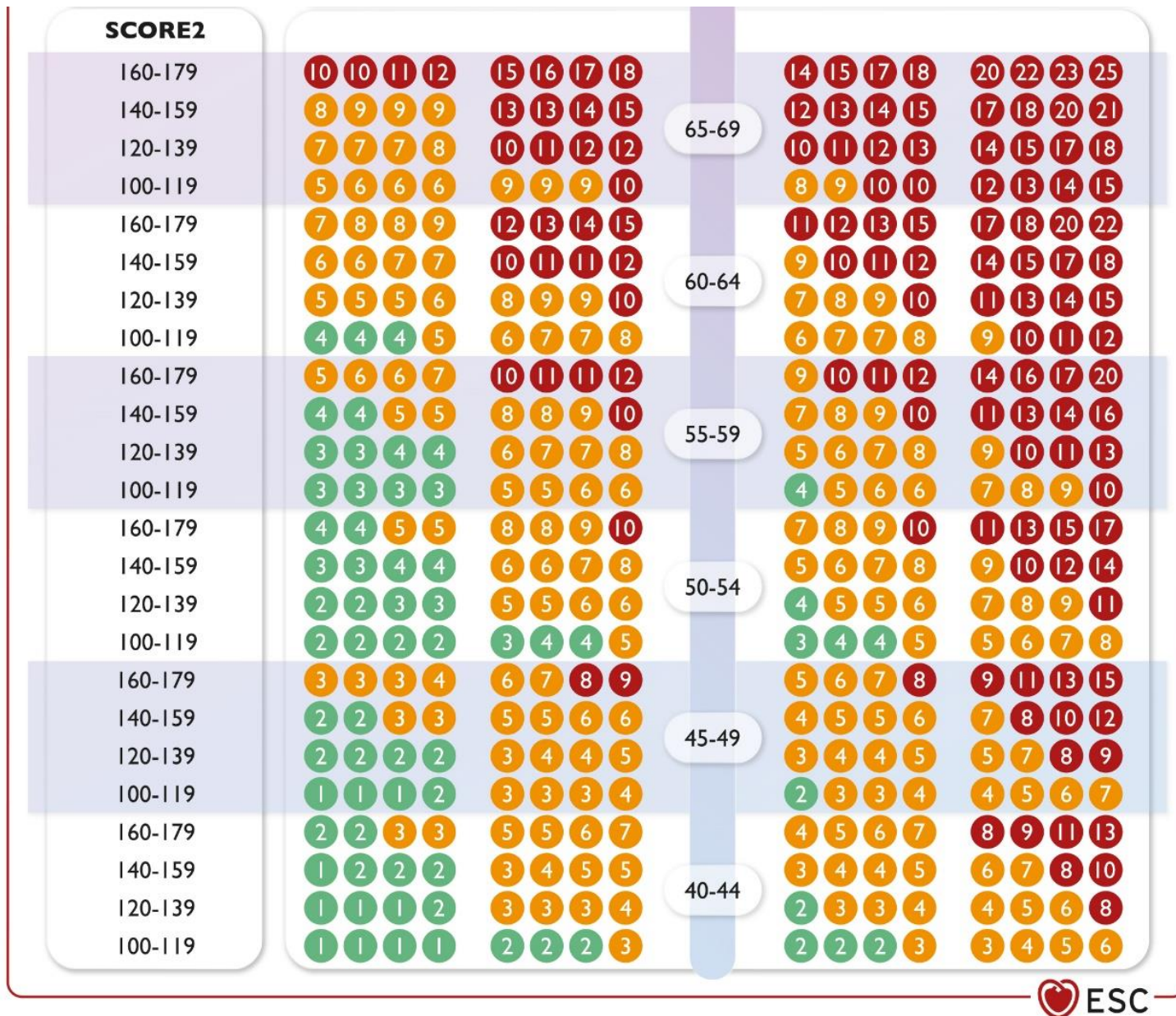
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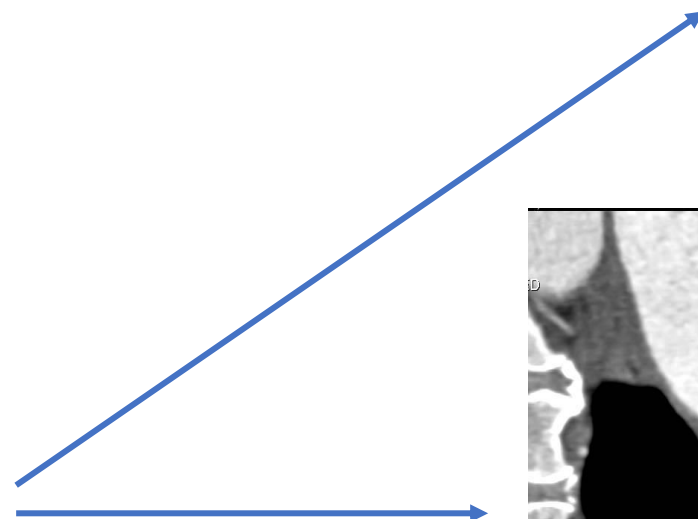
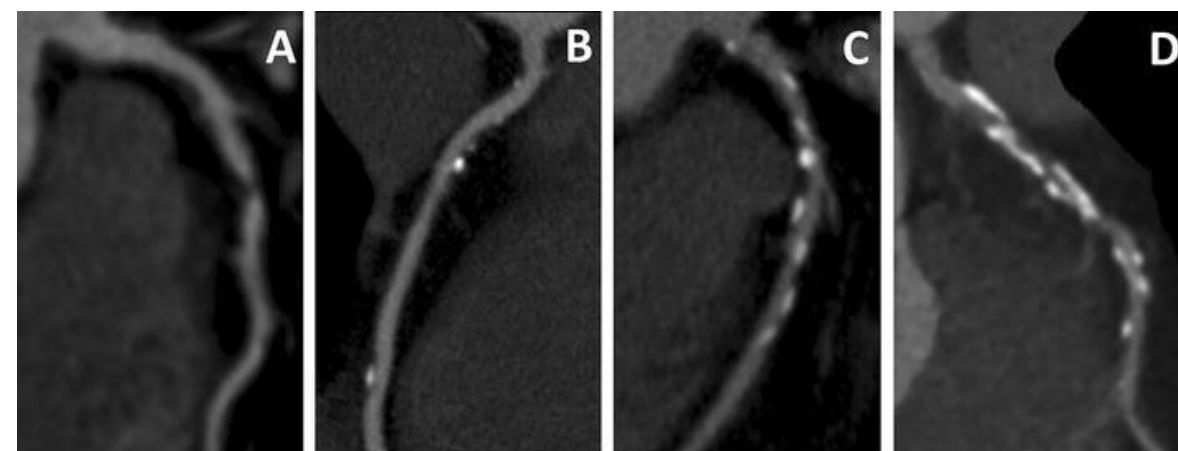
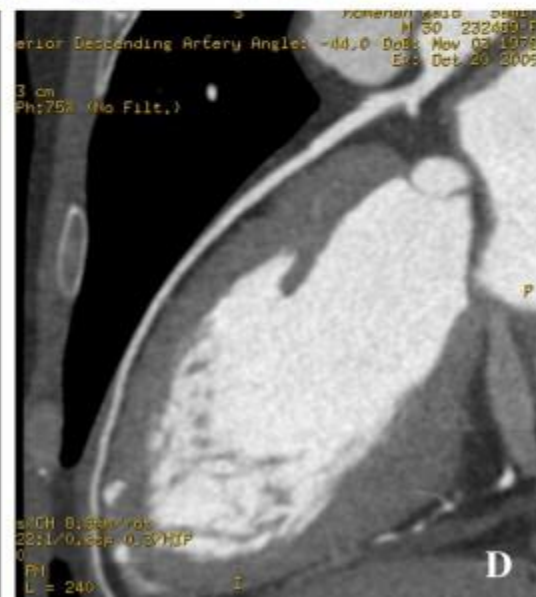
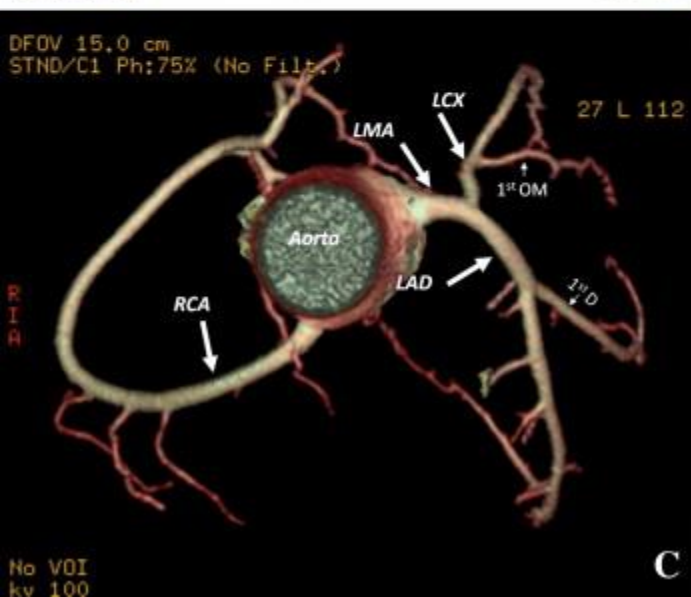
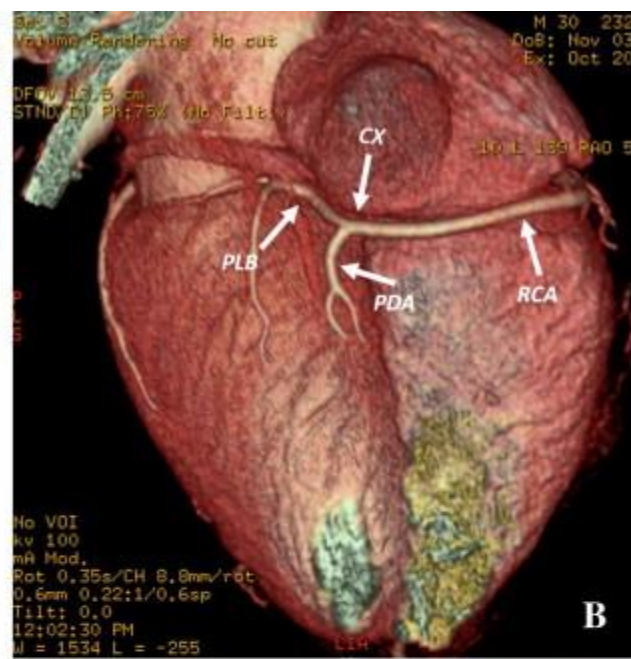
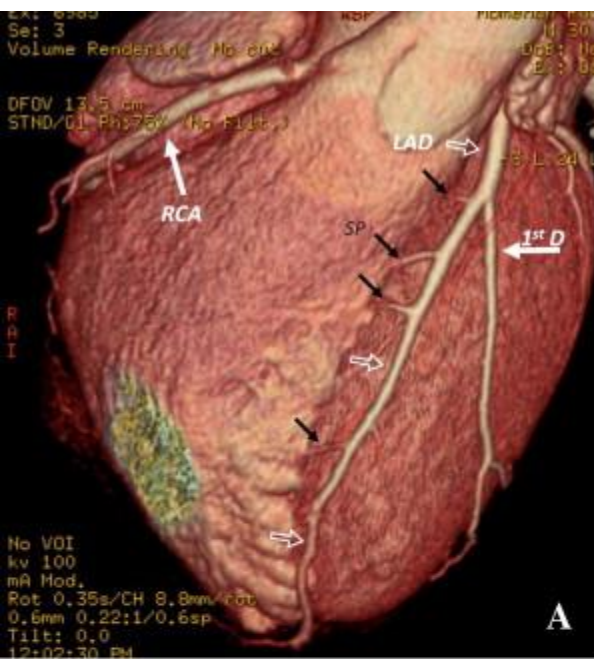
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SCORE2 and SCORE2-OP
risk chart for fatal and
non-fatal (MI, stroke)
ASCVD
Moderate CVD Risk (1)



**SCORE2 and SCORE2-OP
risk chart for fatal and
non-fatal (MI, stroke)
ASCVD**

Moderate CVD Risk (2)



Patients with established ASCVD^a

STEP 1^b

Stop smoking
and lifestyle
recommendations
(Class I)

LDL-C
≥50% reduction and
<1.8 mmol/L (<70 mg/dL)
(Class I)

AND

SBP <140
to 130 mmHg
if tolerated
(Class I)

Antithrombotic
Therapy
(Class I)

Among the lipid recommendations ...

| Recommendations | Class | Level |
|--|-------|-------|
| If the goals are not achieved with the maximum tolerated dose of a statin, combination with ezetimibe is recommended. | I | B |
| For primary prevention patients at very high risk, but without FH, if the LDL-C goal is not achieved on a maximum tolerated dose of a statin and ezetimibe, combination therapy including a PCSK9 inhibitor may be considered. | IIb | C |
| ... | | |

Recommendations for pharmacological LDL cholesterol lowering



| Recommendations | Class | Level |
|--|-------|-------|
| In patients with established ASCVD, lipid-lowering treatment with an ultimate LDL-C goal of $\geq 50\%$ reduction vs baseline and an LDL-C of < 1.4 mmol/L (< 55 mg/dL) is recommended. | I | A |
| If the goals are not achieved with the maximum tolerated dose of a statin, combination with ezetimibe is recommended. | I | B |
| For secondary prevention patients not achieving their goals on a maximum tolerated dose of a statin and ezetimibe, combination therapy including a PCSK9 inhibitor is recommended. | I | A |

Recommendation for anti-inflammatory therapy

| Recommendations | Class | Level |
|--|-------|-------|
| Low-dose colchicine (0.5 mg o.d.) may be considered in secondary prevention of CVD, particularly if other risk factors are insufficiently controlled or if recurrent CVD events occur under optimal therapy. | IIb | A |

Recommendations for policy interventions at the population level

| Recommendations | Class | Level |
|---|-------|-------|
| Policies and population approaches to PA, diet, smoking and tobacco use, and alcohol in governmental restrictions and mandates, media and education, labelling and information, economic incentives, schools, worksites, and community settings follow different levels of recommendations (see specific tables in the supplementary material for section 5). | | |

| | Level | Actions |
|----------|--|---------|
| Methods | Governmental restrictions and mandates | |
| | Media and education | |
| | Labelling and information | |
| | Economic incentives | |
| Settings | Schools | |
| | Worksites | |
| | Community setting | |

Expositions environnementales

- Le contenu nouveau est maintenant l'attention qui a été portée aux expositions environnementales qui augmente spécifiquement le risque de maladie CV.
- Celles-ci comprennent la pollution de l'air et du sol, les niveaux de bruit au-dessus de certains seuils.
- Il a été reconnu que la pollution de l'air contribue à la mortalité et à la morbidité cardiovasculaire.
- Le changement climatique est également reconnu comme une préoccupation majeure de santé publique.

- Recommandations de prévention de la maladie cardiovasculaire
... au niveau de l'individu et de la population
- La pierre angulaire est la promotion d'un mode de vie sain et le contrôle agressif des facteurs de risque cardiovasculaire
- ..avec une prévention plus personnalisée et une attention particulière aux personnes âgées
- Une mise à jour des algorithmes de prédiction des risques pour les personnes apparemment en bonne santé (SCORE2, SCORE2-OP)
- Plus d'implication des patients et la promotion d'une prise de décision partagée
- Recommandations sur l'environnement

GRAZIE

PER L'ATTENZIONE